

# Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa

African Ministerial Conference on the Environment, AMCEN/17/L.3 para.24

## UN Environment Programme

Contributing Authors: Naomi Young, William Speller, Salman Hussain, Levis Kavagi, Monica Lopez, Melissa de Kock

## Contents

<b>Executive Summary</b> .....	<b>2</b>
<b>1. Background and Context</b> .....	<b>3</b>
<b>2. Defining a “Biodiversity Economy”</b> .....	<b>5</b>
<b>3. Objectives of a Regional Biodiversity Economy Cooperation Framework in Africa</b> .....	<b>10</b>
<b>4. Relevant Policy Landscape for a Biodiversity Economy</b> .....	<b>11</b>
<b>6. Scoping the Applications of a Biodiversity Economy</b> .....	<b>25</b>
<b>7. Mechanisms to Promote Investments in a Biodiversity Economy</b> .....	<b>28</b>
<b>8. Empirical Case of Specific Applications of Biodiversity Economy</b> .....	<b>32</b>
<b>9. Implementation and Challenges of Advancing a Pan-African Biodiversity Economy</b> .....	<b>40</b>
<b>10. Collaborative Opportunities and Insight</b> .....	<b>44</b>
<b>Appendices</b> .....	<b>47</b>
<b>Reference List</b> .....	<b>48</b>

## Executive Summary

During the 17<sup>th</sup> AMCEN Ordinary Session, the Conference tasked the AMCEN Secretariat to develop a regional cooperation framework on advancing a “Biodiversity Economy”. The Ministers’ statement reads:

*“We, African ministers to the environment, decide to develop a regional cooperation framework on advancing the biodiversity economy that enhances the value of biological goods and services, integrates natural capital accounting and scales up investment in the sustainable utilization of biological resources as part of Africa’s transformation.”*

AMCEN/17/1/L.3, para. 24

The AMCEN Secretariat has since engaged UNEP, the South African Department of Forestry, Fisheries and the Environment (DFFE), the South African National Biodiversity Institute (SANBI) and the United Nations Economic Commission for Africa (UNECA) in discussions on this subject. As a precursor to development of a regional cooperation framework per se, this background document entitled “Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa” has been prepared by UNEP in consultation with DFFE, SANBI and UNECA. A consultation workshop on the document was hosted by DFFE on 26 January 2022.

This document covers the following: definitional issues for consideration in scoping what is intended by ‘biodiversity economy’ in the African context; possible objectives of a regional cooperation framework; the policy landscape and ongoing related national, regional and global initiatives; means to quantify the biodiversity economy and to promote investment therein; a selection of case study applications from the continent; and an assessment of the challenges for scaling-up the biodiversity economy in Africa.

This background document is tabled for consideration and further guidance from Parties on the way forward for development of the regional cooperation framework, noting that financial resources would be required to further support this process.

## 1. Background and Context

1. The African Ministerial Conference on the Environment (AMCEN), established in 1985, brings together African governments, institutions, and development partners to set the environmental agenda and policies, tackling the continent's most pressing environmental issues at the interface of wider socioeconomic challenges. The Conference's ability to enhance regional cooperation and develop common environmental policies is hence critical to boost prosperity and enhance well-being within the pan-African region (UNEP, 2021a). AMCEN serves as the Technical Committee of the African Union on environmental matters, and the Africa Office of the United Nations Environment Programme (UNEP) serves as the secretariat for the Conference. The AMCEN holds biannual ordinary sessions and holds special sessions between ordinary sessions when necessary.
2. The 17th Ordinary Session of AMCEN in Durban from 11 to 15 November 2019 under the theme **"Taking action for Environmental Sustainability and Prosperity in Africa"**, where South Africa assumed the Presidency of AMCEN from Gabon at this meeting and a new Bureau for the period 2019-21 was elected. The AMCEN 17th Ordinary Session adopted the **Durban Declaration on Taking Action for Environmental Sustainability and Prosperity in Africa** as well as decisions on taking action for the sustainability of environmental and natural resources in Africa; and on climate change at the 17th Ordinary Session.
3. During the 17<sup>th</sup> AMCEN Ordinary Session, the Conference tasked the AMCEN Secretariat to develop a regional cooperation framework on advancing a "Biodiversity Economy" (AMCEN, 2019a). The Ministers' statement reads:

*"We, African ministers to the environment, decide to develop a regional cooperation framework on advancing the biodiversity economy that enhances the value of biological goods and services, integrates natural capital accounting and scales up investment in the sustainable utilization of biological resources as part of Africa's transformation."*

AMCEN/17/1/L.3, para. 24

4. The 8<sup>th</sup> Special Session of AMCEN took place virtually on 30 November and 1 December 2020 for the experts and 4 December for the ministerial segment under the theme **"Enhancing environmental action for effective post-COVID-19 recovery in Africa"**. Following the 8<sup>th</sup> Special Session of AMCEN, the **African Green Stimulus Programme (AGSP)**, a comprehensive African-led initiative to support Africa's green recovery from the Covid-19 Pandemic was formally adopted by the African Ministers of Environment. The 8<sup>th</sup> Special Session of AMCEN adopted a ministerial statement which re-affirmed the commitment to enhance environmental resilience as well as protect and sustainably utilize natural resources for the region's development.
5. The first part of the 18<sup>th</sup> Ordinary Session of AMCEN took place virtually from 13 to 16 September 2021 under the theme **"Securing people's well-being and ensuring environmental sustainability in Africa"**. The **African Green Stimulus Programme On-line Platform**<sup>1</sup> was officially launched on 16 September 2021 during the Ministerial Segment. The Ministers adopted a statement re-affirming their commitment and efforts to recover from the impacts of the Covid-

---

<sup>1</sup> <https://agsp.nepad.org/>

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

19 pandemic by prioritising green and sustainable recovery measures. Africa's priorities and key messages for the CBD COP15, UNFCCC COP26 and UNEA-5.2 were also adopted.

6. The African response to the global COVID-19 health pandemic has led to the creation of the African Green Stimulus Programme, outlining a strategy to target scaled interventions to the continent's recovery while transforming and catalysing Africa's sustainable development towards a low-carbon development trajectory by 2030 (UNEP, 2021b). Biodiversity Economy is one of the key pillars of the programme. More detail is articulated in Section 4.2.
7. In parallel, the UN Economic Commission for Africa (UNECA) has also outlined Africa's "Building Forward to an African Green Economy" COVID-19 response, targeting the development of a Green and Blue Economy as key strategies for recovery (UNECA, 2021a). This forms the baseline of a paradigm shift from resource-heavy and inefficient models of production and consumption that incentivise overexploitation, towards models that are centred upon the sustainable use of resources and value addition of production and consumption cycles, as mobilised by financial resources. More detail is articulated in Section 4.2.
8. The aims, objectives, and wider socio-economic discourse surrounding a "Biodiversity Economy" are contextualised and underscored by the African Union's Agenda 2063 for "*The Africa We Want*". The development agenda for the pan-Africa region prioritises a prosperous Africa based upon inclusive growth and sustainable development, as supported by continental and regional integration, democratic governance, and peace and security to reposition Africa as a dominant player in the global arena. More detail is articulated in Section 4.2.

## 2. Defining a “Biodiversity Economy”

9. The AMCEN outlines the following definition for a “**Biodiversity Economy**”, as put forward from the 17<sup>th</sup> Ordinary Session of AMCEN in November 2019 (AMCEN, 2019b):

*“A biodiversity economy can be said to be an economy that takes into account the value and contribution of biological resources in sustainable development, through enterprises and livelihoods that are based on the biological products or services generated.”*

AMCEN 17/1/5, para. 7.

10. Separately, the World Wide Fund for Nature (WWF) has developed a definition of a biodiversity economy, which was then adapted by the South African Department of Forestry, Fisheries, and the Environment (DFFE), as a part of South Africa’s “National Biodiversity Economy Strategy”. Using this definition, the DFFE suggests that biodiversity-related jobs and economies may be separated into two broad categories: those that contribute to conserving biodiversity such as ecosystem protection and management roles, and research and professional services relating to biodiversity; and those which utilise biodiversity such as nature-based tourism (non-consumptive uses) and biotrade and bioprospecting (consumptive use) (DFFA, 2016). The definition reads as follows:

*“The biodiversity economy encompasses businesses and other economic activities that either directly depend on biodiversity for their core business or that contribute to conservation of biodiversity through their activities.”*

South African National Biodiversity Economy Strategy, 2016: p. ii

11. “*Biodiversity*” is termed as the number, variety, and variability of living organisms within a given assemblage. An assemblage refers to what is commonly known as ecosystems, including terrestrial, marine, and other aquatic ecosystems. Notably, this understanding acknowledges both managed and unmanaged ecosystems, of which influence human well-being through their generated services to underpin the global economy (AMCEN, 2019b).
12. Regarding “*takes into account the value and contribution of biological resources*”, this understanding of a “Biodiversity Economy” infers the national and pan-African exercises of using non-market environmental economics valuation methods to value nature and ecosystem services it supplies. This valuation can be in monetary or non-monetary terms. Accounting for these values can (and ideally should) take place in the context of developing natural capital accounts, mainstreaming natural capital accounting standards, and mainstreaming natural capital accounts within policy and decision-making. However, there are many valid applications of environmental economics valuation that occur in the absence of such formal ecosystem accounting, and indeed some aspects of value (such as cultural and spiritual values ) are not captured in the System of Environmental-Economic Accounting Ecosystem Accounting (SEEA-EA) which is the statistical standard in this regard. More detail is articulated in Section 3.
13. Regarding the terminology “*the biological products or services generated*”, this understanding of a “Biodiversity Economy” indicates for the primary consideration of biota (flora, fauna, and their biological environments) and their associated ecosystem services. This definition also falls in line with the conceptualisation of a “Green Economy” and a “Blue Economy”, as outlined in the following paragraphs. However, a distinction may be made from the understanding of a “Green/Blue Economy”, whereby abiotic components of ecosystems would not be regarded in

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

the scoping of a “Biodiversity Economy”. For example, this would include the economic activities and profits arising from mineral resources, mining, and renewable energy production from water, wind, solar, and others.

14. An important distinction in framing a Biodiversity Economy is between a) those economic sectors and activities that provide direct financial benefit to enterprises and livelihoods that are based on the biological products or services generated (sometimes referred to as ‘beneficiation’); and b) those activities to maintain or enhance the natural capital and ecosystems services on which the economic activities in a) depend, regardless of whether the preservation of natural capital is directly monetised. For example, activities under a) might include eco-tourism or game ranching in which livelihoods are directly supported, as well as schemes – such as carbon credits or PES – to seek to monetise the benefits that nature provides. With respect to b), critical regulating, supporting or cultural ecosystem services such as soil retention, water quality amelioration, air filtration etc., ought to be within the scope of a Biodiversity Economy that “takes into account the value and contribution of biological resources”, even though the benefits of maintaining them are indirect and non-pecuniary vis-à-vis the livelihoods affected.
15. With respect to a biodiversity economy, the following key issues and opportunities are targeted in realising sustainable development and poverty eradication, as pertinent to developing countries whose economies are more directly related to environmental exploitation (Table 1 , adapted from ALU School of Conservation (2021)).

Opportunities	Challenges and Issues
<ul style="list-style-type: none"> <li>● Sustainable use of biodiversity</li> <li>● Biodiversity-based tourism</li> <li>● Wildlife ranching</li> <li>● Timber and non-timber forest products</li> <li>● Bioprospecting, and medicinal and pharmaceuticals products</li> <li>● Carbon market</li> <li>● Local crafts and cultural goods</li> <li>● Film and photography</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>● Food insecurity</li> <li>● Human Wildlife Conflict</li> <li>● Illegal Trade in Biodiversity</li> <li>● Acceleration of natural resource extraction</li> <li>● Climate change impacts upon ecosystems, their flora and fauna, and their services</li> <li>● Need for awareness and understanding of the Biodiversity Economy (Local to global)</li> <li>● Capacity building and training</li> <li>● Governance and international cooperation in policies, ownership, and product development</li> <li>● Market development, global perceptions, and marketing efforts</li> <li>● Barriers to community involvement and industry expansion</li> <li>● Limited resource mobilization and inadequate project pipeline for Biodiversity Economy investments</li> </ul>

Table 1: Opportunities, challenges and issues of implementing a Biodiversity Economy Adapted from ALU School of Conservation (2021).

16. A **Green Economy**, as described by the UNECA “*Building Forward for an African Green Recovery*”, is outlined as an economy that improves well-being, promotes social equity, reduces ecological risks, and is capable of transforming the global economy towards a low-carbon development uptake (UNECA, 2021). It forms the baseline of an economic paradigm shift; we

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

should transition our economies from resource-heavy and inefficient models of production and consumption that incentivise overexploitation, towards models that are centred upon the sustainable use of resources and value addition throughout the production and consumption cycle as part of a circular green economy.

17. Green economy, in the context of sustainable development and poverty eradication, was one of the two themes for the UN Conference on Sustainable Development (Rio+20) in 2012 (UN, 2012). It agreed that recognising the Green Economy approach as an important tool to enhance the ability to manage natural resource sustainably, reduce adverse environmental impacts, increase resource efficiency, and reduce waste.
18. In parallel to the conceptualisation of a Green Economy, a **Blue Economy** outlines the same desired outcome to improve human well-being and social equity while significantly reducing environmental risks and ecological scarcities, but is instead fashioned to reflect the circumstances and needs of countries whose future resource base is marine (UN, 2014a). The African Blue Economy Strategy of the African Union (AU-IBAR, 2019) is the current development agenda for an inclusive and sustainable blue economy growth across pan-Africa, further outlined in Section 5. The following key issues and opportunities are targeted in realising sustainable development and poverty eradication within a Blue Economy, as pertinent to developing countries whose economies are more directly related to environmental exploitation (Table 3).

Opportunities	Challenges and Issues
<ul style="list-style-type: none"> <li>● Sustainable use of biodiversity</li> <li>● Shipping and port facilities</li> <li>● Fisheries</li> <li>● Tourism</li> <li>● Aquaculture</li> <li>● Energy production</li> <li>● Biotechnology</li> <li>● Submarine Mining</li> </ul>	<ul style="list-style-type: none"> <li>● Food security</li> <li>● Unsustainable fisheries</li> <li>● Climate change and managing carbon budgets (specifically, the issues of ocean acidification, and blue carbon)</li> <li>● Marine and coastal tourism</li> <li>● Pollution and marine debris</li> <li>● Governance and international cooperation</li> </ul>

Table 1: Opportunities, challenges and issues of implementing a Biodiversity Economy. Adapted from UN, 2014a.

19. To achieve the decoupling of socioeconomic development from environmental degradation in marine ecosystems, the Blue Economy approach is founded upon the assessment and incorporation of the value of natural (blue) capital into all aspects of economic activity (conceptualisation, planning, infrastructure development, trade, travel, renewable resource exploitation, and energy production/consumption) (UN, 2014a). Here, “blue” low energy options to realise efficiencies and benefits are applied to sustainable source and use local raw materials, instead of the business-as-usual “brown” models of high energy, low employment, and industrialised models.
20. The Blue Economy approach recognises and places renewed emphasis on the critical need for the international community to address effectively the sound management of resources in and beneath international waters by the further development and refinement of international law and ocean governance mechanisms (UN, 2014a). Every country must take its share of the responsibility to protect the high seas, which cover 64 % of the surface of our oceans and constitute more than 90% of their volume.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

21. In parallel to the definition of the “Biodiversity Economy”, the term “**Wildlife Economy**” has also be used in the policy space, notably in the 2019 Africa Wildlife Economy Summit (UNEP, 2019). Wildlife is hereby defined as all terrestrial and marine flora and fauna, including indigenous, domesticated, and undomesticated life forms. The conceptualisation of a wildlife economy is therefore the articulation of the conservation of nature through its harmonised sustainable value and use for human benefit (Snyman et al., 2021).

*“The Wildlife Economy uses wildlife, plants and animals (marine and terrestrial), as an economic asset to create value that aligns with conservation objectives and delivers sustainable growth and economic development.”*

State of the Wildlife Economy in Africa, Case Study: South Africa, 2020: p.3

22. A “Wildlife Economy” calls for a vision of conservation that links the private sector with national authorities and local communities to design and finance conservation-compatible investments that deliver sustainable economic and ecological benefits to countries, people, and the environment (UNEP, 2019). It aims to build and support businesses that are linked to Africa’s natural landscapes and wildlife, thereby employing millions of people and earning governments billions of dollars in revenue. Despite this, the key constraints to operationalising a Wildlife Economy, as identified during the Africa Wildlife Economy Summit (Zimbabwe, 24-25<sup>th</sup> June 2019), include (Snyman et al., 2021):

- Assuring the rights to benefits for local communities through relevant laws;
- Instituting proper structures that ensure the equitable distribution of benefits accrued from the wildlife economy;
- Promoting proper governance through elaborate transparent and accountable processes, systems, and institutions;
- Ensuring the participation by all stakeholders in decision-making;
- Developing a regulatory framework that attracts private sector investment; and
- Calling for development partners to enhance conditions that encourage private sector investment and catalyse the financing options for the conservation of natural resources.

23. Some related initiatives refer to ‘wildlife economy’. For example, African leadership University’s School of Wildlife Conservation defines “Wildlife includes indigenous, undomesticated terrestrial and marine animals, plants, and other life forms” and the Wildlife Economy as “The Wildlife Economy uses wildlife, plants and animals (marine and terrestrial), as an economic asset to create value that aligns with conservation objectives and delivers sustainable growth and economic development” The wildlife economy includes the sustainable utilisation of indigenous wildlife to support economic development, while still contributing to conservation. Activities within the wildlife economy may be consumptive, or non-consumptive.”

