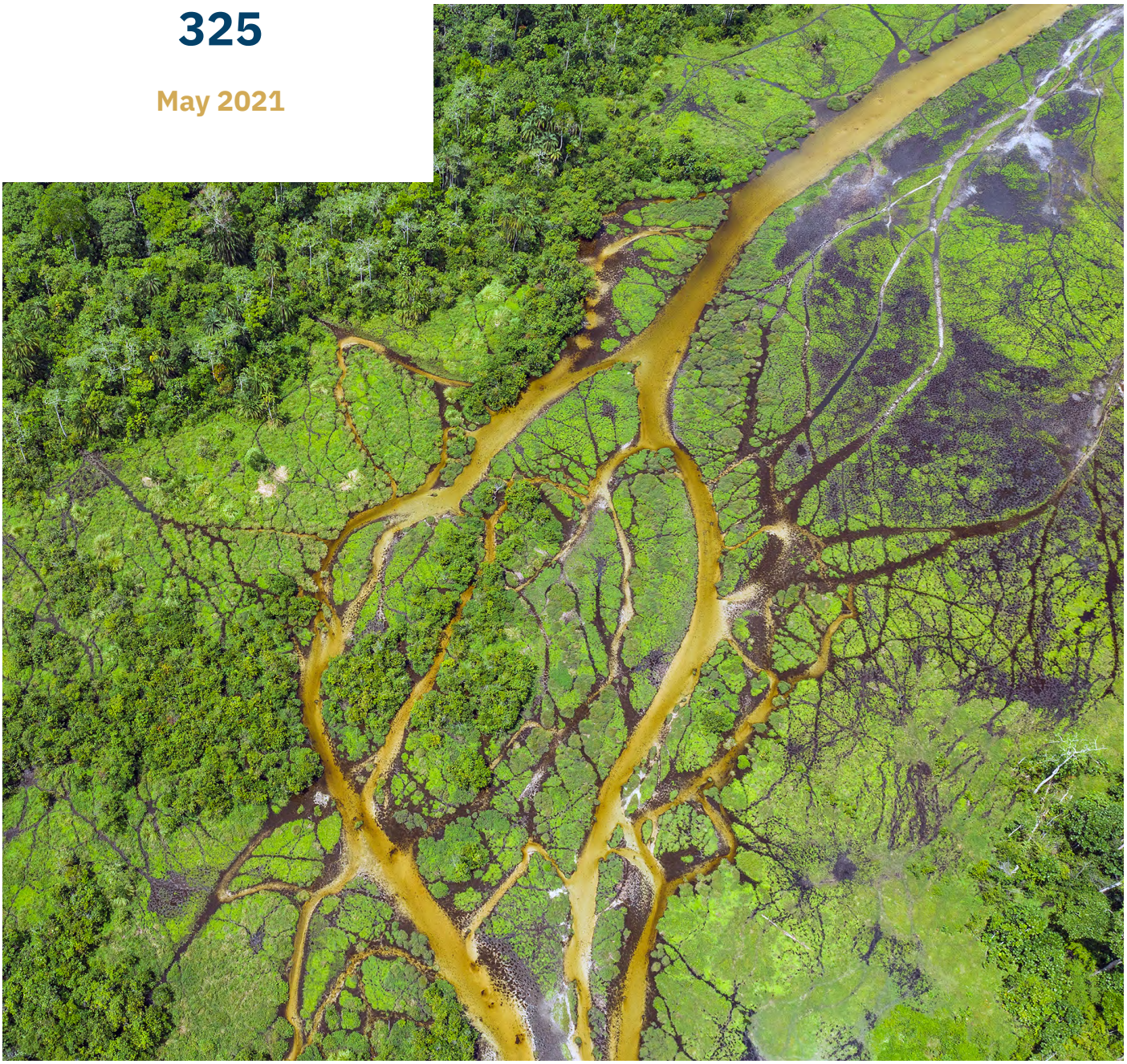
Occasional Paper

325

May 2021



Conservation Finance Options to Support African Post-2020 Biodiversity Priorities

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African perspectives
Global insights

