Task Force 04
TRADE AND INVESTMENT FOR SUSTAINABLE AND INCLUSIVE GROWTH

Leveraging Natural Capital and Digital Technologies for Sustainable Trade and Development in Africa and Beyond

Joy Indekhwa Anangwe, Philanthropy and Impact Manager, Nature Finance (Kenya)

Rob Floyd, Director, Innovation and Digital Policy, African Center for Economic Transformation (Ghana)

John Asafu-Adjaye, Senior Fellow, Economic Management and Governance Program, African Center for Economic Transformation (Ghana)

Fiona Napier, Senior Advisor, Nature Finance (Kenya)

Monique Atouguia, Nature Markets Program Manager, Nature Finance (South Africa)

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Abstract

This policy brief underscores nature and climate resilience as catalysts for sustainability and human well-being, especially in Africa where climate change impacts are most acute. By appropriately valuing and pricing nature, trade can leverage nature-based products and services to foster socio-economic resilience and integration across and beyond Africa. A growing economic powerhouse, Africa is uniquely positioned to catalyse a paradigm shift, harnessing trade, and digital technologies as drivers for a nature-positive, climate-resilient future. This necessitates trade agreements that promote equitable growth and address data access and ownership asymmetries. Trade mechanisms must democratize access to digital tools and environmental data to spur innovation driven by emerging technologies. Robust safeguards are also imperative to avoid exploitative commercialization of indigenous land and ecosystem data without prior informed consent from nature custodians.

The brief calls on the G20 to seize the African Union's (AU) membership as an opportunity to champion a nature-positive trade and digital agenda. This would empower Africa and its trading partners to leverage the potential of nature positive trade and digital innovation while proactively addressing unintended ramifications of well-meaning conservation and climate initiatives or other punitive trade and tariff actions that could impede Africa's sustainable development trajectory. It advocates establishing a G20 data governance and ethics framework to standardize rules and regulations governing trade in natural resources and ecosystem services. The framework would include ethical data management principles, equitable benefit-sharing mechanisms, and robust safeguards for indigenous rights over traditional knowledge and biological resources.

Keywords: Nature and Climate Resilience, Sustainability, Africa Continental Free Trade Area, G20, Digital Innovation, Nature-Positive Trade, Data Governance, Ecosystem Services.

Diagnosis of the Issue

The convergence of Africa's abundant natural capital and emerging digital technologies presents a catalytic opportunity to unlock transformative pathways for sustainable trade and inclusive economic development in Africa and the G20 nations. As a vital platform for economic cooperation, the G20 shapes and drives global policies concerning nature, climate, and other domains. Africa's role is indispensable for the realization of the G20's ambitions. The continent holds 30% of the world's mineral reserves (Ushie, 2023) and 60% of the world's renewable energy assets (IEA, 2023).

Africa's pivotal role is underpinned by its expanding consumer base, projected to represent over one-fifth of the world's population by 2050, and fuelled by increasing internet access and mobile connectivity driving innovative business models. The continent's growing industrial prowess across sectors like agriculture, manufacturing, and extractive industries, driven by initiatives promoting sustainable industrialization, policies incentivizing investment, and the African Continental Free Trade Area (AfCFTA) reducing trade barriers and enhancing market access, unlocks Africa's potential as a manufacturing and export hub. As these multifaceted drivers converge, Africa's economic influence grows stronger, poising the continent to shape global trade flows, drive innovation, recalibrate geopolitical dynamics, reshape global value chains, and accelerate progress towards the Sustainable Development Goals.

However, climate change and environmental deterioration present substantial challenges to the trade capacity of Africa and the effective implementation of the AfCFTA, which in turn affects the G20 and other global players. Anticipated declines in agricultural output, because of climate change, could compromise Africa's trade

capabilities, considering the pivotal role of the agricultural sector in numerous African economies (Asafu-Adjaye, Ndung'u, & Shimeles, 2022).

The AfCFTA offers a unique platform to promote sustainable trade within Africa and globally. As it reshapes global trade, it presents opportunities and challenges for the G20 and others (UNCTAD, 2021). These nations could benefit from increased access to African markets and resources. However, they may also encounter intensified competition as Africa fortifies its intra-continental trade (Mbonde, 2022). This necessitates strategic policy formulation to leverage the opportunities and navigate the challenges effectively.