24. The Southern African Development Community (SADC) is working on a draft framework for a SADC Wildlife-based economy strategy that defines the Wildlife-based economy as the “sector of the Member States’ and region’s economy that uses marine and terrestrial wildlife as an economic asset to create value that aligns with conservation objectives and delivers sustainable growth and economic development. The sustainable use of biodiversity within the wildlife-based economy may be both consumptive and non-consumptive.”

25. Following on from the publication of State of the Wildlife Economy case studies for Kenya, Rwanda, Tanzania and Uganda, and the similar opportunities and challenges identified in these



**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

countries, the East African Community (EAC) has recognised the need for an EAC framework for the wildlife economy in the region. This will provide guidance in terms of unlocking the wildlife economy in the region to promote development and conservation, aligning with various other EAC strategies and frameworks. The framework will be developed based on the country case study reports and extensive stakeholder engagement with the EAC member states and the EAC Secretariat. The project will be jointly implemented by WWF and the African Leadership University's School of Wildlife Conservation, funded by the USAID CONNECT project.

26. In parallel to the definition of the “Biodiversity Economy”, the term “**Nature Economy**” has also been used in the policy space, notably by the World Economic Forum in a series of “New Nature Economy” reports (WEF, 2020). It aims to contribute to the “Business for Nature” mobilisation, and “Nature Action Agenda” platform for committed actors in run-up to the UN Convention on Biological Diversity (CBD) COP15 in December 2022.

The following priorities are emphasised under the understanding of a “Nature Economy” (WEF, 2020):

- Making the case for why the nature crisis is crucial to business and the economy;
- Identifying a set of priority socioeconomic systems for transformation; and
- Scoping the market and investment opportunities for nature-based solutions to environmental challenges.

27. A working definition of the term “Biodiversity Economy” should also encapsulate the economic case for biodiversity-generated products and services and biodiversity-integral activities, as to support **green growth, green wealth creation, and opportunities for green employment**. In line with Agenda 2063 of the African Union and Agenda 2030 on Sustainable Development, the common elements of biodiversity valuation and socio-economic development trajectories are key to provide Africa with a healthy living environment while ensuring good health and quality of life for its people. In parallel, this framing is critical to harness the region’s natural capital for the benefit of all its citizens and to provide an enduring source of livelihoods, where Africa does not presently fully realise the return potentials from its natural capital (AMCEN, 2019b).

### **3. Objectives of a Regional Biodiversity Economy Cooperation Framework in Africa**

28. This regional cooperation framework on advancing the biodiversity economy in Africa has the following objectives:
- A. To support the enhancement of the value of biological goods and services in Africa;
  - B. To promote the integration of natural capital accounting into national accounting systems;
  - C. To scale up investment in the sustainable utilization of biological resources as part of Africa's transformation; and
  - D. To facilitate enhanced cooperation on the biodiversity economy amongst African Countries for the sharing of best practices, policies, standards and exchange of biodiversity economy information

## **4. Relevant Policy Landscape for a Biodiversity Economy**

### **4.1 International Policy and Fora**

#### **4.1.1 UN Decade on Ecosystem Restoration 2021-2030**

29. With a mandate by the United Nations General Assembly resolution 73/284, the UN Decade on Ecosystem Restoration 2021-2030 was launched on World Environment Day, 5<sup>th</sup> June 2021. The Decade is led by UNEP and the FAO, to build a strong, and broad-based global movement to ramp up restoration and put the world on track for a sustainable future under the UN Decade Strategy, including building political momentum for restoration upon thousands of initiatives on the ground. It's overarching objectives are:
- Showcase successful government-led and private initiatives to halt ecosystem degradation, restore those ecosystems that have been degraded;
  - Enhance knowledge exchange on what works and why (policy, economics, and biophysical aspects), and how to implement restoration at scale;
  - Connect initiatives working in the same landscape, region, or topic, to increase efficiency and impact;
  - Create links between ecosystem restoration opportunities and initiatives with businesses interested in building a robust portfolio of sustainable production and impact investment; and
  - Bring a broader spectrum of actors on board, especially from sectors that are not traditionally involved, by demonstrating the importance of ecosystem restoration to conservation as well as generation of social and economic benefits.
30. In line with the UN Decade on Ecosystem Restoration, the scoping of “Biodiversity Economy” applications should also include ecosystem restoration with the aim of preventing, halting and reversing the degradation of Earth’s ecosystems on all continents and oceans. To fully account for the value and contribution of Africa’s biota and biological resources, the natural environment must be conserved, managed, and used sustainably to achieve the sustainable visions of the African Union’s Agenda 2063. Notably, 60% of the world’s unconverted arable land is in Africa (AMCEN, 2019b), as well as the immensely critical and threatened assemblages of large mammals and natural ecoregions across the continent (IPBES, 2018). Ecosystem restoration is therefore considered fundamental towards the 2030 Agenda towards Sustainable Development, as to tackle issues of climate change, poverty eradication, food security, water, and biodiversity conservation.
31. Ecosystem restoration in Africa is realised by the “Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience” (CBD and UNEP, 2018), proposing harmonised and coordinated policy measures, strategic actions, cooperation mechanisms and on-the-ground actions to advance land and ecosystem restoration. This is implemented by all African member States under the direction of the African Union and seeks to ensure that its environment and ecosystems are healthy and protected to support climate-resilient economies and community livelihoods. The applications of a “Biodiversity Economy” through ecosystem restoration should therefore include measures to create green jobs, as a key element for building resilient societies post-COVID-19 and the global health crisis (UNEP and FAO, 2020).

#### 4.1.2 2030 Agenda for Sustainable Development

32. The 2030 Agenda for Sustainable Development was adopted by the United Nations General Assembly in 2015 through Resolution 70/1, and was agreed by the 193 States Members of the United Nations. It sets out an ambitious plan for the planet in which there is a clear role for the sustainable utilisation of biodiversity and the development of wildlife economies in both marine and terrestrial ecosystems, with direct contributions to human well-being and development priorities. The Agenda is underpinned by 17 Sustainable Development Goals, of which biodiversity-focused SDGs 14 (Life below water) and 15 (Life on land) emerge as multipliers of co-benefits across the goals.
33. While the Sustainable Development Goals act as a strong foundation to create enabling environments for the uptake and implementation of a biodiversity economy, biodiversity economy activities will in turn contribute towards the achievement of the SDGs by nature of their cross-cutting impacts (adapted from ALU School of Conservation, 2021 – and noting that explicit links were not identified for SDG4 Universal Education):

<p><b>SDG1: No poverty</b> All biodiversity economy activities contribute to SDG1 through creating employment and generating revenues, particularly for rural communities and in areas where there are few alternative employment or revenue-generating opportunities.</p>	<p><b>SDG2: Zero Hunger</b> Biodiversity economy activities contribute to reducing hunger through providing employment and income, but also through providing resources, especially non-timber forest products and subsistence hunting and fishing.</p>
<p><b>SDG3: Good health and well-being</b> The links between people and nature are highlighted even further during the global COVID-19 health pandemic. Investment in wildlife (flora and fauna) contributes to health and well-being through the provision of fresh air, clean water, and other natural resources.</p>	<p><b>SDG5: Gender Equality</b> Many biodiversity economy activities focus on employing women, for example tourism and the shea butter industry. Many activities also have low barriers to entry and are a part of livelihood diversification strategies allowing for increased gender equality, particularly in rural areas.</p>
<p><b>SDG6: Clean water and sanitation</b> Ecosystem services provide clean water, and investment in the wildlife economy and related resources can support the achievement of SDG6.</p>	<p><b>SDG7: Affordable and clean energy</b> Many biodiversity economy activities support climate mitigation and provide more sustainable development options, which can result in clean energy e.g. hydro-electricity and solar.</p>
<p><b>SDG8: Decent work and economic growth</b> Sustainable biodiversity economy activities support both conservation and development, providing decent work and economic growth – locally, nationally, and regionally.</p>	<p><b>SDG9: Industry, innovation, and infrastructure</b> Innovations in the biodiversity economy, such as sustainable nature-based building materials, can improve infrastructure resilience.</p>
<p><b>SDG10: Reduced inequalities</b> Employment in, and income earned through, biodiversity economy activities can reduce inequalities, especially if there is a concomitant investment in wildlife resources to support and grow the wildlife economy more sustainably.</p>	<p><b>SDG11: Sustainable cities and communities</b> Biodiversity economy can support SDG11 through providing a development alternative that is more sustainable in the long-term, if managed effectively and efficiently.</p>

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

<p>SDG12: Responsible consumption and production Biodiversity economy activities are the nature-based foundations of a circular economy, enabling patterns of sustainable consumption and production.</p>	<p><b>SDG13: Climate Action</b> A key service of a biodiversity economy can be the storage and sequestration of carbon to mitigate the impacts of climate change, as well as other key ecosystem services.</p>
<p>SDG14: Life below water Biodiversity economy activities directly contribute to SDG14 through supporting the sustainable use of wildlife resources.</p>	<p><b>SDG15: Life on land</b> Biodiversity economy activities directly contribute to SDG15 through supporting the sustainable use of wildlife resources.</p>
<p>SDG16: Peace, justice, and strong institutions Like other economic sectors, the biodiversity economy requires effective, accountable, and inclusive institutions. These will ensure that wild resources are conserved through transparent and equitable use.</p>	<p><b>SDG17: Partnership for the goals</b> For the biodiversity economy, financing from multiple sources and a significant increase in the exports of wild goods and services are key means of implementation. Innovative partnerships and collaborations with stakeholders are core features of successful wildlife enterprises.</p>

Table 3: Linkages between a Biodiversity Economy and the Sustainable Development Goals.  
Adapted from ALU School of Conservation (2021).

#### 4.1.3 Convention on Biological Diversity and Post-2020 Biodiversity Framework

34. The Convention on Biological Diversity was launched at the Rio de Janeiro United Nations Conference on Environment and Development in 1992, and provides the overarching framework of policies, programmes, and initiatives in support of the conservation of biodiversity including sustainable utilisation in support of economic development. For example, Article 10 on the Sustainable Use of Components of Biological Diversity calls on Parties to:

- Integrate consideration of the conservation and sustainable use of biological resources into national decision-making;
- Support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced; and
- Encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources.

35. Under the CBD processes, there are numerous decisions, guidelines and processes in support of developing sustainable and inclusive wildlife economies. In this regard, the CBD Parties have adopted several decisions that are particularly relevant to the wildlife economy including the following:

- COP 5 Decision V/24 on ‘**Sustainable use as a cross-cutting issue**’ called on Parties to “to increase their capacity to implement sustainable-use practices, programmes and policies at regional, national and local levels, especially in pursuit of poverty alleviation.”
- COP 7 Decision VII/12 on ‘**Sustainable Use (Article 10)**’ adopted the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity and called on Parties “in collaboration with relevant organisations, including the private sector, to develop and transfer technologies and provide financial support to assist in the implementation of the

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

Addis Ababa Principles and Guidelines at the national level to ensure that the use of biological diversity is sustainable.”

- COP 7 Decision VII/14 on ‘**Biological Diversity and tourism**’ adopts the Guidelines on Biodiversity and Tourism Development and calls on Parties to “integrate these Guidelines in the development or review of their strategies and plans for tourism development, national biodiversity strategies and action plans, and other related sectoral strategies, at appropriate levels in consultation with interested stakeholders including tourism operators and all members of the tourism sector.”
- COP 10 Decision X/1 on ‘**Access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation**’ adopts the the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation which was ratified by Kenya in 2014.
- COP 14 Decision XIV/7 on ‘**Sustainable wildlife management**’ adopts Voluntary Guidance for a Sustainable Wild Meat Sector and calls on Parties to “provide, on a voluntary basis, best practices from their existing national programmes that promote sustainable wildlife management, while contributing to poverty reduction, food security and employment generation, in line with the Sustainable Development Goals and sustainable use of biological diversity.

36. With a launch set for the CBD’s next meeting of its 196 parties at the COP-15, hosted by China in Montreal, the post-2020 Biodiversity Framework will build on the Strategic Plan for Biodiversity 2011-2020 and set forth an ambitious plan to implement broad-based action to bring about a transformation in society’s relationship with biodiversity. By the year 2050, it aims to fulfil the shared vision of “living in harmony with nature” through 21 targets and 10 ‘milestones’ proposed for 2030. Although the draft framework will reflect inputs from working groups, and the Subsidiary Body on Scientific, Technical, and Technological Advice (SBSTTA, in March 2022), key targets relevant to the implementation of a biodiversity economy will include (CBD, 2022):

- Ensuring that at least 30% of global land and sea areas, especially areas of particular importance for biodiversity and its contributions to people, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures
- Use ecosystem-based approaches to contribute to mitigation and adaptation to climate change, contributing at least 10 GtCO<sub>2</sub>e per year to mitigation; and ensure that all mitigation and adaptation efforts avoid negative impacts on biodiversity
- Redirect, repurpose, reform, or eliminate incentives harmful for biodiversity in a just and equitable way, reducing them by at least \$500 billion per year
- Increase financial resources from all sources to at least US\$ 200 billion per year, including new, additional and effective financial resources, increasing by at least US\$ 10 billion per year international financial flows to developing countries, leveraging private finance, and increasing domestic resource mobilization, taking into account national biodiversity finance planning.

37. On behalf of the African Group at the CBD SBSTTA in March 2022, the Republic of Senegal reflected on the ambitious and balanced post-2020 framework on biodiversity and highlighted the need for realistic financing, technology transfer, capacity building, implementation mechanisms, and a viable agreement on benefit-sharing related to digital sequence information

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

(IISD, 2022). Overall, significant inputs were provided on the Global Biodiversity Framework targets and goals, and the development of the framework as a party-led process. Eleven recommendations were adopted by SBSTTA-24 to be taken up by COP-15, providing scientific and technical advice to support the review of the draft framework and address, among others, the fifth edition of the Global Biodiversity Outlook (GBO-5), the programme of work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), synthetic biology, invasive alien species, and the monitoring framework for the Global Biodiversity Framework. Gains were also achieved in the reference to the role of Indigenous Peoples and local communities in biodiversity conservation, within the proposed text of the post-2020 Framework.

### **4.1.4 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)**

38. CITES is an internationally-agreed framework to ensure that the export of wildlife and wildlife products, from Africa and the world, is responsible. It's rationale stipulates "*that international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade*". It has established a licensing system "*to ensure that international trade in specimens of wild animals and plants does not threaten their survival*", with designated controls for species listed with CITES protection. As such, if properly understood and applied, CITES forms a key mechanism for enabling the biodiversity economy across Africa.

### **4.1.5 IUCN World Conservation Strategy 1980**

39. The establishment of the International Union for the Conservation of Nature (IUCN) in 1948 has addressed wildlife conservation in Africa in its agenda from its inception, upon its first European and African Technical Symposium (October 1948) addressing topics of the socioeconomics of wildlife and nature protection, and fauna conventions and international legislation. It's World Conservation Strategy (1980) set forward a common agenda of conservation objectives for flora and fauna resources, upon three main objectives:
  - a) To maintain essential ecological processes and life-support systems;
  - b) To preserve genetic diversity;
  - c) To ensure the sustainable utilisation of species and ecosystems.
40. African conservation issues have been prominent in IUCN policy-making and African engagement, particularly upon the independence of African nations. The organisation has provided the context for wildlife-related international governance of species and protected areas, and continues to provide conservation policy shaped by African voices, and in turn shapes regional and national policies across the continent for biodiversity and the futures of biodiversity-dependent economics (ALU School of Conservation, 2021).

## 4.2 Regional and Sub-Regional Policy and initiatives

### 4.2.1 UNECA Building Forward for an African Green Recovery

41. Launched by the UN Economic Commission for Africa, the report illustrates the continent's post-COVID19 pandemic recovery strategy, while implementing nature-based solutions to realise the Agenda 2030 for Sustainable Development Goals, the Paris Agreement's climate change targets, the achievement of prosperity objectives articulated in Africa's Agenda 2063, and to enhance sustainable trade within the African Continental Free Trade Area (UNECA, 2021a). Development of Africa's Green and Blue Economy potential are put forward as the key strategy for recovery, with the mobilisation of financial resources to bolster the continent's climate adaptation and mitigation measures. Such resources include: financial aid packages; investments in sustainable infrastructure; and structural fiscal stimuli to cushion the transition.
42. The report draws upon two case studies, South Africa and the Democratic Republic of the Congo (see Section 7 for more details), to articulate the potential of a green investment strategy to develop and accelerate a resilient post-COVID-19 African economy (UNECA, 2021b). The recovery will provide quality jobs for Africa to apply a new sustainable growth model that delivers both modernisation and investment simultaneously, as shifted from a low productivity to a high productivity economy. Greater capacity for resilience will also be developed, in terms of education, skills, the depth of supply chains, finance, and against anthropogenic climate change.
43. The recovery strategy to Africa's economy of the post-COVID future recommends three interlocking phases - the instant response, the sustained recovery, and the global growth model reset. The IMF estimates the phases in totality will require \$345 billion over three years, to: address debt and debt restructuring; investments in human capital, resilient infrastructure, sustainable food security, Africa's natural capital, digitalisation and e-commerce enablers, and in capital markets and financial systems; mobilise domestic resources; and investing in climate smart agriculture and nature-based solutions (Shalal, 2020).