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Abstract

Globally, we are in the midst of an unprecedented environmental crisis, in particular of biodiversity loss and ecosystem degradation (the biodiversity crisis) and the compounding climate change crisis. Under the UN Convention on Biological Diversity, the global community failed to meet any of the conservation targets set for 2020 (the Aichi Biodiversity Targets) to halt and reverse the biodiversity crisis. A new set of targets for the coming decade is currently being negotiated. The reasons for the original failure are many, but one key cause is the lack of funding for implementation, despite explicit agreement under Aichi Target 20 to mobilise such funding. In part, this is because conservation finance is still viewed as a cost to society, as a luxury we can ill afford given other pressing socio-economic needs. However, a wealth of evidence now informs us that, when measured appropriately, such financing is not a cost but an investment in the ecosystem services on which all of humanity depends. Increasingly, traditional financial investment mechanisms are being applied to support conservation activities and are showing measurable benefits. As this evidence mounts, understanding of conservation finance as an investment is gathering momentum and offering new opportunities for innovative economic investment approaches. Building on the success of debt-for-nature swaps and other 'green' financial instruments, this paper outlines the rationale and investment opportunities for the financial underpinning of Africa's post-2020 biodiversity priorities. It also proposes a greater role for African leadership in driving this agenda.

Introduction

The loss of biodiversity and collapse of ecosystems worldwide have become increasingly well documented in recent years.[1] The risk this presents to human security, be it food, health, energy or financial security, is becoming ever more prominent on political and economic agendas.[2] For Africa, the risk is significant – the most recent assessment of the state of the continent's natural resources concludes that:[3]

> nature's contributions to people in Africa are economically, socially and culturally essential in providing the continent's food, water, energy, health and secure livelihoods, and represent a strategic asset for sustainable development and achievement of the 2030 Sustainable Development Goals.

1 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *IPBES Global Assessment*, Report (Bonn: IPBES, 2019), https://ipbes.net/global-assessment; World Wide Fund for Nature, *Living Planet Report 2020* (Gland: WWF, 2020), https://livingplanet.panda.org/en-za/.

2 UN Environment Programme, *Sixth Global Environmental Outlook (GEO6)* (Nairobi: UNEP, 2019), https://www.unenvironment.org/resources/global-environment-outlook-6; World Economic Forum, The Global Risks Report 2021, 16th Edition (Geneva: WEF, 2021), http://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf; UK Government, *The Economics of Biodiversity: The Dasgupta Review* (London: HM Treasury, February 2021), https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review.

3 IPBES, *IPBES Africa Regional Assessment* (Bonn: IPBES, 2018), iv, https://ipbes.net/assessment-reports/africa.

Africa's natural resource base is undergoing a rapid negative transformation, most significantly through population growth, agricultural expansion, land and water use, urbanisation and the extractives sector

The assessment finds that Africa's natural resource base, while still relatively intact, is undergoing a rapid negative transformation, most significantly through population growth, agricultural expansion, land and water use, urbanisation and the extractives sector. The current loss and decline of biodiversity is 'reducing nature's contributions to people, and undermining human well-being across the continent'.[4]

Even so, given the time-lag between ecological degradation and its impact on human systems, there are increasing concerns over the lack of political awareness of the negative implications of this phenomenon, and thus adequate responses.[5] In particular, the UN Convention on Biological Diversity's (CBD) most recent assessment, the Fifth Global Biodiversity Outlook (GBO5) completed in 2020, shows that the global community has not met a single one of the CBD's 20 Aichi Biodiversity Targets set in 2010 to halt and reverse this loss by 2020.[6] Even in regions such as the EU that are economically stronger, have (relatively) strong environmental governance and (relatively) large amounts of dedicated conservation finance, the 2020 biodiversity targets were not met.

While the reasons for this failure are many and varied, and beyond the scope of this analysis, of particular interest is Aichi Target 20: 'Mobilizing resources from all sources'. Target 20 sought 'the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011–2020, and notably that by 2020 at the latest … mobilization of financial resources … should increase substantially'.[7] The GBO5 summary assessment of Target 20 progress concludes:[8]

> There have been increases in domestic resources for biodiversity in some countries, with resources remaining broadly constant for others over the past decade. Financial resources available for biodiversity through international flows and official development assistance has roughly doubled. However, when all sources of biodiversity finance are taken into account, the increase in biodiversity financing would not appear to be sufficient in relation to needs. Moreover, these resources are swamped by support for activities harmful to biodiversity.

4 IPBES, *IPBES Africa Regional Assessment*.

5 Corey JA Bradshaw et al., "Underestimating the Challenges of Avoiding a Ghastly Future", *Front. Conserv. Sci.* (January 13, 2021), https://doi.org/10.3389/fcosc.2020.615419.

6 Convention on Biological Diversity, *Global Biodiversity Outlook 5* (Montreal: CBD Secretariat, 2020), https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf.