It is timely for the G20 to collaborate with Africa to meet the challenges of climate change and commitments to sustainable development, emphasizing a global approach to environmental resilience and economic sustainability by revolving around the G20 bioeconomy agenda. Essential to this will be the promotion of green trade practices (UNDP-OECD, 2019). Digitalization is a potent development delivery mechanism and is currently spearheading socio-economic transformation, unveiling new avenues for income generation for millions of citizens and bolstering connectivity.

The G20's dynamics in relation to the AfCFTA and Africa's climate change impacts present opportunities and challenges. A balanced approach considering economic interests and environmental sustainability is needed, which will benefit not only Africa but also contribute to global economic stability and environmental sustainability.

Recommendations

1. Promote Digital Innovation and Capacity Building for Sustainable Trade

Digital trade is rapidly gaining prominence in international trade. This growth presents new trade opportunities and the potential to enhance resilience during disruptions (UNDP-OECD, 2019). The G20, as a pivotal global forum, should strategically allocate resources to regional initiatives to bolster capacity-building initiatives in Africa. Key imperatives include prioritizing digital literacy, fortifying infrastructure, nurturing e-commerce proficiency, and fostering public-private synergies in sustainable trade-enabling solutions like blockchain traceability and remote environmental sensing. A coordinated policy approach empowering digital competence will allow countries to actively engage in global value chains, enhance competitiveness, and propel sustainable development agendas.

2. Collaboratively establish a centralized G20-Africa Digital Platform for Sustainable Trade and Environmental Data

The platform would serve as a comprehensive and interoperable repository and exchange mechanism for data on natural resources, ecosystem services, and sustainable trade practices.[1] It should maintain strong governance frameworks protecting indigenous

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[1] There is no single comprehensive global repository or exchange mechanism specifically for data on natural resources, ecosystem services, and sustainable trade practices. Some key initiatives and platforms that could be leveraged in developing a more comprehensive platform include The UN System of Environmental-Economic Accounting (SEEA), the Ecosystem Services Valuation Database (ESVD) Maintained by the Van Vuuren Applied

rights, informed consent, and community participation. It should follow global standards for ethical data stewardship to build trust and accountability. Also, facilitating capacity-building to empower users to contribute data and use the platform, ultimately driving sustainable trade, environmental conservation, and community-led resource management, should be prioritized.

3. Leveraging existing initiatives[2], establish a G20-Africa Nature-Positive Trade and Digital Innovation Initiative

This could catalyse sustainable trade preserving Africa's natural capital; responsible valorization of Africa's resources through fair pricing and regional value chains; digital ecosystems in Africa for environmental monitoring, resource management, and climate resilience; multi-stakeholder collaboration; and technical, financial, and capacity-building assistance for African countries to leverage nature-positive trade and digital innovation opportunities while addressing barriers. This partnership could leverage trade and the digital economy for sustainable development while conserving Africa's natural resources.

Environmental Economics research group, the World Bank's Natural Capital Data Atlas the Observatory for Economic Complexity (OEC) data visualization tool maps and the WTO Environmental Database.

[2] Examples include: BioTrade Initiative (UNCTAD, the Global Platform for Sustainable Natural Rubber (GPSNR), the UAE's Trade-Sustain-AI and the WTO Environmental Database.

4. Foster Global Collaboration for Sustainable Digital Innovation

Some existing initiatives[3] address aspects like joint R&D, best practice sharing, technology transfer, and public-private partnerships for sustainable digital solutions. This policy brief advocates a G20-Africa framework to harmonize and ramp up these fragmented efforts through a unified platform facilitating exchange of knowledge, identifying gaps, expertise and technologies. This will help o drive strategic alignment under a common governance structure balancing IP protection with R&D incentives, which supports transformative impact for sustainable digital solutions enhancing environmental conservation, climate resilience, and resource stewardship at scale.

5. Establish a G20-Africa Framework for Data Governance and Ethics in Natural Resource Trade

Aligning with the AU Data Policy Framework and other relevant G20 data policies, a comprehensive data governance framework for natural resources and ecosystems should be collaboratively developed. This should uphold responsible data management, privacy, and equitable benefit-sharing. Additionally, it should facilitate implementation of harmonised standards for data sharing, ownership, utilization, and cross-border transfers while respecting indigenous communities' rights. While a centralized repository with robust access controls is ideal, pragmatic interim steps must involve facilitating interoperability across key multi-stakeholder databases like AUDA-NEPAD's AFR100. This phased approach operationalizes a governance ecosystem for ethically unlocking Africa's natural capital opportunities, preventing conflicts through unethical data practices.