### 4.2.2 Agenda 2063, "The Africa We Want"

44. The African Union's Agenda 2063 outlines Africa's master plan for the inclusive and sustainable development under the pan-African umbrella, as collectively pursued by Pan-Africanism and the African Renaissance (AU, 2021a). As launched in 2013 at the 50<sup>th</sup> Anniversary Solemn Declaration, the Agenda is grounded in the realisation for the need to refocus and reprioritise Africa's agenda from the struggle against apartheid and the attainment of political independence of the continent - the previous focus of the Organisation of African Unity, the precursor of the African Union. Instead, this reframing prioritises an inclusive social and economic development, continental and regional integration, democratic governance, and peace and security amongst other issues to reposition Africa as a dominant player in the global arena.
45. To achieve Agenda 2063, 20 goals are put forward, aligned under the following 7 aspirations (AU, 2021b):
  - I. A prosperous Africa, based on inclusive growth and sustainable development;
  - II. An integrated continent – politically united and based upon the ideals of Pan-Africanism and the vision of an African Renaissance;
  - III. An Africa of good governance, democracy, respect for human rights, justice, and the rule of law;



**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- IV. A peaceful and secure Africa;
- V. Africa with a strong cultural identity, cultural heritage, values and ethics;
- VI. An Africa whose development is people driven, relying on the potential offered by African people, especially its women and youth, and caring for children; and,
- VII. An Africa as a strong, united, resilient, and influential global player and partner.

46. The relevant policy framings outlined below are thereby grounded in the overall progress made towards Agenda 2063 and the development of the continent, of which a “Biodiversity Economy” underpins as cross-cutting paradigm shift to biodiversity conservation, its sustainable management, and the green growth of the African economy for the environment and its people.

#### **4.2.3 African Continental Free Trade Area (AfCFTA)**

47. The AfCFTA was established upon the formation of the African Union in 2002, and formally signed in March 2018 by all 54 African countries, as aligned and embedded with the African Union’s Agenda 2063 (Africa-EU-Partnership, 2021). Its main objective is to create a single continental market for goods and services with the free movement of people and investments, thus expanding intra-African trade across the continent, enhancing competitiveness, and supporting economic transformation in Africa. Therefore, the AfCFTA framework agreement provides a unique opportunity for countries in the region to competitively integrate into the global economy, reduce poverty, and promote inclusion (World Bank, 2020). The development of a pan-African Biodiversity Economy framework would be intended to supplement and guide the specific development of biological goods and services generated for trade across the continent.

48. In implementing and operationalising the AfCFTA, a key priority is to comply and reach the goals set in the 2030 Agenda for Sustainable Development, with the objective to eradicate poverty, reduce inequality, and protect the planet through sustainable agriculture and production cycles (Albert, 2019). Member states to the AfCFTA must thereby incorporate sustainable mechanisms to deeply transform their environmental and economic systems, while conducting multi-stakeholders’ dialogue to address and implement these reforms.

49. To successfully realise the transformation of productive schemes, relevant stakeholders must acquire support from national and international public authorities (Albert, 2019). The measures that may be implemented to actualise this include: incentives; tax reductions; technical support (e.g. provide specific tools for farmers, develop alternative seeds and biological fertilisers); educational measures; infrastructure investments; cross-border cooperation and coordination; technology transfer; the rational use of natural resources; implementation and use of biological certificates; and, the safeguarding of biodiversity by creating protected national parks or developing green cities.

#### **4.2.4 African Green Stimulus Programme**

50. The African-led initiative aims to support the Continent’s recovery response to the global COVID-19 health crisis in a sustainable manner, targeting scale interventions to recover while transforming and catalysing Africa’s sustainable development towards a low-carbon developmental trajectory by 2030 (UNEP, 2021b). The Programme provides an overarching 10-Year recovery framework and online platform for resource and investments mobilisation, as to consolidate and coordinate existing and new Green Economy and Climate Change initiatives. The Programme brings together a unifying pan-African response by enhancing and forging

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

partnerships between inter-governmental organisations, African countries, the private sector, and NGOs in support of a comprehensive Green Recovery Programme for Africa.

51. Amongst twelve key areas of action proposed by the African Green Stimulus Programme, a specific key area targets “Revitalising Eco-Tourism and the Biodiversity Economy” (UNEP, 2021b). It reads that:

*“The tourism industry globally has been hit hard by COVID-19 and Africa’s ecotourism sector has been especially negatively impacted. Environmentally and socially responsible tourism that promotes the conservation of biodiversity and natural heritage, needs to be revitalised. Furthermore, the biodiversity economy has direct linkages to ecotourism and has also been negatively affected by the pandemic. The rejuvenation of ecotourism could contribute significantly to the continent’s recovery.*

UNEP, 2021b: p.10.

### **4.2.5 African Union Green Recovery Action Plan**

52. The AU Green Recovery Action Plan was developed in 2020 and launched on 15 July 2021. The Action plan aims to support of Africa’s sustainable recovery from COVID-19, representing the continent’s biggest economic shock since the Great Depression. As COVID-10 does not change the urgency of addressing African environmental challenges, it has accelerated decision points that could have substantial impacts. Within this context, the Green Recovery Action Plan will tackle the combined challenges of the COVID-19 recovery and climate change, by focusing on critical areas of joint priority, including climate finance, renewable energy, resilient agriculture, resilient cities, land use, and biodiversity.
53. The Action Plan proposes five priority areas (1) Climate finance – increasing flows, efficiency, and impact (2) Renewable Energy: Supporting renewable energy, energy efficiency and national Just Transition programmes (3) Nature Based Solutions and Biodiversity: Sustainable land management, forestry, oceans and ecotourism (4) Resilient agriculture – focusing on economic development and green jobs (5) Green and Resilient cities – with a focus on water (flooding and water resources) and enhancing information, communication and technology. Upon the five priority areas, such will strengthen collaboration upon the African Union’s objectives and shared vision for a prosperous, secure, inclusive, and innovative future for Africa. Furthermore, it will be implemented closely with pan-African institutions including the United Nations Economic Commission for Africa (UNECA) and a wide range of regional and continental initiatives, development banks, the private sector, and African Union member states.
54. The priority area on Nature Based Solutions and Biodiversity includes a focus on revitalizing the Biodiversity Economy, Nature-based Solutions and Eco-tourism to promote conservation, protect jobs, and natural assets. The contribution of our biological resources and their services to sustainable development needs to be realized through promoting the opportunities offered by the biodiversity economy.

### **4.2.6 Africa Blue Economy Strategy of the Africa Union**

55. The Africa Union has identified the development of a blue ocean economy as a priority goal towards achieving the aspirations of the Africa Union’s Agenda 2063, guiding the sustainable

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

development and utilisation of aquatic resources on the continent (AU-IBAR, 2019). The Strategy was developed following the Sustainable Blue Economy Conference in Nairobi, Kenya, in 2018, and formulated by 125 pan-African delegates at a Stakeholders' Consultative Workshop in 2019. It will aim to support and provide guidance to African Union member states and regional institutions for the coherent formulation of their national and regional blue economy strategies to promote socio-economic transformation and growth.

56. Current blue economies in Africa generate a value of USD\$296 billion with 49 million jobs, with projection to USD\$576 billion of value creation annually and 78 million of jobs by 2063(AU-IBAR, 2019). Tourism is one of the largest driving sectors, followed by the fishery and aquaculture sectors ranked by employment. The co-benefits of value addition in blue carbon and ecosystem services generated by coastal, marine, and aquatic ecosystems will follow as conservation, education, and research efforts expand. The key drivers of developing Africa's blue economy will be determined by the growing population and demands of blue goods and services, regional and international economic integration, nationally determined contributions, environmental and biodiversity protections, the innovative industrial advancements for accelerating economic development benefits.

#### **4.2.8 African Ecological Futures Initiative**

57. The African Ecological Futures (AEF) initiative launched in 2015 engages key decision-makers across Africa, as led by the World Wildlife Fund (WWF) and the African Development Bank (AfDB) (WWF International, 2020). The initiative leads a process that identifies and interrogates the ways to ensure that economic development does not negatively impact its critical ecological infrastructure, and how ecological infrastructure may ensure prosperity and resilience for people and the planet. This is fundamental upon the continent's long-term development goals, as underpinned by the African Union's Agenda 2063 and upon the global 2030 Agenda for Sustainable Development.

#### **4.2.9 IPBES Regional Africa Assessment, "Nature's Contribution to People"**

58. The 2018 IPBES Regional Africa Assessment Report provides a critical assessment of the issues, status, trends, and threats to biodiversity and nature's contributions to people, as well as the policy and management response options (IPBES, 2018). It found that Africa can move towards achieving its development aspirations while improving the conservation of its valuable natural assets and meeting its biodiversity commitments. This may be facilitated through multi-stakeholder and multilevel adaptive governance, along with the improved integration of indigenous and local knowledge through recognition of traditional institutions (AMCEN, 2019b).
59. The Regional Assessment Report highlights five key messages, of which are relevant to the discourse on the biodiversity economy and the wider underpinning of the African Union's Agenda 2063 (IPBES, 2018):
- I. Africa's extraordinary richness in biodiversity and ecosystem services, and wealth of indigenous and local knowledge, comprise a strategic asset for sustainable development in the region. Africa has the opportunity to fully realise the benefits of having such rich biodiversity and to explore ways of using it in a sustainable way to contribute to its economic and technological development.
  - II. The decline and loss of biodiversity, climate change impacts, and associated negative indirect drivers of change (e.g. population growth, urbanisation, and illegal wildlife

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- trade) is reducing nature's contributions to people in Africa and thereby hampering the sustainable social and economic development targeted by African countries.
- III. Africa's unique and abundant biodiversity is an asset for the achievement of the Sustainable Development Goals, the Aichi Biodiversity Targets, the 2015 Paris Agreement, and the global Strategic Plan for Biodiversity 2011-2020, and may be sustainably and equitably used to reduce inequality and poverty.
  - IV. Africa has a range of possible options for the governance of its biodiversity for the benefit of its people, as critical to deliver the benefits of nature to its people through the conservation and sustainable use of biodiversity. Scenario modelling is targeted as an underused tool in decision-making processes in Africa, as to map plausible futures to achieve the African Union's Agenda 2063 vision.
  - V. Africa can move towards achieving its development aspirations, meanwhile improving the conservation of its natural assets and meetings its biodiversity commitments. This may be enabled through harnessing synergies and delivering on multiple benefits, as supported by an enabling environment to balance the patterns of access and allocation of ecosystem services in Africa.

**4.2.10 Africa Natural Capital Accounting (NCA), Communities of Practice**

60. The Africa NCA Community of Practice was initiated in November 2019 at the "African Forum on Natural Capital Accounting", as a regional learning and knowledge platform to bring together professionals from government institutions, NGOs, and academia that are interested in or working on NCA in Africa (UN, 2021b). The initiative builds momentum towards the mainstreaming of natural capital accounting in statistical production and policy across Africa, enabled by capacity building and knowledge sharing by the relevant stakeholders. This is a critical step towards the unification of stakeholders around the shared ambition, and to drive tangible commitments and actions to accelerate the uptake of the natural capital approach.

**4.2.11 Gaborone Declaration for Sustainability in Africa**

61. Launched at the 2012 Summit for Sustainability, the Gaborone Declaration for Sustainability in Africa calls for the integration of environmental integrity, improved social capital, and sustainable growth in Africa, in response to the historical pattern of resource exploitation on the continent (GDSA, 2021). The Declaration is hosted by Conservation International on behalf of the Government of Botswana, and provides a platform for learning, capacity building, promoting national and global dialogues and linkages, identifying partnerships, and mobilising financial resources to achieve the Sustainable Development Goals.
62. The three action areas targeted by the Gaborone Declaration are (GDSA, 2021):
  - I. Integrating the value of natural capital into national accounting, corporate planning, and reporting processes, policies, and programmes, in agreed efforts, including the appended Communique on Natural Capital Accounting (Conservation International, 2012).
  - II. Building social capital and reducing poverty by transitioning agriculture, extractive industries, fisheries and other natural capital uses to practices that promote sustainable employment, food security, sustainable energy, and the protection of natural capital through protected areas and other mechanisms.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

III. Building knowledge, data, capacity, and policy networks to promote leadership and new models in the field of sustainable development, and to increase momentum for positive change.

63. Members and signatory countries are Botswana, Gabon, Ghana, Kenya, Liberia, Madagascar, Mozambique, Rwanda, South Africa, and Tanzania. Associate member countries are Angola, Lesthoso, and Uganda.

**4.2.12 AFR100- African Forest Landscape Restoration Initiative**

64. Launched at COP21 in Paris 2015, Afr100 is an initiative that is in line with the Bonn Challenge, the African Union Agenda 2063 and the SDGS as a country-led initiative that aims to bring 100 million hectares of land into restoration by 2030. The initiative is lead by AUDA-NEPAD as the secretariat, together with the World Resources Institute (WRI), the German Federal Ministry of Economic Cooperation and Development (BMZ) and the World Bank. The intitiative has several technical and financial partners who support the initiative for long-term sustainability.

## 5. Quantifying a Biodiversity Economy

65. To accompany the scoping and application of a “Biodiversity Economy”, a variety of measurement mechanisms, assessment mechanisms, and frameworks may be applicable to measure biodiversity-related environmental goods and services; the associated economic and human activities taking place across varying spatial scales and the costs and benefits of biodiversity economy applications

### 5.1 Natural Capital Accounting

66. Natural capital accounting (NCA) should be an integral part of biodiversity economy because it provides frameworks as the basis for this measurement. NCA is an umbrella term covering efforts to use an accounting framework to provide a systematic way to measure and report on stocks and flows of natural capital. It is specifically underpinned by the two frameworks, as an accepted international standard for environmental-economic accounting (UN, 2021a): the SEEA Central Framework (SEEA-CF), and the SEEA Ecosystem Accounting Standard (SEEA-EA).

67. The **SEEA Central Framework (SEEA CF)** is a multipurpose and international statistical standard for the measurement of the biotic and abiotic environment and its relationship with the economy (UN, 2014b). Overall, the SEEA-CF targets ecosystem and environmental measurements in three main areas, to generate and aggregate accounts to inform decision-making by creating coherent indicators:

- A. Environmental flows: Flows of natural inputs, products, and residuals between the environment and economy in physical and monetary terms;
- B. Stocks of environmental assets: Stocks of individual assets, such as water or energy assets, and how they change over an accounting period due to economic activity and natural processes, in both physical and monetary terms; and

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

C. Economic activity related to the environment: Monetary flows associated with economic activities related to the environment, including spending on environmental protection and resource management, and the production of “environmental goods and services”.

68. Of these Environmental Activity Accounts, and in particular **environmental goods and services sector (EGSS) statistics may strongly align and be applied to the conceptualisation of a “Biodiversity Economy”** (UN, 2014b). Environmental Activity Accounts cover three main areas of environmental activity areas: (1) environmental protection expenditure accounts, used to analyse the extent of environmental protection activities, (2) environmental goods and services sector accounts, providing information on their supply and the economic response required against the challenges of environmental degradation, and (3) tax and subsidy accounts, recording payments to and from governments and in national accounts that may be of interest in the analysis of environmental matters.

69. The statistical EGSS information derived provides indicators and an evidence base for: (1) assessing the potential for economic activities and employment to be based upon sustainable and resource-efficient activities, and (2) the extent to which the economy may respond to public policies and initiatives that have these objectives in mind. The accounts also quantify related employment, gross value added, and exports from the EGSS sector. Integration of the SEEA CF EGSS statistics in the measurement and evaluation of a “Biodiversity Economy”, as relevant to its scoping, may therefore be a useful tool to account for ecosystem- and biodiversity-related economic activities taking place across Africa.

70. **SEEA Ecosystem Accounting (SEEA-EA)** is an integrated and comprehensive statistical framework, as newly adopted in March 2021 at the 52nd United Nations Statistical Commission. It enables countries to measure their natural capital and quantify the immense contributions of nature to economic prosperity, and the importance of protecting it. Application of the statistical framework organises data about habitats and landscapes, measures ecosystems, and links the information to economic and other human activity, as a function of dynamic and global ecosystem assets and the ecosystem services they produce. Notably, it allows the contributions of ecosystems to society to be expressed in monetary terms, to enable comparability across time and nations as a monitoring framework to support international global environmental and development initiatives.

71. The five ecosystem accounts considered under SEEA-EA are:

- A. Ecosystem Extent: The total area of ecosystems, classified by type within a specified area;
- B. Ecosystem Condition: Recording the condition of ecosystem assets in terms of selected characteristics at specific points in time;
- C. Ecosystem Services: Flow accounts (physical and monetary) recording the supply of ecosystem services by ecosystem accounts and the use of those services by economic units, including households. For example, this may include an adequate supply of food and water (provisioning services), natural flood control and mitigation (regulation services), maintaining genetic diversity of flora and fauna (supporting services), and spiritual well-being benefits (cultural services);
- D. Monetary Ecosystem Assets: Accounts recording information on stocks and changes in stocks (additions and reductions) of ecosystem assets. This includes accounting for ecosystem degradation and enhancement; and

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

E. Thematic Accounts: Policy-relevant and specific data organisation around environmental themes e.g. biodiversity, climate change, oceans, urban areas, protected areas, wetlands, forests, etc.