7 CBD, "Aichi Biodiversity Targets", https://www.cbd.int/sp/targets/.

8 CBD, *Global Biodiversity Outlook 5*.

For example, the agricultural sector is deemed to be the single largest contributor to biodiversity loss to date globally, owing to the associated land-use changes, water and land pollution, and land degradation.[9] These impacts result from a variety of intensive, unsustainable practices, including overuse of inputs, soil exhaustion and deforestation. Overall, the scientific consensus is that sustainable production and consumption of all goods and services, and the funding flows thereto, must be realigned to support biodiversity conservation.[10]

The global community is negotiating a new 10-year framework for the conservation of biodiversity to replace the Aichi 2020 targets, which expired in 2020 – the new 'Post-2020 Global Biodiversity Agenda'. Irrespective of the implementation targets agreed, a broad spectrum of stakeholders agree on the importance of including two key areas of financing. The first is aimed at mobilising financial resources for the implementation of all new targets, and the second, of equal importance and in parallel, at removing the perverse subsidising of the drivers of biodiversity loss and ecosystem degradation.

Arguably the most significant need in addressing the biodiversity crisis is adequate financing for agreed actions. The global COVID-19 pandemic is currently dominating political attention yet it also presents an opportunity for system change under the principle of a green 'build forward better'

In summary, arguably the most significant need in addressing the biodiversity crisis is adequate financing for agreed actions. The global COVID-19 pandemic is currently dominating political attention, especially in terms of its devastating impact on economies at all levels, yet it also presents an opportunity for system change under the principle of a green 'build forward better'.[11] There is significant stimulus funding mobilisation, which presents a unique opportunity to finance vastly improved environmental management, perhaps nowhere more so than in Africa.[12] Such financing can take many forms. This paper gives an overview of emerging practice and areas of promise in mobilising financing for conservation.

9 IPBES, *IPBES Global Assessment*.

10 Sandra Diaz et al., "Set Ambitious Goals for Biodiversity and Sustainability", *Science* 370, no. 6515 (2020), https://doi.org/10.1126/science.abe1530.

11 Paul Steele and Sejal Patel, "Tackling the Triple Crisis: Using Debt Swaps to Address Debt, Climate and Nature Loss Post-COVID-19" (Issue Paper, International Institute for Environment and Development, London, 2020), http://pubs.iied.org/16674IIED.

12 Nicholas King, "Key African Priorities for a Post-2020 Global Biodiversity Framework" (Policy Brief 195, South African Institute for International Affairs, Johannesburg, 2020), https://saiia.org.za/research/key-african-priorities-for-a-post-2020-global-biodiversity-framework/.

Current status of conservation funding

In the run-up to the negotiations on drafting the new Post-2020 Global Biodiversity Agenda, several attempts have been made to analyse the current state of biodiversity conservation funding. This has proven extremely difficult, given the variety of approaches – from global to local scales, across different geographic regions and political entities, and within and between countries – and the different origins of finances, eg, public versus private, philanthropic and official development assistance (ODA) sources. While definitive figures are hard to tie down, in terms of both value and effectiveness (especially given the generally long lead-in times to achieve ecological outcomes), it is abundantly clear that there is a vast shortfall in meeting funding requirements. In the most comprehensive analysis to date of the state of conservation financing, Global Canopy draws the following conclusions:[13]

> Financing the protection of our natural world is a challenge that governments around the world have struggled to meet; current estimates suggest there is a global shortfall of between $722–967 billion; that around 78% of the world's biodiversity finance is generated in advanced economies, while about 22% is generated in less developed economies; in terms of delivery, however, 59% of total generated biodiversity finance is spent within developed countries, while the remaining 41% is deployed to emerging or developing economies.

The imbalance in conservation finance generation and spending between the developed and developing worlds is particularly concerning, given that most of the world's biodiversity is found in developing countries that do not have the financial resources to implement the conservation activities required. Aichi Target 20 explicitly recognised the fact that additional funding would be necessary for countries that were biodiversity richer yet economically poorer, including most tropical countries and many small island states.

However, assessments show that the required and agreed flow of supporting funds has not materialised. According to the best estimates, less than 19% of all biodiversity finance has been transferred to less developed countries, in roughly even proportions to Africa, Asia, Latin America and the Caribbean.[14] This is despite the fact that, according to this analysis, bilateral ODA for biodiversity increased by 76% from 2015–2018 compared to 2006–2010. In compiling a comprehensive tracking database of all biodiversity financing to date, which shows steady growth across the broad array of biodiversity financing approaches, this analysis concludes that it comes off a very low base and is still far from reaching both needs and potential.[15]

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13 John Tobin-de la Puente and Andrew W Mitchell, eds., *The Little Book of Investing in Nature* (Oxford: Global Canopy, 2021), https://globalcanopy.org/insights/publication/the-little-book-of-investing-in-nature-2/.