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[3] From players like GIZ, FCDO, USAID among others.

6. Catalyse Sustainable Trade through Incentives and Enabling Support:

The G20 and Africa should develop a comprehensive framework to encourage sustainable trade and eco-friendly economic practices. This could involve establishing a dedicated G20 Facility for financing green initiatives, offering trade incentives for nature-based products from members adhering to sustainability standards, and developing eco-labelling mechanisms. Awareness campaigns and capacity building through technology transfers and partnerships could be implemented.

Means Of Implementation

The G20 should:

1. Establish a dedicated task force or working group to oversee the implementation of these recommendations, ensuring effective coordination and collaboration among G20 and AU member States.

2. Support implementation of recommendations in Africa, by allocating adequate financial resources and technical assistance through existing African multilateral institutions and regional development banks.

3. Promote public-private collaborations and utilize the skills and resources of the private sector, NGOs, and academia to propel sustainable trade and digital innovation in Africa and the G20.

4. Promote knowledge-sharing platforms and best practice exchanges among G20 and AU members, enabling peer learning and successful initiative replication.

5. Assess the initiatives regularly, make needed adjustments, and ensure accountability through clear reporting mechanisms.

6. Implementing these proposed strategies allows G20-Africa to catalyse sustainable trade and development, responsibly unlock Africa's natural capital, and nurture digital ecosystems for environmental conservation. This proactive strategy yields multidimensional benefits - driving African growth, accelerating SDG advancement, and promoting cooperative solutions to global ecological challenges.

Scenario Of Outcomes

The proposed recommendations, if implemented, could yield both favourable and unintended consequences that should be carefully evaluated. These are summarised below:

Scenarios	Key Points
1. Promote Digital Innovation and Capacity Building for Sustainable Trade	
Bridge the Digital Divide	Digital investments should bridge the urban-rural gap. Policies need to focus on inclusive growth, resource allocation, and local training. Ignoring digital disparities could amplify socio-economic differences, limiting Africa's role in digital trade and sustainable development.
Data Governance and Privacy Concerns	The spread of digital technologies raises concerns about data governance, privacy, and security. Issues of ownership and potential misuse arise from data collection for environmental monitoring and trade. Balancing innovation with rights is challenging and can affect technology adoption.
Dependency on Foreign Technology and Expertise	Heavy reliance on G20 expertise and technologies could create dependencies, limiting Africa's development of tailored digital solutions. This could affect long-term sustainability and resilience in Africa's digital trade landscape.

Disruption of Traditional Livelihoods and Industries (te Velde & Banga, 2018)	The swift uptake of digital technologies and sustainable trade may disrupt traditional African sectors. While it opens new avenues, some industries may find adaptation challenging, potentially causing job losses and social unrest that require adequate support systems.
Environmental Impacts of Digital Infrastructure	Digital technology supports environmental oversight and resource management, but its infrastructure can impact the environment. Emissions and waste can stem from the lifecycle of devices, data center energy use, and network building. It's vital to address these issues and foster sustainability in the digital realm.
2. Establish a G20-Africa Digital Platform for Sustainable Trade and Environmental Data	
Data Sovereignty and Control	Centralization might ignite data sovereignty concerns in Africa. Misuse of sensitive and indigenous data could be an issue, and maintaining data governance respecting local autonomy could be challenging.
Digital Divide and Unequal Access	Despite capacity-building efforts, disparities may exist in African nations' ability to use the digital platform effectively. Factors like digital infrastructure, human resources, and tech capabilities could create an uneven playing field, potentially marginalizing some regions.

Data Ownership and Benefit-Sharing Disputes	The proposed platform aims for open data sharing, but conflicts over data ownership and benefit distribution could arise. Stakeholders, including governments, private entities, and communities, may have differing views on data rights, benefit-sharing, and commercialization.
Transparency versus Sensitive Information	The quest for transparency in trade and environmental policies through data sharing may conflict with protecting sensitive information. Balancing transparency and safeguarding sensitive data could be a complex and contentious process.
Cybersecurity and Data Privacy Risks	The digital platform, as a centralized data repository, could be a target for cyber threats. Ensuring robust cybersecurity, data privacy, and adherence to standards may be challenging for some AU Members due to resource constraints.