72. To directly target “*the value and contribution of biological resources*” (AMCEN, 2019b), **natural capital and ecosystem accounting** may be put forward as a coherent framework for integrating the measures of ecosystems and the flows of services from them, with measures of economic and other human activity. Specifically, this has benefits for the valuation of a “Biodiversity Economy” conceptualisation and contribution using SEEA-EA, through the measurement of provisioning ecosystem services in physical terms and valuing in monetary terms for their wider comparability and mainstreaming. Furthermore, the statistical framework also contributes to the implementation of the post-2020 biodiversity framework and the Agenda 2030 on Sustainable Development, as SEEA-EA provides an impetus for an accurate accounting of the value of biodiversity.
73. While the development of natural capital accounts can be a time and resource intensive activity, tools are increasingly available to help countries make a quick start, especially where data availability is limited. For example, the “**Ecosystem Natural Capital Accounts: A Quick Start Package**” (ENCA-QSP)<sup>2</sup> can be used to integrate the value of biodiversity into national accounting systems, supporting the implementation of Aichi Biodiversity Target 2. The roadmap for implementing the ENCA-QSP has two stages: first putting in place the institutional setting, and secondly putting in place the data infrastructure, computer core accounts, and developing functional accounts and analyses.
74. More recently, UNEP, UNSD and the Basque Centre for Climate Change have developed the **ARIES for SEEA Explorer**<sup>3</sup> application that allows users anywhere in the world to produce rapid, standardized, scalable and customizable ecosystem accounts for their area of interest that are consistent with the SEEA Ecosystem Accounting framework. ARIES for SEEA is available on the UN Global Platform, a cloud-service platform supporting international collaboration in the development of official statistics using new data sources and innovative methods. ARIES for SEEA Explorer lowers the barriers to compiling ecosystem accounts. The application can generate ecosystem accounts for any user-specified terrestrial area in the world (such as a country, administrative region, watershed, etc.), by using freely available global remote-sensing derived data and models, and rapidly computes these accounts online, using a web browser.
75. As pertinent to the African context and national applications of environmental valuation methods and frameworks, it will be critical to ensure that all economic measurement and valuation approaches are appropriately aligned with the policy context, data availability, and the statistical capacity of countries.

## 5.2 Natural Capital Assessment

76. In parallel, **natural capital assessments** may be undertaken independently, in more specific or localised contexts. Natural capital assessment is the process of valuing impacts and dependencies upon natural capital in order to better integrate natural capital into decision-making and so improve natural capital management. The difference between an account and an

---

<sup>2</sup> <https://www.cbd.int/doc/publications/cbd-ts-77-en.pdf>

<sup>3</sup> <https://seea.un.org/content/aries-for-seea>

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

assessment is that the latter uses statistics that can be derived from the former to help in policy formulation. Natural capital assessments can draw upon data produced for natural capital accounting purposes but can also use a wide variety of other sources.

77. As such assessments are forward-looking (i.e. 'What should we change?') but might use backward-looking SEEA-EA statistics as a baseline. Results arising from such assessments may reveal the benefits and values of natural capital stocks across priority sector activities, and thereby used to facilitate long-term decision-making regarding land-use that better supports a transition to green economy approaches in development. Its applications may support sustainable and inclusive economic growth, generating green jobs, reducing poverty, and addressing ecological scarcity and environmental risks.
  
78. For example, the USAID's first landscape-scale and regional natural capital assessment in Eastern Africa (USAID, 2021) found a clear indication of the high economic value of some of the region's most iconic landscapes – a value that significantly augments their conservation importance. The asset values for each landscape were estimated upon their net present values, and forecasted for the next 30 years to provide the quantification and valuation of its ecosystem services and natural capital. With assessment of the Great East African Plains (projected value of \$6.58 billion p/a), the Northern Savannas (projected value of \$3.47 billion p/a), the Albertine Rift Forests (projected value of \$1.19 billion p/a), and the Ruweru-Mugesera-Akagera Wetlands (projected value of \$64.4 million p/a), the study found that the largest economic values of the landscapes were in regulating water, soil, crop pollination, and carbon services, saving the region \$8.18 billion annually and making up 72% of the total economic value of the four landscapes. The study concluded that keeping landscapes intact is key to the sustainability of pastoral and agricultural livelihoods, and where natural capital is declining as a percentage of the region's total wealth under a Business-as-Usual scenario. As the global value of ecosystems is exponentially greater, this offers many potential sources of revenue to fund regional development in biodiverse-rich areas of Africa, and particularly East Africa. In consequence, not only does the USAID natural capital assessment enable the development of more meaningful and actionable data to improve conservation investments, but it further encourages buy-in among key stakeholders for decision-making (ibid).



## 6. Scoping the Applications of a Biodiversity Economy

79. Economic and livelihood opportunities offered by the biodiversity economy may take the form of numerous tangible applications. These may specifically include those which revenues, incomes and benefits are derived directly from biodiversity, such as through biodiversity-generated products and services.

### 6.1 Opportunities linked to the Wildlife Economy

80. Under the parallel term of a “wildlife economy” articulated at the African Wildlife Economy Summit, the following applications are suggested in line with the relevant sectors (Snyman et al., 2021) (Table 1):

Sector	Wildlife Economy Activities
Agriculture	Crops and livestock; mixed farming methods; wildlife / game farming and ranching; live capture and sale; cropping and culling; wild harvesting.
Tourism	Wildlife-based photographic tourism; coastal tourism; recreation, hunting and sport fishing
Energy	Hydro-electric; Wave energy
Fisheries	Multiple use of marine resources; freshwater fisheries; aquaculture and fish ranching; subsistence fishing
Forestry	Timber; non-timber forest products
Health	Bioprospecting; African Traditional Medicine Industry; Horticulture
Trade and Industry	Commercial film and photography; wildlife products; bioprospecting; nature-based carbon credits; other payments for ecosystem services; other conservation-related services; real estate
Other	Education activities; research activities (including research off-take); cultural activities, religious activities; Private Sector Investment

Table 4: Governmental sectors and associated Wildlife Economy applications.  
Adapted from Snyman et al. (2021).

81. Examples of biodiversity economy applications, as explicitly raised by the AMCEN (2019b) documentation, are outlined as follows:

### 6.2 Wildlife-Driven and Nature-Based Ecotourism

82. Wildlife-driven ecotourism is acknowledged as the largest single driver for tourism growth in Africa, including game drives, bird watching, nature trails, and coral reefs and sea diving, accounting for 80% of trips to Africa annually (AMCEN, 2019b). It is estimated that by 2030, visitors to the continent could exceed a doubling to 134 million, from the 2017 figures of 63 million tourists and receipts in excess of US\$37 billion annually. This has manifold benefits upon the continent, as the tourism sector currently drives 8.5% of Africa’s economy and supports 24 million jobs (ibid).

83. With application of a natural capital framework, the investments in the conservation of wildlife and habitat may be strengthened to harness the contributions of a biodiversity economy for employment and revenues (USAID, 2021). For example, Xia (2020) found that, in 2019, the

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

tourism sector represented an average 8% of GDP in Kenya, 5% in Uganda, 10% in Rwanda, and 11% in Tanzania. However, the budget allocations to conservation were not commensurate, totalling 1.4% in Kenya, 1.7% in Uganda, 3.8% in Rwanda, and 1% in Tanzania of the total development expenditure. This demonstrates the importance of conservation to economic development, where investments in conservation must be applied where known values of natural capital are evidenced.

84. As a consequence of a wildlife-driven and nature-based ecotourism industry, protected areas, botanical and zoological gardens, and private-owned wildlife ranches play a key role in conserving the biodiversity resources which initially attracts international tourists to Africa (ALU School of Wildlife Conservation, 2021). Therefore, investment in wildlife assets is key to promoting attractions and tourism, and whereby protected areas can generate large revenues from different and diverse activities to achieve benefits. Potential revenues for protected areas include entrance fees, activity fees, boat and aircraft fees, motor vehicle fees, concession fees, bioprospecting fees, and research and filming fees.

### **6.3 Sustainable Wildlife Management and Ranching**

85. Sustainable Wildlife Management, including ranching, for the purposes of tourism and game meat (under license) has proven to be a profitable venture by local communities and private sector investors within several countries in East Africa and Southern Africa (e.g. Kenya and South Africa). Key activities stemming from wildlife management include the production and breeding of wildlife, live sales, hunting (subsistence or recreation), ecotourism, and sale of animal product goods. As such, the wildlife ranching value chains can play an important role in ensuring food security, conserving biodiversity, and securing infrastructure and ecosystem services (ALU School of Wildlife Conservation, 2021). In semi-arid lands in sub-Saharan Africa particularly, game ranches have proved more profitable than livestock when replacing degraded crop and stock lands; they generate foreign currency incomes, maintain an ecosystem that is less susceptible to drought and climate change, and contribute to food security and income generation (FAO, 2015).
86. Proceeds from the value chains associated with wildlife ranching ventures have seen communities benefit from secondary activities and their benefits, including improved educational and health facilities, and better basic infrastructure.

### **6.4 Bioprospecting and the Sustainable Utilisation of Biodiversity Species**

87. The bioprospecting economy involves the cultivation, collection, processing, manufacturing and export of non-animal biological and genetic resources in the market and retail sectors (Förster et al., 2021). This can include (1) Specialist horticultural trade of rare and endemic plant species; (2) local medicinal market; and (3) formal bio trade. As relevant to sustainable development, bioprospecting provides wider contributions through incentives for conservation, while developing technological capabilities that enhance long-term opportunities for economic growth. In the African context, the development of bioprospecting must however address the traditional and indigenous stewardship of ethnobotanical products, intellectual property rights, and the sharing of the benefits derived from the products to develop these goods for trade (Makhubu, 1998; Reihling, 2008). Existing national policies on the biological products must be able to manage foreign bioprospectors and biopirates, as well as promoting the local development of the processes and technologies involved for the resource.

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

88. Bioprospecting and the sustainable utilisation of biodiversity species in Africa remains underexploited despite being an industry worth trillions of dollars, with applications in pharmaceuticals, herbal medicines, and food flavourings and fragrances. In the case of South Africa, based upon resource permit application data, the bioprospecting industry market potential is worth at least South African rand (R) 2.150 million annually (USD\$147,189), to which only 20% was reached in 2018 (AMCEN, 2019b). Here, locally produced value-added products can be further segmented into five product categories: personal hygiene products; complementary medicines; food flavourings; and oils.
89. There is insufficient data available on the biodiversity-reliant herbal medicines industry, where the majority of local African communities rely upon such products as their first line of treatments. In Durban (South Africa) alone, the WHO estimates that 1,5000 tons of traditional medicines are sold in local medicine markets, estimating that the wider traditional medicine industry is worth up to R2,300,000 (USD\$157,787) annually (WHO, 2001).

### **6.5 Timber and Non-Timber Forest Products**

90. Timber and non-timber products from the forestry sectors (e.g. gums, resins, and honey) have struggled from the lack of value addition as well as by the fact that they often do not appear in economic statistics (and thus are invisible) thereby hampering the realisation of their true value and associated employment potential at the local and national scale. Despite not being fully accounted for, they do positively contribute to livelihoods and wellbeing, and as such should be promoted as part of the Biodiversity Economy, There is a role for government intervention to support value chain development and value addition; African economies are impacted upon by the lack of a developed timber processing industry, thereby reinforcing the reliance of African countries upon imported processed timber.

### **6.7 Indirect Benefits and Opportunities**

91. Examples of indirect benefits include: (a) Africa's opportunity to use its large population of young people to drive its growth, thereby developing the continent's infrastructure, accelerating industrialisation, increasing energy and food production, and promoting sustainable natural resource governance, and (b) advancing the economics of land degradation, which as demonstrated that the costs of taking action to address soil erosion is far less than the costs to inaction.
92. Additional indirect benefits can include: (c) Biodiversity conservation of threatened and endangered species and (d) the restoration of degraded landscapes as a result of wildlife ranching. These benefits can also be presented as an opportunity to mitigate the effects of climate change on the African continent.

## **7. Mechanisms to Promote Investments in a Biodiversity Economy**

### **7.1 Payment for Ecosystem Services**

93. Payments for Ecosystem Services (PES) schemes occur when a beneficiary or user of an ecosystem service makes a direct or indirect payment or series of payments to the provider of the service, with the idea that whoever preserves or maintains an ecosystem service should be paid for doing so (UNDP, 2021a). Ecosystem services are outlined as the benefits people obtain from ecosystems; these include provisioning, regulating, cultural, and supporting services. Mechanisms such as PES may therefore promote the guaranteed flow of ecosystem services, as to enhance their provisioning over-and-above what would otherwise be provided in the absence of payment.
94. For PES schemes to be employed, a buyer must be identified, the market conditions must be understood, and the service provider must be legally recognised (UNDP, 2021a). The cost for the provision of the service by the provider needs to be priced, which relies upon robust baseline and supporting information concerning the ecosystem service as a form of economic valuation. Additional feasibility considerations besides from comprehensive economic valuation practices include: the legal and institutional framework for PES transactions; the level of organisation of stakeholders; the capacity to pay off beneficiaries and providers; and the provisioning of win-win opportunities for both the supplier and buyer(s) of the service to ensure sustainability and long-term efficacy whereby other alternatives are less economic attractive.
95. PES schemes hold value for the African economy, as it targets rural economies and rich natural resources which are often managed by people who are scattered across the land, in comparison to the economies of North America, South America, and Asia (Forest Trends, 2011). This dispersed rural economy creates a dynamic which demands the increased application of both low-cost technologies to harness the conservation potential of small communities, and the replicable methodologies to incorporate livelihood considerations into carbon, biodiversity, and water PES programs.
96. An example of PES scheme application includes REDD+ mechanisms which develop an incentive solution for “reducing emissions from deforestation and forest degradation; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries” as introduced at CBD COP11 (Montreal) and further developed at COP16 (Cancun Agreements) and COP19 (Warsaw Framework on REDD+) (CBD, 2021). While the benefits accruing from REDD+ projects are not automatically achieved, the support of livelihoods, maintenance of vital ecosystem services, and preservation of globally significant biodiversity are possible outcomes if there are well-designed applications and the comprehensive implementation of project activities.
97. REDD+ projects, in collaboration with CIF (Climate Investment Fund), FIP (Forest Investment Program), the Congo Basin Forest Fund (CBFF), the BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL), and AfDB (African Development Bank), are being operationalised and approved in twenty-six countries across the continent, including: Angola, Burkina Faso, Cameroon, Congo Republic, the Democratic Republic of Congo, Egypt, Ethiopia, Ghana, Guinea Bissau, Ivory Coast, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Togo, Tunisia, Uganda, Zambia, and Zimbabwe (IDRECCO, 2022).

## Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24

98. For risks to biodiversity to be minimised from the earliest stages, the appropriate incentives for livelihoods and biodiversity conservation must be in place at the interim phase of REDD+ from readiness to a full implementation. For example, Nigeria seeks to improve local trade through the identification of important bushmeat and non-timber forest products production, and through the provisioning of support to indigenous peoples and local communities (CBD, 2011). Tanzania, on the other hand, rewards communities and households that conserve biodiversity in the interim phase as an incentive (ibid). Such biodiversity benefits hold value beyond their own right, but also help contribute to the long-term viability of the REDD+ applications and the ecosystem services that are delivered.
99. For Africa, the implementation of PES schemes such as REDD+ initiatives are hindered by challenges surrounding deforestation pressures, financial resources, technical capacity, and a diverse array of interest groups (AfDB, 2016). Politically and institutionally, there is a need to strengthen and integrate national institutions to increase the capacity of countries to enforce forest laws, control deforestation drivers, and to assess the role of local institutions to enforce good forestry management methods through effective and equitable local property rights. The development of clear benefit-sharing and governance mechanisms ensuring the equitable distribution of carbon payments amongst relevant stakeholders and within local communities is critical. Technically, REDD+ initiatives across African countries must be mindful of the heterogeneous environmental and economic contexts to apply country-specific applications of REDD+ schemes. Further, socio-economically, REDD+ initiatives should seek to pilot actions where emission reduction benefits are shared with multiple stakeholders beyond host governments and provide capacity building initiatives. These concerns are also recognised by the COP13 Bali Action Plan, outlining that *“the needs of local and indigenous communities should be addressed when action is taken to reduce emissions from deforestation and forest degradation in developing countries”* (UNFCCC, 2007:8).

### 7.2 Debt for Nature Swaps

100. Debt for Nature Swaps (DNS) are agreements that reduces a country's debt stock or service in exchange for a commitment to protect nature from the debtor-government. It is a voluntary transaction to mobilise resources for protecting nature, whereby the donor(s) cancels the debt owned by a developing country's government and where the savings from the reduced debt service are invested in conservation projects (UNDP, 2021b). The proceeds from DNS are often allocated to local government trust funds which disburse grants to conservation projects, or to directly fund parks and protected areas systems. On the other hand, when proceeds are invested into an endowment, they may guarantee annual disbursements in perpetuity.
101. DNS agreements may be categorised by the creditor; public/bilateral swaps (public, or bilateral-DNS); and private/commercial swaps (private, commercial-DNS, or may also be termed as third-party DNS). The financial structure of each DNS may vary, and will include the following core elements: the amount and type of debt converted or cancelled; the redemption price or discount rate, as to determine the cost-effectiveness of the operation and value of the proceeds to be invested in conservation; the exchange rate and currency; the schedule of repayment of conservation commitments, involving regular payments to a certain financial vehicle or foundation; and the terms of utilisation of the proceeds, including required evidence of compliance.

An example of DNS success is the initiatives set forth in Madagascar, with experience both commercial and bilateral DNS and allocation of a portion of Heavily Indebted Poor Country (HIPC)

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

debt relief savings to the environmental sector (Moye and Paddack, 2003). The country has had early and leading experience with DNS in Africa going back to 1989 - a partnership with WWF and USAID to finance a \$2.1 million conservation program in protected areas. In partnership with the Government of France, the Government of Madagascar was allocated roughly \$20 million to preserve Madagascar’s rich biodiversity (WWF, 2008). The fund was managed through the Foundation for Protected Areas and Biodiversity, as to protect Madagascar’s endemic biodiversity; nearly 98% of Madagascar’s land mammals, 92% of its reptiles, and 80% of its plants are found nowhere else on earth.