14 Organisation for Economic Co-operation and Development, *A Comprehensive Overview of Global Biodiversity Finance* (Paris: OECD, April 2020), https://www.oecd.org/environment/resources/biodiversityfinance.htm.

15 OECD, *Tracking Economic Instruments and Finance for Biodiversity* (Paris: OECD, 2020), https://www.oecd.org/environment/resources/tracking-economic-instruments-and-finance-for-biodiversity-2020.pdf.

Of great further concern, analyses show that, globally, governments spend more than $1 trillion of public money on subsidies to sectors that harm biodiversity (so-called nature-negative spend) – five to seven times the amount spent on protecting nature (nature-positive spend). Only an estimated $124–143 billion of annual global finance flows are nature-positive, of the estimated total need of some $824 billion.[16] This is despite the formal pledge made by the global community to implement Aichi 2020 Target 3 to 'eliminate incentives, including subsidies, harmful to biodiversity'. In fact, almost no progress has been made in even identifying those subsidies to be eliminated, let alone eliminating them.[17] It is thus abundantly clear that, no matter the source of funding, current resources allocated to achieving the Aichi 2020 Targets are wholly inadequate, requiring more than an estimated fivefold increase in finance flows.[18]

All African countries are parties to the CBD, and conservation's importance to the continent's development is made explicit by the AU in Agenda 2063, the 50-year continent-wide development agenda. Adopted in 2015, Agenda 2063 aspires to an Africa where the continent's 'unique natural endowments, its environment and ecosystems, including its wildlife and wild lands are healthy, valued and protected'.[19] However, no mention is made of how this aspiration will be funded, either by African states themselves or from elsewhere. Further, the last pre-COVID-19 African Ministerial Conference on the Environment (AMCEN), in December 2019, while specifying the 'critical need for adequate provision of financial resources', called only for 'the establishment of a global biodiversity fund to provide a dedicated and sustainable flow of financial resources to support the implementation of the post-2020 global biodiversity framework'.[20] At their most recent meeting in December 2020, a year into the pandemic, the AMCEN ministers determined that 'green' financing would provide the greatest opportunities in combatting the impacts of COVID-19. They reaffirmed their commitment to conserve and enhance the resilience of Africa's natural resources through adoption of the African Green Stimulus Programme (AGSP), which seeks to redress the devastating impacts of COVID-19 and harness the opportunities this approach brings.[21]

The AGSP provides an overarching framework that seeks 'to mobilise financial and technical resources to upscale and enhance the implementation of existing Blue and Green Economy and Climate Change initiatives, whilst identifying areas requiring new interventions to support Africa's Green Recovery'.[22] This commitment was part of the Africa Group statement at the opening session of the fifth UN Environment Assembly in

16 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.

17 Jessica Dempsey, Tara G Martin and U Rashid Sumaila, "Subsidizing Extinction?", *Conservation Letters* 13, no. 1 (January 2020), https://doi.org/10.1111/conl.12705.

18 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.

19 AU, *Agenda 2063: The Africa We Want* (Addis Ababa: AU, 2015), https://au.int/sites/default/files/documents/33126-doc-03_popular_version.pdf.

20 African Ministerial Conference on the Environment, "Report of the Ministerial Segment" (Durban Declaration, AMCEN, Durban, December 5, 2019), https://wedocs.unep.org/bitstream/handle/20.500.11822/30786/AMCEN_17L1.pdf?sequence=1&isAllowed=y.

21 UNEP, *African Green Stimulus Programme* (Nairobi: UNEP, January 8, 2021), https://wedocs.unep.org/bitstream/handle/20.500.11822/34409/AGSP.pdf?sequence=3.

22 UNEP, *African Green Stimulus Programme*, 2.

February 2021.[23] This growing political recognition of and emphasis on green development approaches to reboot African economies after the pandemic was strengthened at the March 2021 African Regional Forum for Sustainable Development. The forum endorsed the Brazzaville Declaration, which calls on African governments to develop new economic models to protect natural resources, promote renewable energy, and build green and resilient infrastructure.[24] Importantly, a template for just such a 'post-COVID' approach has recently been developed by the International Institute for Environment and Development (IIED). It details how the environmental crises of both biodiversity loss and climate change can be tackled by addressing the 'third crisis' – the debt crisis of heavily indebted countries.[25]

Nevertheless, without forceful demands from African leaders on the international stage, it will be an uphill battle to mobilise the necessary resources. The Global Recovery Observatory's March 2021 analysis of spending by leading economies shows that just 18% of announced recovery packages to date can be considered 'green', and that the world is abjectly failing to take a different, transformative recovery path.[26]