3. Establish a G20-Africa Nature-Positive Trade and Digital Innovation Initiative	
Economic Interests versus Environmental Sustainability	The initiative promotes sustainable trade and resource use, but economic interests may interfere or conflict with environmental goals. Industries may resist regulations affecting their profitability. Balancing economic growth with environmental protection could lead to compromises or conflicts.
Uneven Distribution of Benefits and Risks	Resource valorization and regional value chain development could result in unequal benefits among AU members.

	Resource-rich countries may benefit more as others lag. The environmental impact of resource extraction could disproportionately affect certain communities, raising environmental justice and risk management concerns.
Technology Dependency and Intellectual Property Challenges	Boosting digital innovation could foster dependence on foreign expertise, possibly constraining Africa's unique solutions and autonomy. Handling IPR and securing fair technological access may also be challenging.
Capacity and Resource Constraints	Despite resource mobilization and capacity building, financial, infrastructural, and skill limitations may restrict many African countries from fully exploiting initiative opportunities, possibly worsening existing disparities.
Multistakeholder Collaboration Challenges	Coordinating G20 and AU members, with their diverse interests and priorities, can be complex due to transparency and governance issues and power disparities.
Potential Disruption of Traditional Livelihoods and Cultural Practices	Shifting to eco-friendly trade and digital innovation could unsettle traditional livelihoods and cultures.
4. Foster Global Collaboration for Sustainable Digital Innovation	
Technology Transfer Barriers and Intellectual Property Conflicts	The framework aims for technology transfers, but IPR could be an obstacle. Developed nations and firms might resist sharing proprietary technology due to infringement fears. IPR complexities could obstruct fair digital access and knowledge sharing.

Power Imbalances and Unequal Partnerships	G20-AU collaborations risk power imbalances. Dominant economies may dictate terms, causing unequal benefits and biased research agendas, complicating fair partnerships.
Digital Divide and Capacity Gaps	Despite capacity-building, the G20-Africa digital divide may persist. Limited infrastructure, skills, and funds could hinder some AU Members from utilizing shared knowledge and tech. Overcoming these disparities may require long-term investments
Sustainability Challenges and Funding Constraints	Establishing and sustaining R&D initiatives, capacity-building, and partnerships require steady funding. Dependence on external or inconsistent G20 funds could risk these initiatives' sustainability (Ockwell, Sagar, & de Coninck, 2015) potentially hindering sustainable digital innovation progress.
5. Establish a G20-Africa Framework for Data Governance and Ethics in Natural Resource Trade
Harmonized Data Governance and Inclusive Trade	The G20-Africa Framework could standardize data governance, fostering ethical use of resource data, stimulating trade, deterring illegal extraction, and enhancing investor trust. However, stringent regulations might limit smaller African economies' market adaptability.
Resource Monopolies and Power Dynamics	The G20-Africa Framework's execution may shift power balances, through existing or new resource monopolies who

	could bend the rules, gain access to natural resources in the absence of stringent, and fairly applied data governance.
Privacy vs. Resource Transparency	The framework seeks to enhance transparency in resource trade while respecting privacy. Balancing these aspects is key, as overemphasizing transparency could breach privacy, while favouring privacy could limit transparency and accountability.
Digital Divide and Inequitable Access	The digital divide could impact the framework's effectiveness. Unequal technology access might skew benefits from digital eco-trade. Bridging this divide is vital for equitable benefit distribution.
6. Catalyse Sustainable Trade through Incentives and Enabling Support	
Substantial green funds secured for eco-trade initiatives	Eco-labels and trade incentives enhance green product demand, driving sustainable investments. Technology transfers empower local businesses, correcting market failures and fuelling Africa and G20's green growth.
Disagreements among G20 and AU Members	G20 and AU discord could impede the Facility. Trade incentives may become eco-barriers, and lax enforcement might undermine eco-labels. IP conflicts could also hinder technology transfers, and without proper risk mitigation measures, private sector scepticism may arise. Disjointed efforts might not scale, and policy discord could enforce unsustainable practices.

The G20-Africa Facility and incentives requires significant concessions.	Funding gaps and slow implementation of incentives may restrict scope. Basic eco-labelling might be adopted, and budget constraints could favour general over specific technology transfers. Additionally, limited awareness may impact sustainable trade, obstructing anticipated gains and synergies.

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