### 7.3 Conservation Trust Funds

102. Conservation Trust Funds (CTFs) are primarily non-governmental and legally independent grant-making institutions with the aim to raise, invest, and re-grant financial resources for biodiversity conservation and related sustainable development objectives (The Nature Conservancy, 2012). They serve as an effective mechanism for mobilising large amounts of funding for biodiversity conservation activities from international donors and national governments, as well as the private sector, while strengthening stakeholder participation under the framing of conservation strategies.

103. CTFs guarantee an effective resourcing of finance upon setting and empowering the national or regional biodiversity agenda, contributing to policy-making such as the Strategic Plan for Biodiversity and the 20 Aichi Biodiversity Targets as adopted by the 10<sup>th</sup> CBD COP in 2010 (The Nature Conservancy, 2012). The application of CTFs therefore provide long-term sustainable financing for biodiversity conservation activities due to its continued efficacy and reliability as a mechanism.

104. CTFs in Africa have developed from the 1990s following the decreased fund-flows towards conservation actions across the continent, highlighting the need to develop innovative finance mechanisms to rectify the circumstance and foster conservation, environmental management, and sustainable development. Collaborative networks such as the Consortium of African Funds for the Environment (CAFE) have been established as a result, to improve the institutional efficacy of conservation funds across pan-Africa and to increase knowledge sharing between the CTFs (Cafe Consortium, 2021).

105. The 18 member CTFs in the Consortium of African Funds for the Environment include (Cafe Consortium, 2021):

Country	Name of Environmental Fund
Benin	Fondation des Savanes Ouest Africaines (FSOA)
Botswana	Forest Conservation Botswana (FCB)
Cameroun	Fondation pour le Tri-national de la Sangha (FTNS)
	Fondation pour l’Environnement et le Developpement au Cameroun (FEDEC)
Cote d’Ivoire	Fondation pour les Parcs et Réserves de Cote d’Ivoire (FPRCI)
D.R. Congo	OKAPI Fund for Nature Conservation (FOCON)
Guine Bissau	Fondation BioGuine (BIOGUINE)
Madagascar	Fondation pour les Aire Protégées et la Biodiversité de Madagascar (FAPBM)
	Fondation Tany Meva (TANY MEVA)
Malawi	Mulanje Mountain Conservation Trust (MMCT)
	Malawi Environmental Endowment Trust (MEET)

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

Mauritanie	Fonds Fiduciaire du Banc d'Arguin et de la Biodiversité Côtière et Marine (BACoMaB)
Mozambique	Fundação para a Conservação da Biodiversidade (BIOFUND)
Namibia	Community Conservation Fundo of Namibia (CCFN)
Tanzania	Eastern Arc Mountains Conservation Endowment Fund (EAMCEF)
	Tanzania Forest Fund (TaFF)
Uganda	Uganda Biodiversity Trust Fund (UBTF)
	Bwindi Mgahinga Conservation Trust (BMCT)

*Table 5: Member Conservation Trust Funds in the Consortium of African Funds for the Environment. Adapted from CAFE Consortium (2021).*

## 7.4 Green Bonds

106. Green bonds are innovative financial instruments where the proceeds are invested exclusively (either by specifying the use of the proceeds, direct project exposure, or securitisation) in green projects that generate climate or other environmental benefits (UNDP, 2021c). Their structure, risk, and returns are otherwise identical to those of traditional bonds, and are recognised by the International Capital Market Association's Green Bond Principles: (1) a clear use of proceeds and the definition of environmental benefits connected to the project(s) financed by the proceeds; (2) process for project evaluation and selection with use of comprehensive decision-making processes to determine the eligibility of individual investments, (3) the management of proceeds in sub-portfolios or attested by formal internal processes, and (4) reporting upon the investments made and environmental benefits accrued with quantitative and qualitative indicators.

107. As the environment, climate change, and social sustainability are all priority interests to African countries, green bonds are positioned as an innovative and alternative way of raising finance from both domestic and external sources for sustainability-driven investments (Duru and Nyong, 2016). Since 2016, US\$2.5 billion has been mobilised for the development of green bonds in Africa, as predominately managed by the African Development Bank on the continent against the backdrop of the nascent green bond market (Duru and Nyong, 2016; Marbuah, 2020). As such, the current projects have been implemented upon the continent's climate resilience and adaptation strategies, especially through renewable energy and emissions-related projects, and therefore indicates a gap in the financing of green bond projects towards biodiversity and conservation applications.

## 8. Empirical Case of Specific Applications of Biodiversity Economy

### 8.1 National Biodiversity Economy Strategy in South Africa (Department of Forestry, Fisheries and the Environment, 2016)

109. South Africa is recognised for its rich diversity of genetic and biological resources, meanwhile its biodiversity economy has not reached its full potential, as it remains largely unrecognised, underdeveloped, and untransformed (DFFE 2016). It's definition of a biodiversity economy is detailed in Section 2. The sustainable use of its genetic and biological resources has the potential to support many local economies and livelihoods, providing business and job creation opportunities for individuals and communities. Notably, its wildlife and bioprospecting sub-sectors of the biodiversity economy contributed to approximately R3 billion in GDP. Growth in the wildlife and bioprospecting industries may therefore make a significant impact on the national economy, contributing to national imperatives such as job creation, rural development, and the conservation of natural resources.
110. The National Biodiversity Economy Strategy (NBES) is therefore required to guide the sustainable growth of the wildlife and bioprospecting industries, and to provide a basis for addressing constraints to growth, ensuring sustainability, identifying clear stakeholder's responsibilities, and monitoring the progress of the enabling actions by 2030. It is targeted to achieve its goals through job creation, conservation area expansion, and sustainable use, for both the wildlife and bioprospecting sub-sectors.
111. The NBES' core focus provides an enabling environment for communities and entrepreneurs to participate in the biodiversity economy, while contributing to poverty alleviation, sustainable development, and conservation of the country's rich biodiversity and ecosystem services (DFFE 2016). Through eighteen priority nodes across the country to apply a biodiversity economy transition, enterprise and community-based initiatives have been developed to implement the NBES.
112. Implementing a National Biodiversity Economy in South Africa, under the NBES, also targets the creation of 110,000 new jobs across the wildlife and bioprospecting sectors (Driver et al., 2019). Therefore, there is a strong employment perspective upon the potential contribution that South Africa's wealth of biodiversity assets can make towards national development objectives, including inclusive growth and sustainable development. The employment opportunities also have the potential to be monitored and highlighted, as suggested by SANBI within the National Biodiversity Assessment, and a Green Jobs Index proposed by the Department of Environmental Affairs.

### 8.2 National Natural Capital Accounting Strategy, A ten-year strategy for advancing Natural Capital Accounting in South Africa, 2021

113. In June 2021, South Africa launched a ten-year strategy for advancing NCA. The purpose of the *National Natural Capital Accounting (NCA) Strategy: A ten-year strategy for advancing NCA* (Statistics South Africa, 2021) is to respond to the need to focus the efforts of Statistics South Africa (Stats SA) and other institutions engaged in NCA on developing priority natural capital accounts and effective statistical systems and institutional mechanisms to inform South Africa's sustainable development policy objectives. The National NCA Strategy is owned and published by Stats SA as the national statistics office (NSO), but it is co-developed with the South



**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

African National Biodiversity Institute (SANBI) and guided by the various institutions represented on the NCA Strategic Advisory Group.

114. The NCA Strategy for South Africa supports the country's natural capital accounts developments, since as early as 2000 for water, energy, fisheries, and minerals. It seeks to elevate the official statistics in policy development, policy monitoring, decision-making, and evaluation, through the direction of goals and strategic objectives. The five goals put forward by the strategy include:

- 1) NCA is used for integrated planning, decision-making, monitoring, and evaluation across a range of sectors.
- 2) NCA offers credible evidence of how nature supports people and the economy.
- 3) An integrated suite of natural capital accounts is produced based on best-available methods.
- 4) Capacity and data for advancing NCA are well developed and robust.
- 5) NCA is well resourced, underpinned by effective and collaborative institutional arrangements.

### 8.3 Ecosystem Mapping for Ecosystem Accounting in Liberia (NASA/CI)

115. As a joint initiative between Conservation International, NASA, and the Government of Liberia, the pilot mapping project concerning Liberia's "Ecosystem Extent Maps" forms part of a wider goal to enable countries to measure their natural capital, and to integrate its value in planning and decision-making to ensure long-term sustainability for biodiversity and human well-being (Conservation International, 2021). As a product of the project, Liberia's government has mapped the country's natural assets for the first time and quantified how they have changed over time, as to be better positioned to more accurately measure the economic value of its nature in line with SEEA-EA standards.

116. The project is also contextualised upon the Liberia's Vision 2030 development framework, and the second series of its National Development Plans concerning the Pro-Poor Agenda for Prosperity and Development (2018-2023) (PAPD) (Republic of Liberia, 2018). It is also informed by the national Interim Poverty Reduction Strategy 2007 and the Poverty Reduction Strategy (2008-2011). It aims to harness the country's rich human and natural capital, while tackling its legacy of entrenched inequality in access to development, wealth, infrastructure deficits and pervasive poverty. The agenda is therefore underpinned by the objectives to:

- A. To build more capable and trusted state institutions that will lead to a stable, resilient, and inclusive nation embracing its triple heritage and anchored on its African identity; and,
- B. To provide greater income security to an additional one million Liberians and reduce absolute poverty by 23% across 5 out of 6 regions. This is made possible through sustained and inclusive economic growth driven by scaled-up investments in agricultural, infrastructure, human resource development, and social protection.

117. The Ecosystem Extent Maps and natural capital accounting products will be the first produced by the three-year NASA and Conservation International partnership (Conservation International, 2021). They will serve as a model for future mapping initiatives and the resulting

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

policy-making, investment, and development initiatives occurring at national-level, including in future applications in Gabon and Botswana.

### **8.4 A Prosperous Green Recovery for South Africa (UNECA: An African Green Recovery)**

118. Undercut by pre-existing economic fragility and persistent inequality, the South African economy has been hit hard by the COVID-19 pandemic, with GDP contracting by 51% in the second quarter of 2020 (O’Callaghan et al., 2021a). As led by Oxford University, SSEE, Vivid Economics, and UNECA, green spending and green stimulus measures have been proposed as an approach to address the national COVID-19 economic downturn, reduce carbon emissions, and transition to a strong and resilient long-term growth pathway that delivers environmental dividends.

119. Modelling suggests that investments in green solutions, compared with traditional alternatives, could bring significantly more jobs (up to ~60% more in the short-term for select projects) and greater gross economic value (up to ~140% in the return for select projects) to South Africa, while also lowering emissions and bringing social co-benefits.

120. The policy briefing (O’Callaghan et al., 2021a) recommends three priority policy areas that are likely to stimulate strong economic growth while ensuring a prosperous and sustainable future for South Africa:

- **Renewable Energy:** Investments in renewable energy may deliver high economic multipliers, reduce vulnerability to fossil fuel price volatility, and act as a core enabler of CO<sub>2</sub> reduction efforts in other sectors. Currently, South Africa relies on coal for 90% of its electricity needs. As to meet rapidly growing demands, now is the time to invest in the renewable transition, targeting localities exposed to high unemployment and seeking private-sector partnerships.
- **Low-Emissions Transport:** Alongside reduced air pollution and climate benefits, where investments in low-emissions transport and supporting infrastructure has strong job creation potential. South Africa has existing strengths in auto manufacturing, where transitions to electric vehicle production would future-proof the sector.
- **Natural Capital Investments:** Nature-based interventions may include the restoration of habitats, agricultural interventions that sustainably boost productivity such as agroforestry, wetland restoration and mangrove restoration, reforestation, vertical ocean farming, and urban greening. These one-off investments create low-skill jobs and may be deployed quickly upon the domestic economy. These opportunities may bring returns for the tourism sector, increase the resilience of the economy to future shocks, and support climate change adaptation.

### **8.5 Green Economic Growth for the Democratic Republic of Congo (UNECA: An African Green Recovery)**

121. The global COVID-19 health crisis has deeply undercut the existing poverty rates and energy access rates in the Democratic Republic of Congo (DRC), resulting in significant job

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

losses, debilitating education programmes, and forcing 6.2 million new people into a position of acute food insecurity (O’Callaghan et al., 2021a). Modelling has suggested that the DRC could benefit significantly from investments in green initiatives as a part of a COVID-19 recovery and advancement program. Compared with traditional alternatives, green investment could bring more jobs and economic gains in the short term, unlock greater development opportunities in the medium- to long-term, and ensure better environmental and social outcomes. These green investments are expected to result in 130% more jobs, and 280% greater economic output, when compared to traditional investments in the same sectors.

122. Presently, the Oxford Global Recovery Observatory has shown that the DRC has devoted CDF1.9 trillion (USD950 million) to short-term rescue measures, and CDF93 billion (USD46.5 million) to long-term recovery measures. The DRC’s engagement with international partners is therefore deeply critical to provide the urgently needed resources, thereby ensuring that decades of sustainable development gains are not lost to the pandemic. This will be actualised in tandem with community leaders, while prioritising transparency and accountability, and acknowledging the harsh realities of existing constraints in the nation.

123. The policy briefing (O’Callaghan et al., 2021a) recommends three priority policy areas that are likely to deliver strong benefits to the DRC and to pave the way towards sustainable development and a prosperous future:

- **Utility-Scale Renewable Energy and Power Lines:** DRC is home to some of the most abundant resources for renewable energy generation, however these remain untapped due to a history of mismanaged commodity resources, political instability, and a long-standing security crisis. DRC has the potential to become one of Africa’s primary energy exporters, with the expansion of projects to enable hydro and solar energy generation, investments in transmission infrastructure, and regional partnerships. In addition, this is crucial to increase energy access domestically, reduce poverty, and to unlock economic opportunities for the country.
- **Minigrids and Microgrids:** Rural areas in the DRC continue to have low electrification rates (0.4%), and minigrids therefore provide the option of energy systems that function independently, with communities taking control of their own energy supply. Providing renewable energy to rural communities through these mechanisms is likely to increase agricultural productivity and improve health outcomes, particularly where electric solutions can replace solid-fuel heating and cooking.
- **Natural Capital Investments:** Nature-based interventions may include the restoration of habitats (e.g. peatlands and natural forests with reforestation), agricultural interventions that sustainably boost productivity such as agroforestry, the use of resilient seeds and greater irrigation, and urban greening with park creation. These one-off investments create low-skill jobs and may be deployed quickly upon the domestic economy. These opportunities may bring returns for the tourism sector, increase the resilience of the economy to future shocks, and support climate change adaptation.

## **8.6 Forestry and Macroeconomic Accounts of Uganda (UN-REDD+ and UNEP)**

124. Responding to the UNEA-2 Resolution of “Sustainable management of natural capital for sustainable development and poverty reduction” in May 2016, the assessment of natural forest

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

systems and resources in Uganda has been undertaken to value their contribution to the national economy (de Oliveira et al., 2018). Deforestation is highly prevalent across Uganda, with an annual forest cover loss of 120,000 ha/a, and the study has demonstrated its extensive natural capital wealth loss to future generations. The total losses in forest ecosystem services for the country was estimated at 812,755 million UGS in 2015 (USD229,354 pa). The services provided from the gathering of non-timber forest products, carbon sequestration, habitat provisioning, and health services are particularly compromised as a result of deforestation. Overall, the productive capability of the economy is lost in the immediate term, meanwhile the wider reduction in systems resilience may be expected in the long-term.

125. The linkages between the economic use of the environment may be appropriately quantified for decision-making through the valuation and environmental accounting of Uganda's natural forest capital. The methods used in the study include the development of forestry resource accounts, ecosystem service assessment mapping, the valuation of ecosystem services with linkages to the macro-economic situation in Uganda, and the testing of policy instruments aimed to combat deforestation. Altogether, the findings contribute to the better-informed decision-making to protect and stimulate the benefits received by forests within the national economy, rather than limiting them.
126. As the incentives for deforestation far outweigh the value of ecosystem service losses, the study proposes a combination of economic policy instruments to target landholder decision-making and the national economic impacts of sustainable forest management. The payment for ecosystem services mechanisms options tested include: (1) carbon trade and transactions, (2) certified plantation forestry, and (3) woodlot cultivation. Carbon sequestration is a likely positive co-benefit arising from all the policy instruments, and therefore carbon benefits may accrue in addition to others that emerge.

### **8.7 Ecosystem Service Accounting in Thukela River Basin, South Africa (NCAVES)**

127. As part of the EU-funded [Natural Capital Accounting and Valuation of Ecosystem Services \(NCAVES\)](#) project in South Africa, policy scenario analysis of land restoration in the Thukela river basin in KwaZulu-Natal has been undertaken. That study showed that the supply and value of many ecosystem services had been negatively affected by changes in ecosystem extent and condition, notably in the grassland and savanna biomes that dominate the province. Agricultural expansion and rangeland management practices are among the drivers of land degradation in the area.
128. This study applies a scenario-based approach to explore existing targets, programmes and interventions of particular relevance to government stakeholders, specifically in relation to South Africa's land degradation neutrality (LDN) commitments. In the KwaZulu-Natal, land degradation mainly takes the form of (a) loss of biomass cover leading to bare areas and erosion, (b) increased indigenous woody biomass ("bush encroachment") and (c) encroachment of invasive alien plants (IAPs). The main aim of the study was to provide insights into the consequences of land degradation and the costs and benefits of investing in measures to address it. These measures include IAP clearing, erosion rehabilitation and farming and livestock management interventions, mainly in the upper and middle reaches. Results are expressed in terms of changes in provision of ecosystem services, including carbon sequestration, livestock provisioning service and regulating services supporting the food system such as soil retention

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

and hydrological services. Accordingly, the study provides evidence of how ecosystem restoration and improved land management practices can help to sustain food systems.

### **8.8 Integrating Ecosystem Services and Natural Capital in African National Policies (UNEP-TEEB Country Studies)**

129. The TEEB Country Studies contribute to national policy priorities in terms of their ecosystem service dependencies and impacts, and by better integrating ecosystem services and natural capital to address the positive and negative externalities experienced (TEEB, 2013). Recommendations arising from a Country Study application may target a broad range of issues, where an economic perspective can help to address biodiversity loss while contributing to a wider paradigm shift in environmental policymaking. Such include the alleviation of poverty, reformation of subsidies, better management of land and protected areas, securing local livelihoods, and investing in natural infrastructure restoration and national ecosystem accounting.
130. A TEEB Country Study has taken place in Tanzania, assessing the land use trade-offs in the Rufiji River Basin and applied scenario analyses to inform policies for the prudent management of its river basin ecosystem (TEEB, 2021). Three regions were assessed: impacts of afforestation and the provisioning of food in the highlands regions; impacts of community-based land use planning on livestock management, by assessment of freshwater provisioning upon ecosystems in the midlands regions; and the impacts of mangrove deforestation upon the provisioning of food (e.g. fish, prawn, and rice production) in the lowlands region.
131. In Ghana, the Atewa Forest Reserve has been assessed for the costs and benefits of its natural resource developments in economic terms, within a TEEB-inspired study commissioned by IUCN Netherlands and A Rocha Ghana (Schep et al., 2016). Four scenarios were assessed over thirty years, to estimate the changes in forest values across the Atewa Range's ecosystems. The study recommendations included: the status of the Atewa Forest Reserve should be elevated to that of a National Park so as to achieve a sustainable flow of ecosystem services to beneficiaries; the implementation of sustainable management schemes in the Atewa Range; the application of PES mechanisms; and the greater collaboration of diverse actors across the upstream and downstream communities.
132. A TEEB-inspired country study in Namibia has also been executed, with the evaluation of policy measures in four priority sectors: (1) the financing of protected areas, (2) the feasibility of payments for ecosystem services in communally conserved areas, (3) conservation efforts and wildlife use on private farms, and (4) an analysis of conservation hunting in the context of the biodiversity economy as a form of sustainable use of biodiversity (Forsythe et al., 2017). With the use of ecosystem valuation assessments, the economic valuation of the associated ecosystem services and costs of their overuse and depletion were evaluated to inform the resource mobilisation strategy.

### **8.9 Evaluating Food Systems under TEEB for Agriculture and Food**

133. The UNEP-hosted TEEB for Agriculture and Food (TEEBAgriFood) Programme was developed to apply an evaluation framework across national eco-agri-food systems and value chains, thereby enabling a systems-thinking approach to food system decision-making to better integrate the holistic consideration of ecosystem services (TEEB, 2021). Currently, two African

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

TEEBAgriFood country projects are being applied in Kenya and Tanzania, with an early-stage country application being developed in Uganda.

134. In [Kenya](#), the IKI-funded TEEBAgriFood project seeks to assess the environmental, social, and economic impacts along the value chain of the traditional use of forests (non-timber forest products, medicinal plants, and such) and food systems (potatoes, maize, and peas) in the Greater Mau Catchment Area. The results are expected to inform the County Integrated Development Plans, the Mid Term Plan towards the 2030 Agenda, and the Plantation Establishment and Livelihood Improvement Scheme.
135. In [Tanzania](#), the IKI-funded TEEBAgriFood project seeks to examine land use change in the Southern Highlands and its connection to ecosystem services changes. Specifically, the expansion of woodlot plantations and orchards near Njombe have been assessed, in parallel to their linkages to ecosystem services such as water quality and quantity, soil erosion, food production and food security, and its impacts upon wildlife and biodiversity. The project is expected to inform cross-sectoral policies for natural resources management.
136. A [TEEBAgriFood pilot study was also conducted in Tanzania](#), evaluating the socio-economic and environmental impacts of value chain activities relating to traditional livestock systems in Tanzania and the Maasai steppe (Baltussen et al., 2019). The study specifically targeted pastoral cattle, backyard poultry, and smallholder dairy systems, with application of the Global Livestock Environmental Assessment Model (GLEAM) upon two livestock policy scenarios. The findings evidenced that the increased accessibility of farming inputs and agricultural extension capacity building in Tanzanian farmers were key to improve the efficiency of livestock production, the economic system, and social and human impacts, meanwhile decreasing greenhouse gas emissions.
137. An [assessment of the maize agri-food systems in](#) Malawi has also been undertaken by the Global Alliance for the Future of Food in a TEEB-inspired study, with assessment of the stocks and flows of maize inputs and fertility (White, 2019). The study asserts that the maize-centricity in Malawi is disproportionate to the benefits it currently and may be expected to provide, especially upon the prevailing uncertainty of climate change. Furthermore, application of the TEEB Evaluation Framework provides a better alternative to improve the understanding of food-society-environment relationships and the outcomes they produce, when assessing crop production practices and systems
138. In [Uganda](#), a “lite” TEEBAgriFood application was undertaken in Kampala’s Mabamba Bay Wetland with limited seed funding from NORAD, and time-limited over a project cycle of six months. Using the TEEBAgriFood Evaluation Framework, the project assessed the competing impacts of urban and peri-urban agriculture upon wetland conservation areas and their critical ecosystem services. Eleven ecosystem services were valued and assessed against three scenarios, and methodologies such as geospatial analysis, market analysis, and benefits transfer (for economic valuation estimation) were used as part of the scenario analysis. With feedback from Ugandan government officials, policy recommendations were set out by the research implementing partner (the Nile Basin Initiative) and the study’s applicability to the governance of environmental and natural resources in Uganda was discussed.

## 8.10 ECON-WOCAT Database

139. The ECON-WOCAT Database is the outcome of a project between WOCAT (World Overview of Conservation Approaches and Technologies), the Economics of Land Degradation at GIZ and the UNCCD which aimed to synthesise information from the WOCAT SLM technologies and Approaches database to quantify the costs and benefits of SLM globally at a time of heightened interest in restoration. The database draws on information from over 500 case studies, over 200 of which stem from the African continent.

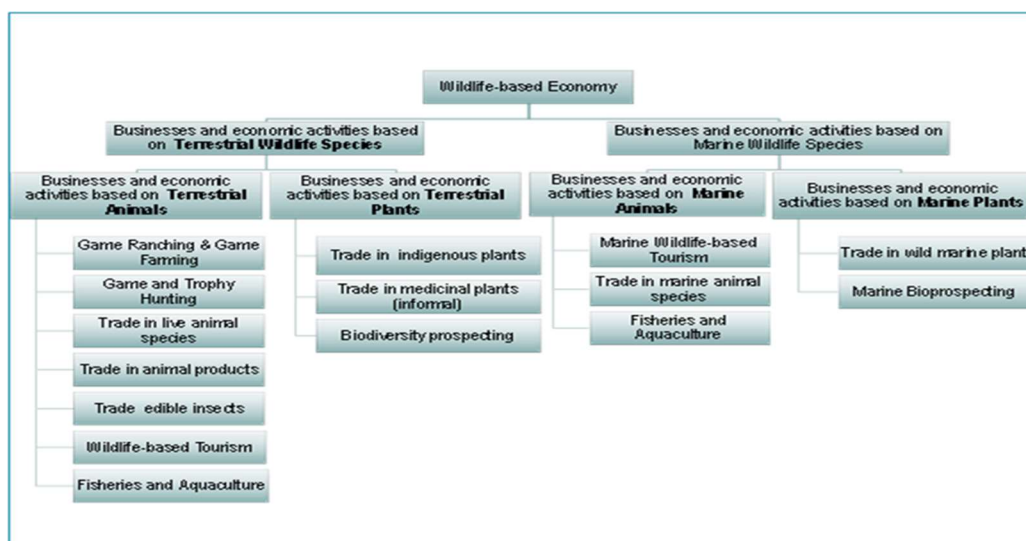
140. The ECON-WOCAT database highlights positive opportunities and benefits for sustainability and job creation. The database further contributes the information required for effective planning and implementation of projects that can meet national LDN targets, land-based climate adaptation and mitigation activities through the NDCs, as well as contribute to avoided degradation and conservation implemented through National Biodiversity Strategies and Action Plans (NBSAPS) (WOCAT et al., 2022).

## 8.11 Wildlife Conservation Bond

141. The Wildlife Conservation Bond (WCB), is a first-of-its-kind and ground-breaking financial instrument, also known as the “Rhino Bond”. The bond is outcomes-based and will contribute to the conservation of the Black Rhino in two South African protected areas (GEF, 2022).

142. The WCB, allows for investors to contribute to the conservation and protection of a species, like the Black Rhino by financing conservation activities with clear targets, with greater benefits toward biodiversity and the creation of nature-based jobs. The financial instrument is seen as an enabling breakthrough toward replicability in efforts to conserve other key species and ecosystems.

143. The Figure below provides an indication of the types of activities related to the biodiversity economy that have been applied in many countries in Africa, generating significant revenues for communities and governments



## 9. Implementation and Challenges of Advancing a Pan-African Biodiversity Economy

### 9.1 Implementing a Biodiversity Economy (UN, 2019)

144. **Providing an Enabling Environment:** A thriving biodiversity economy relies upon robust policy and legal frameworks to provide for certainty, predictability and protection of investments within biodiversity-related value chains. Conducive enabling environments result in: the development of local and regional economies, attracting direct foreign investment; finance being channelled to appropriately-selected enterprises; support for and the development of skills and R&D; and mainstreaming scientific research into policy and decision-making African countries need to review their sectoral policies with a view to better align them to provide coordinated support for the biodiversity economy.
145. **Regional Approaches and Cooperation:** The current knowledge on biodiversity and ecosystem services points clearly to the need for regional cooperation, ensuring that human well-being derived from nature is sustained in the long-term while preventing the loss of biodiversity. With enhanced regional cooperation, environmental consciousness is heightened, with technological innovation driving global and regional solutions to sustainability issues. More effective governance will also allow for more effective environmental regulation, increasing protected areas function and coverage, and allowing for improved transboundary environmental cooperation across African nations.
146. Africa needs to develop **joint policy and legal frameworks** to provide such common approaches to a biodiversity economy, including addressing issues related to access and benefit-sharing (ABS) within and between countries, including the use of indigenous and local knowledge associated with the conservation and sustainable use of biodiversity assets. For example, Community-Based Natural Resource management policies in Namibia provides the legal framework through empowering legislation that gives communities rights over resource use (ALU, 2021).
147. The consolidation of laws and procedures will further enhance the continent's competitiveness and maximise returns when trading with countries outside Africa. This is timely as Africa opens up **intra-regional trade under the African Continental Free Trade Area**, enabling countries to leverage regional strength to access and develop new market opportunities without compromising local biodiversity or ecosystem integrity.
148. **Natural Capital Valuation and Accounting:** Africa needs to set up a valuation of its ecosystems and ecosystem services to build a strong foundation for developing comprehensive natural capital accounts. This should be a progressive effort by all African countries, starting with individual ecosystems or a set of ecosystems, and dependent on national contexts and priorities. The use of common approaches will enhance data comparability between countries, in turn supporting intra-regional and inter-regional trade. Methods for recognising the value of natural capital must be widely adopted, well integrated, and comprehensively implemented into regional standards of natural capital accounting systems to enable the comparison and exchange of goods and services, and investment in conservation measures preventing biodiversity loss and achieving environmental goals. National Statistical Offices (NSOs) and planning ministries should cooperate to embrace natural capital accounting and integrate tools for policy design and implementation in delivering inclusive green growth, premised on the stewardship of natural



**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

wealth to ensure sustained economic growth and livelihood opportunities for long-term prosperity.

149. **Technology Development and Transfer:** Technology and investments are critical to the success of a biodiversity economy, adapted to fit the African context through technology support (where the technology is privately owned) and technology transfer (for publicly owned technologies). There must be support for research and academic institutions partnerships with the private sector, in addition to public-private partnerships and South-South cooperation, to further enhance technology research and development. Technology advancements must also be based upon indigenous and local knowledge and the ways in which it can be harnessed and scaled up to sustainably utilise biological resources.
150. **Value addition** is also critical to the success of a biodiversity economy, in maximising the value-addition across the value chain to increase livelihood opportunities and ensuring the maximum returns on investment. A technologically driven value addition, including digital technology, from bioprospecting to processing, manufacturing and marketing has a key role to play in achieving this success.
151. **Entrepreneurship and Innovative Financing:** Developing the biodiversity economy requires developing and promoting entrepreneurship based around a range of biodiversity-related products and services, including the following: bioprospecting; product innovation and development; intellectual property rights; and business incubation and market research. This should include promoting enterprises owned by women and young people and scaling up traditional and indigenous biodiversity-based livelihoods.
152. Developing the biodiversity economy requires financing, as facilitated by **innovative financing mechanisms** involving partnership with banking and financial institutions, pension funds and insurance companies, and public-private partnerships. The financing of conservation measures by public, private and community efforts should be developed, such as an intergenerational biodiversity fund based upon the revenues from biodiversity-related trade. Certification of sustainable wildlife economy practices, such as conservation hunting, should also play a role in connecting wildlife economies to urban markets. Financing of conservation measures may be achieved by developed natural capital accounts from the various ecosystems and ecosystem services and demonstrating the importance of and contribution made by biodiversity and ecosystem services to national economies. As a result, the decision-makers and stakeholders will be presented with facts based upon financial analysis to underline why investing in biodiversity conservation is important in the long term.

**Data to Support the Biodiversity Economy:** Biodiversity data and documentation are vital to understanding the assets that countries possess. Africa currently lacks adequate records on its biodiversity; where records exist, the data may not be easily accessible, may not be systematically curated, and may be stored in databases outside of the continent. Setting up centres of excellence in biodiversity information systems at the country, regional, and continental levels is important. Africa also needs to establish systematic ways to collect, store, analyse, and share data. Efforts need to be increased to repatriate African biodiversity data held in foreign databases. For example the Sustainable Wildlife Economies Project (SWEP) - [www.wildeconomy.org](http://www.wildeconomy.org) aims to mainstream biodiversity economy data into the policy and decision-making space.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

153. **Capacity Development:** The effective implementation of the biodiversity economy needs to be supported by up-to-date knowledge and skills. Capacity building of African researchers, academics, and practitioners in new and emerging issues in biodiversity and biosafety is needed. Capacity-building advisory services and technical support should also be extended to the African Group of Negotiators on biodiversity and to the focal points for the Convention of Biological Diversity and the two protocols thereto (the Cartagena and Nagoya protocols), so they are optimally prepared to articulate African perspectives and priorities during international processes at conferences of the parties and meetings of the parties.

## 9.2 Roles of Stakeholders to Implementation

154. As adapted from the South African National Biodiversity Economy Strategy (DEFF, 2016), the roles of different stakeholders in a Biodiversity Economy may be identified as follows:

Stakeholder Group	Stakeholder Sub-Groups	Roles
Government Sectors <i>(Strategic Oversight)</i>	<ul style="list-style-type: none"> <li>Government departments, national and provincial level</li> <li>Conservation agencies</li> </ul>	<ul style="list-style-type: none"> <li>Policy development and advocacy</li> <li>Facilitate and coordinate implementation</li> <li>Support and regulate compliance, enforcement, and monitoring</li> <li>Develop best practice guidelines</li> </ul>
Supporting Sectors <i>(Implementation Support)</i>	<ul style="list-style-type: none"> <li>Academic institutions</li> <li>Research councils</li> <li>Local government</li> <li>NGOs</li> <li>Established biodiversity economy (private landowners)</li> </ul>	<ul style="list-style-type: none"> <li>Generate knowledge and new technologies</li> <li>Demonstrate and pilot new technology</li> <li>Skills transfer and education</li> <li>Capacity building</li> <li>Develop new processes and products</li> <li>Community and private sector engagement</li> <li>Support implementation</li> <li>Mentor new market entrants to help support viable enterprise creation</li> </ul>
Investors and private sector <i>(Commercialisation and economic development)</i>	<ul style="list-style-type: none"> <li>Business</li> <li>Banks</li> <li>Entrepreneurs</li> <li>Markets</li> <li>Venture Capitalist</li> </ul>	<ul style="list-style-type: none"> <li>Commercialise new technology</li> <li>Skills transfer and education</li> <li>Capacity building</li> <li>Job creation</li> <li>Develop of new products and markets</li> <li>Support communities and SMMEs, and develop new SMMEs</li> <li>Resource protection, sustainable use</li> </ul>
Communities <i>(Implementation and economic development)</i>	<ul style="list-style-type: none"> <li>Communities</li> <li>Cooperatives</li> <li>Community-based organisations</li> <li>Entrepreneurs</li> <li>Markets</li> </ul>	<ul style="list-style-type: none"> <li>Beneficiation</li> <li>Job creation</li> <li>SMME development</li> <li>Resource protection, sustainable use</li> </ul>

Table 6: Roles of stakeholders in implementing a Biodiversity Economy. Adapted from the South African National Biodiversity Economy Strategy, in the ALU School of Conservation (2021).

### 9.3 Challenges to Implementation (UN, 2019)

155. Africa is seated at the crossroads between the goals of biodiversity conservation and socio-economic development, with a **population** expected to double to approximately 2.5 billion by 2050. The implications for population growth upon biodiversity, as the result of direct and indirect impacts e.g. food production and the expansion of agricultural lands, must be carefully studied and considered using trade-off analyses to determine the optimal option or combination of options.
156. **Job creation** for the dominant and growing youth population in African countries is an urgent and high priority, with an additional ±375 million Africans become of working age within the coming 15 years, of whom some 200 million will be living in rural areas and engaging with smallholder farming. Therefore, this calls for innovative thinking beyond the traditional sectors, as great proportions of the African population will serve as stewards of increasingly scarce natural resources, upon the frontlines of climate change impacts. Through a biodiversity economy, it will be possible to maximise the productivity of young people as a dividend for Africa's sustainable development.
157. The **empowerment of smallholder farmers** must also be addressed, as they play a critical role in addressing the challenges currently preventing them from scaling up their participation in markets. Such challenges include: the insecure rights to land and natural resources, the lack of access to quality farm inputs and financial services, inadequate support from research and extension services, and high transaction costs caused by poor rural infrastructure. There are greater challenges posed inequitably to women farmers, constituting the majority of farmers in Africa. In addition, smallholder farmers are also recognised amongst the poorest and most marginalised in the world, whose direct dependence on natural resources for their livelihoods causes a cyclical loop between poverty and biodiversity loss.
158. Africa faces exponential challenges in sustaining its **rapid economic growth**, while in parallel safeguarding the life-support system provided by its rich natural capital underpinning the realisation of its long-term vision. It is imperative that this growth takes into account the **relatively weak environmental governance** in the region, and **paucity of accurate and up-to-date environmental and socio-economic data** for evidence-based decision-making. Scenario modelling is also required to analyse the ways in which development, and in particular large infrastructure projects, can be undertaken while safeguarding the ecological foundation upon which life itself depends.
159. **Inadequate data and documentation** on Africa's biodiversity remains a major challenge for the continent, where consequentially the efficiency and improved potential of indigenous and local knowledge, and their related technologies, have not been well assessed. African countries have now committed to take measures to ensure technology transfer, adaptation, and support for innovation, especially within the research and development for the value addition in biodiversity-generated projects.
160. The African region must engage in concerted efforts across the continent to promote the innovation and adoption of technologies related to biodiversity and ecosystem services, while tackling **the array of other regional environmental challenges**. These include: the illegal trade in wildlife; low levels of access to clean forms of energy; biodiversity loss; inadequate waste management practices; and climate change and vulnerability. Notably, Africa's natural capital is

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

also challenged by competing uses, illegal off-take, weak resource management practices, climate change, and pollution.

161. Challenges occurring at the interface of the local, national, and regional pan-African scale require forward-looking, flexible, inclusive and integrated approaches in policy formulation and implementation, as based upon solid principles of sustainable resource management.

## **10. Collaborative Opportunities and Insight**

### **10.1 The Economics of Ecosystems and Biodiversity (TEEB) Initiative**

162. The TEEB initiative, as emerged from the 2007 G8+5 Potsdam Meeting of Environment Ministers, seeks to draw attention to the invisible and intangible values of ecosystems in the economic choices made across the domains of international, national, and local policymaking, public administration, and business (TEEB, 2021). It presents an approach to help decision makers recognise, demonstrate and, where appropriate, capture the values of ecosystems and biodiversity as to accelerate a socio-economic paradigm shift; one where the values of natural capital and ecosystem services are fully reflected in the mainstreaming of public and private decision-making (TEEB, 2010). TEEB may therefore contribute to the conceptualisation and applications of a “Biodiversity Economy”, by translating economic assessments of trade-offs into incentives to guide biodiversity management and to make pro-biodiversity investments the logical choice for a wide range of actors in the future.

163. The TEEB approach has been applied in two programmes, to which contributes to the “Biodiversity Economy” discourse by bringing in specific dimensions concerning terrestrial and marine ecosystems, and the intersection of social, human, natural, and economic capitals upon environmental decision- and policy-making.

- **Agriculture and Food Programme (TEEBAgriFood):** The programme was developed to apply a whole systems thinking and framework to enable food system decision-making to better integrate material interactions between the environment, economy, society, and health, and to encompass interactions from the farm to household consumption (TEEB, 2021). See Section 6 for more details.
- **TEEB for Oceans and Coasts Programme (TEEB4OC):** The programme supports the integration of new policies, practices, markets, and agreements that will improve the ecological and economic productivity and sustainability of marine ecosystems around the world (TEEB, 2013). To achieve this, it will bridge the gaps in knowledge on ocean ecosystem services and functions, and will support the mainstreaming of biodiversity and ecosystem considerations into national policy-making and broader societal perspectives.

### **10.2 Biodiversity Finance Initiative (BIOFIN)**

164. The **Biodiversity Finance Initiative (BIOFIN) programme** may be applied to deliver an assessment framework to facilitate the identification, development, and implementation of optimal and evidence-based finance plans and implementation of finance solutions towards global and national biodiversity goals (BIOFIN, 2021). This was underpinned by the Nagoya

## **Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

Convention on Biological Diversity COP10, and later launched within this context by the successive CBD COP11 by the UN Development Programme and the European Commission. A bottom-up approach is applied to build a sound business case for finance solutions implementation in biodiversity conservation at the national-scale. The BIOFIN methodology is currently implemented in 36 countries in total, and 10 in Africa (Rwanda, Botswana, Zambia, South Africa, Uganda, Seychelles, Mozambique, Malawi, Tanzania and Madagascar).

165. The BIOFIN Approach steps are as follows:

- I. **Financial Policy and Institutional Review:** Assess the policy, institutional, and economic context for biodiversity finance and map existing finance solutions.
- II. **Biodiversity Expenditure Review:** Measure and analyse current biodiversity expenditures from the public and private sectors, donors, and non-governmental organisations.
- III. **Biodiversity Finance Review Assessment:** Make a reliable estimate of the finances needed to achieve a country's biodiversity goals and compare this to current biodiversity expenditures and other resources available.
- IV. **Biodiversity Finance Plans:** Develop a Biodiversity finance plan that identifies and mobilises the resources and policies required to implement the most suitable finance solutions.

### **10.3 Partnership for Action on Green Economy (PAGE)**

166. The Partnership for Action on Green Economy (PAGE) was launched in 2013 as a response to the call at Rio+20, supporting countries wishing to implement greener and more inclusive growth trajectories. PAGE seeks to advance the 2030 Agenda for Sustainable Development through inspiring, informing, and enabling countries at various stages of their policy development to reframe economy policies through technical support and analysis, at both the macro-economic and sectoral levels. This is made possible through putting in place enabling policy conditions, reforms, incentives, business models, and partnerships to catalyse greater action and investments in green technologies and natural, human, and social capital.

167. PAGE offers integrated and holistic support to countries on an inclusive green economy, ensuring coherence, and avoiding duplication, by bringing together five UN agencies: the UN Environment Programme, International Labour Organisation, UN Development Programme, UN Industrial Development Organisation, and the UN Institute for Training and Research. Since 2013, PAGE has supported 79 policies within 20 partner countries and 221 participating national institutions and ministries, through supporting national policy-making, sectoral reform, strengthening capacity, and knowledge sharing.

### **10.4 WAVES Partnership**

168. Launched at the CBD COP10 in 2010, the World Bank-led WAVES Partnership aims to promote sustainable development by ensuring that natural resources are mainstreamed in developing planning and economic accounts (WAVES, 2021). This is enabled by the development of natural capital accounts in middle-income and data-poor countries, using the accounts to inform national development plans and policies. It brings together a coalition of UN agencies, governments, international institutes, NGOs, and academics to implement NCAs where they are internationally agreed upon standards, and to develop approaches for other ecosystem service accounts. This has long-term significance in enabling a more informed

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

decision-making, ensuring genuine green growth and advances in wealth creation and human well-being.

169. The core implementing partner countries from Africa, of whom have begun implementing natural capital accounting, include:

- **Botswana:** Ecosystem service accounts (water, minerals, energy), macroeconomic indicators of sustainable development, and the tourism components of land and ecosystem accounts.
- **Madagascar:** Ecosystem service accounts (mining, water, forests), and macroeconomic indicators.
- **Rwanda:** Ecosystem service accounts (land, water, and minerals).
- **Uganda:** Ecosystem accounts, including forest accounts, and water accounts.
- **Zambia:** Ecosystem accounts including land and forest accounts, and water accounts.

### 10.5 Blue Economy Valuation Toolkit

170. The **Blue Economy Valuation Toolkit**, as developed by the UN Economic Commission on Africa, may also be applied to measure and value a “Biodiversity Economy” scoping and the associated economic activities occurring within marine ecosystems. It aims to guide sub-regional and national in-depth socio-economic assessments of the Blue Economy to support informed decision-making (Lallemand and Failler, 2020). The main dimensions considered in capturing the human interactions within a “Blue Environment” (i.e. oceans, lakes, rivers, and such) include: any economic dimensions associated with the Blue Economy; any social dimension of human interaction with the Blue Economy; and any ecosystem services related to the Blue Economy.

## Appendices

### Appendix 1: Forms for Biodiversity Economy Project Submission

As a means to collect information and examples on Biodiversity Economy projects taking place across the African continent for the enhanced regional cooperation, a draft Google Form has been created here: <https://forms.gle/wL9FofczUYwsQfZa7>. Its sections include the following prompts, with the goal to submit the form once for each project:

#### Part 1. Registration Information

Full name  
Email  
Affiliation  
What describes best your organisation?  
Country

#### Part 2. Project Information

Project name  
Project focal point (Name and Email)  
Project duration  
Project relevance to Biodiversity Economy  
Relevant links and websites  
Relevant documents

The form may be circulated via existing networks and platforms, such as the Natural Capital Accounting Community of Practice which is active on the Telegram app. Using the collected information, a database of ongoing and past projects which may provide insight, derive information, and influence the enhanced regional cooperation of African nations in advancing and informing a Biodiversity Economy.

## Reference List

- (AfDB) African Development Bank (2016). REDD+ In Africa: Context, challenges, and next steps of REDD+ mechanisms in the continent. *AfDB Knowledge Series, October 2016*. Retrieved from: [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/REDD\\_in\\_Africa\\_-\\_Context\\_challenges\\_and\\_next\\_steps\\_of\\_REDD\\_mechanisms\\_in\\_the\\_continent.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/REDD_in_Africa_-_Context_challenges_and_next_steps_of_REDD_mechanisms_in_the_continent.pdf). Accessed 26<sup>th</sup> March 2021.
- The Africa-EU-Partnership (2021). African Continental Free Trade Agreement. Webpage. Retrieved from: [African Continental Free Trade Area \(AfCFTA\) | The Africa-EU Partnership \(africa-eu-partnership.org\)](http://africa-eu-partnership.org). Accessed 30<sup>th</sup> March 2021.
- Albert, T. (2019). *The African Continental Free Trade Agreement: Opportunities and Challenges*. Geneva: Consumer Unity and Trust Society (CUTS) International. Retrieved from: <https://www.tralac.org/documents/resources/cfta/3181-afcfta-opportunities-and-challenges-cuts-international-study-2019/file.html>. Accessed 30<sup>th</sup> March 2021.
- ALU School of Wildlife Conservation, 2021. State of the Wildlife Economy in Africa. Retrieved from: <https://sowc.alueducation.com/programs/research/>.
- (AMCEN) African Ministerial Conference on the Environment (2019a). Draft Decision 17/1: Taking action for the sustainability of environmental and natural resources in Africa. *AMCEN/17/L.3: Durban (South Africa)*. Retrieved from: <https://wedocs.unep.org/handle/20.500.11822/30731>. Accessed on 15<sup>th</sup> March 2021.
- (AMCEN) African Ministerial Conference on the Environment (2019b). Biodiversity economy and natural capital accounting in Africa. *AMCEN/17/5: Durban (South Africa)*. Retrieved from: <https://wedocs.unep.org/handle/20.500.11822/30652?show=full>. Accessed 15<sup>th</sup> March 2021.
- (AU) African Union (2021a). *Agenda 2063: The Africa We Want*. Webpage. Retrieved from: <https://au.int/en/agenda2063/overview>. Accessed 15<sup>th</sup> March 2021.
- (AU) African Union (2021b). *Linking Agenda 2063 and the SDGs*. Webpage. Retrieved from: <https://au.int/agenda2063/sdgs>. Accessed 15<sup>th</sup> March 2021.
- (AU-IBAR) African Union - Inter-African Bureau for Animal Resources (2019). Africa Blue Economy Strategy. Nairobi, Kenya. Retrieved from: [https://www.au-ibar.org/sites/default/files/2020-10/sd\\_20200313\\_africa\\_blue\\_economy\\_strategy\\_en.pdf](https://www.au-ibar.org/sites/default/files/2020-10/sd_20200313_africa_blue_economy_strategy_en.pdf). Accessed 1<sup>st</sup> June 2021.
- Baltussen, W., van Berkum, S., Dijkxhoorn, Y., Helmes, R., Özkan Gülzari, Ş, Vellinga, T., Massawe, G. D., Galgani, P., Borniotto, D., van den Elzen, F. and Smith, T. (2019), Traditional livestock systems in Tanzania; An application of the TEEBAgriFood Evaluation Framework. TEEB for Agriculture and Food, UNEP.
- (BIOFIN) Biodiversity Finance Initiative (2019). *UNDP-BIOFIN's input to CBD Notification SCBD/SSSF/AS/ML/GD/88367 "Call for Evidence on Resource Mobilisation"*. Retrieved from: <https://www.cbd.int/financial/rm/submissions/ntf-2019-086/UNDP-The%20Biodiversity%20Finance%20Initiative%20BIOFIN-en.pdf>. Accessed 14<sup>th</sup> June 2021.



**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- (BIOFIN) Biodiversity Finance Initiative (2021). *BIOFIN: History*. Webpage. Retrieved from: <https://www.biodiversityfinance.net/history>. Accessed 15<sup>th</sup> March 2021.
- Brown, C., King, S., Ling, M., Bowles-Newark, N., Ingwall-King, L., Wilson, L., Pietila, K., Regan, E., & Vause, J. (2016). *Natural Capital Assessments at the National and Sub-national Level*. Cambridge, UK: UNEP-WCMC. Retrieved from: [https://www.unep-wcmc.org/system/dataset\\_file\\_fields/files/000/000/377/original/Natural\\_Capital\\_Report\\_WEB.pdf?1460119504](https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/377/original/Natural_Capital_Report_WEB.pdf?1460119504). Accessed 30<sup>th</sup> March 2021.
- CAFE Consortium (2021). *Consortium of African Funds for the Environment*. Webpage. Retrieved from: <https://www.cafeconsortium.org/>. Accessed 26<sup>th</sup> March 2021.
- (CBD) Convention on Biological Diversity (2011). *Outcomes of the Africa Regional Consultation and Capacity-Building Workshop on reducing emissions from deforestation and forest degradation in developing countries (REDD+), including relevant biodiversity safeguards*. UNEP/CBD/WS/CB/REDD/AFR/1/2, 23<sup>rd</sup> September 2011. Retrieved from: <https://www.cbd.int/doc/meetings/for/wscbredd-afr-01/official/wscbredd-afr-01-02-en.pdf>. Accessed 30<sup>th</sup> July 2021.
- (CBD) Convention on Biological Diversity (2021). *REDD+ and Biodiversity Benefits*. Webpage. Retrieved from: <https://www.cbd.int/forest/redd-plus/>. Accessed 26<sup>th</sup> March 2021.
- (CBD) Convention on Biological Diversity and (UNEP) UN Environment Programme (2018). *Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience*. Retrieved from: <https://wedocs.unep.org/20.500.11822/29395>. Accessed 2<sup>nd</sup> June 2021.
- Conservation International, 2012. *The Gaborone Declaration*. Summit for Sustainability in Africa, 24-25<sup>th</sup> May 2012. Retrieved from: <https://www.cbd.int/doc/champions/gaborone-declaration-botswana-en.pdf>. Accessed 29<sup>th</sup> July 2021.
- Conservation International, 2021. *Conservation International, NASA, and the Liberian Government through its environmental protection agency use Earth Observations to quantify nature's economic value*. Press Release, March 11<sup>th</sup> 2021. Retrieved from: <https://www.conservation.org/press-releases/2021/03/11/conservation-international-nasa-and-the-liberian-government-through-its-environmental-protection-agency-use-earth-observations-to-quantify-nature%E2%80%99s-economic-value>. Accessed 26<sup>th</sup> March 2021.
- De Oliveira, T., Crafford, J., Naidoo, N., Mathebula, V., Mulders, J., Maila, D., and Harris, K., 2018. *Forestry and Macroeconomic Accounts of Uganda: The Importance of Linking Ecosystem Services to Macroeconomics*. UN-REDD+, May 2018. Retrieved from: [https://www.uncclern.org/wp-content/uploads/library/uganda\\_forest\\_technical\\_report\\_mailversion-1\\_ok.pdf](https://www.uncclern.org/wp-content/uploads/library/uganda_forest_technical_report_mailversion-1_ok.pdf). Accessed 2<sup>nd</sup> June 2021.
- (DFFE) Department of Forestry, Fisheries and the Environment, 2016. *National Biodiversity Economy Strategy (NBES)*. DEA, Republic of South Africa: March 2016. Retrieved from: <https://www.environment.gov.za/sites/default/files/reports/nationalbiodiversityeconomystrategy.pdf>. Accessed 14<sup>th</sup> April 2021.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- Driver, A., Mukhadi, F., and Botts, E.A. (2019). An Initial Assessment of Biodiversity-Related Employment in South Africa. Development Policy Research Unit, Working Paper 201902. Retrieved from: <http://www.dpru.uct.ac.za/wp-201902-initial-assessment-biodiversity-related-employment-south-africa>. Accessed 14<sup>th</sup> April 2021.
- Duru, U., and Nyong, A. (2016). Why Africa Needs Green Bonds. Africa Economic Brief (African Development Bank), Volume 7 Issue 2. Retrieved from: [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/AEB\\_Vol\\_7\\_Issue\\_2\\_Why\\_Africa\\_Needs\\_Green\\_Bonds.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/AEB_Vol_7_Issue_2_Why_Africa_Needs_Green_Bonds.pdf). Accessed 26<sup>th</sup> March 2021.
- (FAO) Food and Agricultural Organisation of the United Nations, 2015. Bushmeat Source Book. Retrieved from: <http://www.fao.org/forestry/wildlife-partnership/bushmeatsourcebook/88710/en/>.
- Forest Trends, The Katoomba Group, Ecosystem Marketplace, and the United Nations Development Programme (2011). Creating New Values for Africa: Emerging Ecosystem Service Markets. *EM Market Insights*. Retrieved from: [https://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/biodiversity/PES%20in%20Africa\\_12-29-11.pdf](https://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/biodiversity/PES%20in%20Africa_12-29-11.pdf). Accessed 26<sup>th</sup> March 2021.
- Forsythe, K., Letley, G. & Turpie, J. 2017. A national assessment of Namibia's Ecosystem Services. Vol I in Ministry of Environment and Tourism (ed). Namibia's national TEEB study: The development of strategies to maintain and enhance the protection of ecosystem services in Namibia's state, communal and freehold lands. Report prepared by Anchor Environmental Consultants and Namibia Nature Foundation. Retrieved from: <http://teebweb.org/our-work/country-studies/teeb-inspired-studies/namibia/>. Accessed 14<sup>th</sup> April 2021.
- (GDSA) Gaborone Declaration for Sustainability in Africa (2021). *About the GDSA*. Webpage. Retrieved from: <http://www.gaboronedeclaration.com/about-the-gdsa-1>. Accessed 15<sup>th</sup> March 2021.
- (GEF) Press release: Wildlife Conservation Bond boosts South Africa's efforts to protect black rhinos and support local communities. Retrieved from <https://www.thegef.org/newsroom/press-releases/wildlife-conservation-bond-boosts-south-africas-efforts-protect-black> Accessed: 24th August 2022
- (IDRECCO) International Database on REDD+ projects and programs: Linking Economics, Carbon, and Community, 2022. REDD+ Projects and Programs Database. Online Platform. Retrieved from: <https://www.reddprojectsdatabase.org/view/countries.php>. Accessed 11<sup>th</sup> April 2022.
- (IISD) International Institute for Sustainable Development, 2022. Summary report, 14-29 March 2022. Webpage. Retrieved from: <https://enb.iisd.org/cbd-sbstta24-sbi3-global-biodiversity-framework-summary#brief-analysis-geneva-biodiversity-conference>. Accessed 11<sup>th</sup> April 2022.
- (IPBES) Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2018). The IPBES Regional Assessment Report on Biodiversity and Ecosystem Services for Africa. *IPBES Secretariat: Bonn (Germany)*. Retrieved from: <https://ipbes.net/assessment-reports/africa>. Accessed 15<sup>th</sup> March 2021.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- Lallemand, P. & Failler, P. (2020). The Blue Economy Valuation Toolkit (BEVTK) – Presentation and Operational Manual. *UNECA, Sub-Regional Office for Eastern Africa*. Retrieved from: <https://www.uneca.org/sites/default/files/SROs/BEVTK%20Operational%20Manual.pdf>. Accessed 30<sup>th</sup> March 2021.
- Makhubu, L., 1998. Bioprospecting in an African context. *Science*, 282(5386), pp.41-42.
- Marbuah, G (2020). Scoping the Sustainable Finance Landscape in Africa: The Case of Green Bonds. Stockholm Sustainable Finance Centre, July 2020. Retrieved from: <https://www.stockholmsustainablefinance.com/green-bonds-in-africa/>. Accessed 26<sup>th</sup> March 2021.
- Moye, M., and Paddock, J.P. (2003). Madagascar’s Experience with Swapping Debt for the Environment: Debt-for-Nature Swaps and Heavily Indebted Poor Country (HIPC) Debt Relief. Background Paper for the Vth World Parks Conference: Durban, South Africa. Retrieved from: <https://www.cbd.int/financial/debtnature/madagascar-debtdev.pdf>. Accessed 26<sup>th</sup> March 2021.
- O’Callaghan, B., Bird, J., and Murdock, Em. (2021b). A Prosperous Green Recovery for South Africa: Could green investment bring short-term economic recovery while unlocking long-term sustainable growth? *Oxford University Economic Recovery Project, SSEE, and Vivid Economics, in partnership with the United Nations Economic Commission for Africa*. Retrieved from: [Reports and Case Studies | United Nations Economic Commission for Africa \(uneca.org\)](https://www.uneca.org/reports-and-case-studies). Accessed 29<sup>th</sup> March 2021.
- O’Callaghan, B., Bird, J., and Murdock, Em. (2021b). Green Economic Growth for the Democratic Republic of the Congo: How could post-COVID green investment bring both short-term economic recovery and unlock long-term sustainable growth? *Oxford University Economic Recovery Project, SSEE, and Vivid Economics, in partnership with the United Nations Economic Commission for Africa*. Retrieved from: [Reports and Case Studies | United Nations Economic Commission for Africa \(uneca.org\)](https://www.uneca.org/reports-and-case-studies). Accessed 29<sup>th</sup> March 2021.
- Reihling, H.C. (2008). Bioprospecting the African Renaissance: The new value of muthi in South Africa. *Journal of ethnobiology and ethnomedicine*, 4(1), pp.1-10.
- Republic of Liberia (2018). Pro-Poor Agenda for Prosperity and Development (PAPD): A Five-Year National Development Plan Towards Accelerated, Inclusive, and Sustainable Development. Retrieved from: <http://liberianconsulatega.com/project/pro-poor-agenda-for-prosperity-and-development>. Accessed on 29<sup>th</sup> March 2021.
- Schep, S., Guzman, A., van Beukering, P., de Moel, H., Eiselin, M., Ayesu, S., Birikorang, G., and Ansah, K.B. (2016). The Economics of the Atewa Forest Range, Ghana – Living water from the mountain, protecting Atewa water resources. *IUCN NL, A Rocha Ghana, and the IVM Institute for Environmental Studies: Amsterdam, the Netherlands*. Retrieved from: <https://ghana.arocha.org/news/the-economics-of-atewa-range-forest/>. Accessed 14<sup>th</sup> April 2021.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- Shalal, A. 2020. IMF chief sees \$345 billion financing gap for African states. Reuters, 9<sup>th</sup> October 2020. Retrieved from: <https://www.reuters.com/article/imf-world-bank-africa-idUSKBN26U263>. Accessed 29<sup>th</sup> July 2021.
- Snyman, S., Sumba, D., Vorhies, F., Gitari, E., Enders, C., Ahenkan, A., Pambo, A.F.K., & Bengone, N. (2021). *State of the Wildlife Economy in Africa*. African Leadership University, School of Wildlife Conservation, Kigali, Rwanda.
- Statistics South Africa. 2021. National Natural Capital Accounting Strategy, A ten-year strategy for advancing Natural Capital Accounting in South Africa. Report 04-01-00. Retrieved from: <http://www.statssa.gov.za/publications/04-01-00/04-01-002021.pdf>. Accessed 29<sup>th</sup> July 2021.
- (TEEB) The Economics of Ecosystems and Biodiversity (2010). *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature - A synthesis for the approach, conclusions, and recommendations of TEEB*. UNEP: Geneva, Switzerland.
- (TEEB) The Economics of Ecosystems and Biodiversity (2013). *TEEB for Oceans and Coasts. Factsheet*. UNEP: Geneva, Switzerland. Retrieved from: <http://doc.teebweb.org/wp-content/uploads/2013/04/2013-Oceans-and-Coasts-Flyer.pdf>. Accessed 15<sup>th</sup> April 2021.
- (TEEB) The Economics of Ecosystems and Biodiversity (2021). *The TEEB Approach*. Webpage. Retrieved from: <http://teebweb.org/about/approach/>. Accessed 15<sup>th</sup> March 2021.
- The Nature Conservancy, 2012. *Conservation Trust Funds – A Robust Biodiversity Financing Mechanism. Background Brief Paper, October 2012*. Retrieved from: <https://www.besnet.world/conservation-trust-funds-robust-biodiversity-financing-mechanism>. Accessed 26<sup>th</sup> March 2021.
- (UN) United Nations (2012). *The Future We Want (66/288): Resolution adopted by the General Assembly on 27<sup>th</sup> July 2012*. UN/A/RES/66/288. Retrieved from: <https://sustainabledevelopment.un.org/topics/greeneconomy/decisions>. Accessed 30<sup>th</sup> March 2021.
- (UN) United Nations (2014a). *Blue Economy Concept Paper. Report, 15<sup>th</sup> January 2014*. Retrieved from: <https://sustainabledevelopment.un.org/index.php?page=view&type=111&nr=2978&menu=35>. Accessed 30<sup>th</sup> March 2021.
- (UN) United Nations (2014b). *System of Environmental-Economic Accounting 2012 – Central Framework*. United Nations: New York, United States. Retrieved from: <https://seea.un.org/content/seea-central-framework>. Accessed 15<sup>th</sup> April 2021.
- (UN) United Nations, 2019. *Biodiversity economy and natural capital accounting in Africa*. African Ministerial Conference on the Environment, 17<sup>th</sup> Session, AMCEN/17/5. Retrieved from: <https://wedocs.unep.org/handle/20.500.11822/30652?show=full>.
- (UN) United Nations (2021a). *System of Environmental Economic Accounting: Methodology*. Webpage. Retrieved from: <https://seea.un.org/content/methodology>. Accessed 15<sup>th</sup> March 2021.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

- (UN) United Nations (2021b). *System of Environmental Economic Accounting: Africa Communities of Practice*. Webpage. Retrieved from: <https://seea.un.org/content/africa-community-practice>. Accessed 15<sup>th</sup> March 2021.
- (UNDP) United Nations Development Programme (2021a). *Payments for Ecosystem Services: Financing Solutions for Sustainable Development*. Webpage. Retrieved from: <https://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/payments-for-ecosystem-services.html>. Accessed 26<sup>th</sup> March 2021.
- (UNDP) United Nations Development Programme (2021b). *Debt for Nature Swaps: Financing Solutions for Sustainable Development*. Webpage. Retrieved from: <https://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/debt-for-nature-swaps.html>. Accessed 26<sup>th</sup> March 2021.
- (UNDP) United Nations Development Programme (2021c). *Green Bonds: Financing Solutions for Sustainable Development*. Webpage. Retrieved from: <https://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/green-bonds.html>. Accessed 26<sup>th</sup> March 2021.
- (UNECA) United Nations Economic Commission for Africa (2021). *ECA's Building Forward for an African Green Recovery outlines bolder intra-African trade and climate-smart measures for continent's recovery*. Press release, 1<sup>st</sup> March 2021. Retrieved from: <https://www.uneca.org/stories/eca%27s-building-forward-for-an-african-green-recovery-outlines-bolder-intra-african-trade-and>. Accessed 26<sup>th</sup> March 2021.
- (UNECA) United Nations Economic Commission for Africa (2021). *Building Forward for an African Green Recovery*. Retrieved from: [Reports and Case Studies | United Nations Economic Commission for Africa \(uneca.org\)](https://www.uneca.org/reports-and-case-studies). Accessed 30<sup>th</sup> March 2021.
- (UNEP) United Nations Environment Programme (2019). *Wildlife Economy Summit to launch African-led vision for conservation*. Press release, 23<sup>rd</sup> June 2019. Retrieved from: <https://www.unep.org/news-and-stories/press-release/wildlife-economy-summit-launch-african-led-vision-conservation>. Accessed 15<sup>th</sup> March 2021.
- (UNEP) United Nations Environment Programme (2021a). *African Ministerial Conference on the Environment*. Webpage. Retrieved from: <https://www.unep.org/regions/africa/african-ministerial-conference-environment>. Accessed 15<sup>th</sup> March 2021.
- (UNEP) United Nations Environment Programme (2021b). *African Green Stimulus Programme*. Draft Report, January 2021. Retrieved from: <https://wedocs.unep.org/handle/20.500.11822/34409>. Accessed 15<sup>th</sup> March 2021.
- (UNEP-WCMC) United Nations Environment Programme, World Conservation Monitoring Centre (2016). *The State of Biodiversity in Africa: A mid-term review of progress towards the Aichi Biodiversity Targets*. Cambridge, UK: UNEP-WCMC. Retrieved from: <https://www.cbd.int/gbo/gbo4/outlook-africa-en.pdf>. Accessed 30<sup>th</sup> March 2021.
- (UNEP and FAO) United Nations Environment Programme and the Food and Agricultural Organisation of the United Nations (2020). *The UN Decade on Ecosystem Restoration, 2021-2030: "Prevent, halt, and reverse the degradation of ecosystems worldwide"*. Factsheet, June

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

2020. Retrieved from: <https://wedocs.unep.org/bitstream/handle/20.500.11822/30919/UNDecade.pdf?sequence=1>. Accessed 15<sup>th</sup> March 2021.
- (UNFCCC) UN Framework Convention on Climate Change, 2007. Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007. Addendum, Part Two: Action taken by the Conference of the Parties at its thirteenth session. FCCC/CP/2007/6/6/Add.1. Retrieved from: <https://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf>. Accessed 30<sup>th</sup> July 2021.
- USAID, 2021. Protecting East Africa's Natural Capital: The Cost of Inaction. Version 1.3, November 18<sup>th</sup> 2021. Retrieved from: <https://www.climatelinks.org/sites/default/files/asset/document/2022-01/Protecting%20East%20Africa%E2%80%99s%20Natural%20Capital%20-%20508V.pdf>. Accessed 20<sup>th</sup> March 2022.
- (WAVES) Wealth Accounting and the valuation of Ecosystem Services (2021). *WAVES Partnership: About Us*. Webpage. Retrieved from: <https://www.wavespartnership.org/en/about-us>. Accessed 15<sup>th</sup> March 2021.
- (WEF) World Economic Forum (2020). Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy. *New Nature Economy series, in collaboration with PwC: Coligny/Geneva: (Switzerland)*. Retrieved from: <https://www.weforum.org/reports/nature-risk-rising-why-the-crisis-engulfing-nature-matters-for-business-and-the-economy>. Accessed 15<sup>th</sup> March 2021.
- White, S. (2019). A TEEBAgriFood Analysis of the Malawi Maize Agri-food System. Global Alliance for the Future of Food. Retrieved from: <https://futureoffood.org/insights/the-malawi-maize-agrifood-system/>. Accessed 14<sup>th</sup> April 2021.
- (WHO) World Health Organisation, 2001. *Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review*. Retrieved from: [http://apps.who.int/iris/bitstream/handle/10665/42452/WHO\\_EDM\\_TRM\\_2001.2.pdf;jsessionid=AA68D88231F9A218ED5DD7E99CD0E011?sequence=1](http://apps.who.int/iris/bitstream/handle/10665/42452/WHO_EDM_TRM_2001.2.pdf;jsessionid=AA68D88231F9A218ED5DD7E99CD0E011?sequence=1). Accessed 29<sup>th</sup> July 2021.
- WOCAT, ELD and UNCCD (2022). Costs and Benefits of Sustainable Land Management Technologies – a new open access ECON-WOCAT dataset to support project planning and design. 11 pages. Bonn, Germany. Available at: <https://www.wocat.net/en/projects-and-countries/projects/costs-and-benefits-slm-technologies>
- World Bank (2020). The African Continental Free Trade Area: Economic and Distributional Effects. Washington, DC: World Bank. Retrieved from: [The African Continental Free Trade Area \(worldbank.org\)](https://www.worldbank.org/en/region/africa/infocus/continental-free-trade-area). Accessed 29<sup>th</sup> March 2021.
- (WWF) World Wildlife Fund (2008). Monumental Debt-for-Nature Swap Provides \$20 Million to Protect Biodiversity in Madagascar. Science Daily, June 14<sup>th</sup> 2008. Retrieved from: <https://www.sciencedaily.com/releases/2008/06/080612170515.htm#:~:text=Summary%3A,r ich%20biodiversity%2C%20WWF%20has%20announced>. Accessed 26<sup>th</sup> March 2021.

**Towards a Regional Cooperation Framework on Advancing the Biodiversity Economy in Africa, Pursuant to AMCEN/17/L.3 para.24**

(WWF) World Wildlife Fund International (2020). *African Ecological Futures Newsletter*. Newsletter: Nairobi (Kenya). Retrieved from: <https://mailchi.mp/wwfint/african-ecological-futures-newsletter?e=f92d130f95>. Accessed 15<sup>th</sup> March 2021.

Xia, T. (2020). *Wildlife Conservation Research – East Africa: Where Is Conservation in the East Africa Budget Narrative?* Conservation Africa News Portal. Retrieved from: <https://www.conservationafrica.org/wildlife-conservation-research-east-africa-where-isconservation-in-the-east-africa-budget-narrative/>