It has never been more crucial that African governments, and influential African financial institutions such as the African Development Bank (AfDB), take a lead in developing financial approaches, negotiations and enabling frameworks, as well as concertedly and conspicuously mobilising national and continental funds. The AfDB's role to date as a major conduit for international climate finance for African climate mitigation and adaptation priorities provides a solid template for such approaches.[27] In addition, the bank has more recently highlighted the importance of biodiversity conservation to Africa's development aspirations, and taken the lead in convening discussions around mobilising finance for biodiversity conservation and the post-2020 Agenda.[28] However, this leading role requires a considerable revamp of financing approaches, since the AfDB's portfolio of formal financial products makes no reference to conservation or green financing.[29] Nevertheless, given that climate financing in less developed countries is increasingly tied to nature-based solutions

23 Republic of South Africa, Department of Environment, Forestry and Fisheries, "Minister Creecy Delivers the Africa Group Statement at the Opening Session of UNEA-5.1", February 22, 2021, https://www.environment.gov.za/speech/creecy_unea5.1opening.

24 UN Economic Commission for Africa, "Seventh Session of the African Regional Forum on Sustainable Development", March 4, 2021, https://uneca.org/arfsd2021.

25 Steele and Patel, "Tackling the Triple Crisis".

26 Global Recovery Observatory, *Are We Building Back Better? Evidence From 2020 and Pathways for Inclusive Green Recovery Spending* (Nairobi: UNEP, 2021), https://www.unep.org/resources/publication/are-we-building-back-better-evidence-2020-and-pathways-inclusive-green; Patrick Galey and Amelie Bottellier-Depois, "World Failing to Take Green Recovery Path: UN", Phys.Org, March 10, 2021, https://phys.org/news/2021-03-world-green-covid-recovery-path.html.

27 African Development Bank, "Green Climate Fund", https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/green-climate-fund; AfDB, "Africa Climate Change Fund", https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-climate-change-fund; AfDB, "Global Environment Facility (GEF)", https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/global-environment-facility-gef.

28 Al-Hamndou Dorsouma, "Why Should Biodiversity Be Africa's Top Priority?", AfDB (blog), June 5, 2020, https://blogs.afdb.org/climate-change-africa/why-should-biodiversity-be-africa%E2%80%99s-top-priority-279; AfDB, "Financing Biodiversity in Africa from All Sources" (Webinar), December 9, 2020, https://www.afdb.org/en/news-and-events/if-we-cannot-find-balance-between-nature-and-economic-development-humans-will-suffer-most-financing-biodiversity-webinar-concludes-39847.

29 AfDB, "Financial Products", https://www.afdb.org/en/projects-and-operations/financial-products.

(NbS), which by definition incorporate conservation outcomes, these institutions could become far more influential in closing the conservation finance gap for African countries.[30]

The high-profile political commitment of African governments to a green post-COVID-19 recovery is a significant opportunity for greater African leadership on the global stage in driving the world economy onto a more sustainable trajectory

In summary, despite the intentions of Aichi Target 20, 'nature-positive' financial mobilisation thus far has proven grossly inadequate. This failure of conservation investment, together with continued and considerably larger nature-negative investments, underpins the lack of achievement of the CBD's Aichi 2020 targets. It must be addressed front and centre in the Post-2020 Biodiversity Agenda if there is to be any realistic chance of achieving the new targets. The high-profile political commitment of African governments to a green post-COVID-19 recovery is a significant opportunity for greater African leadership on the global stage in driving the world economy onto a more sustainable trajectory.

What is conservation, or biodiversity finance?

Compounding difficulties in analysing the extent of conservation finance, there is currently no single definition of such financing, with a plethora of adjectives – conservation, biodiversity, green, environmental, sustainability, etc. – overlapping in various ways and referring to related concepts. Overall, these terms refer broadly to financial flows supporting efforts to conserve and/or restore nature (in its widest definition) and/or the sustainable management and use of natural resources, including efficiencies in use, elimination of pollution and waste, and more sustainable production and consumption.

The terms are increasingly being applied to the area of financing known as 'impact investing'. Simply put, these are private or public investments in initiatives that deliver environmental and/or social benefits and yield a financial return on investment (ROI). This is a critical change: conservation is no longer viewed only as a 'cost' to governments and other funding sources – a one-way flow – but rather as a financial investment that also generates environmental and social ROI, beyond the traditional understanding of ROI as purely

30 AfDB, "The African Development Bank and the Green Growth Knowledge Platform (GGKP) Join Forces to Mainstream Natural Capital in Development Finance), December 22, 2020, https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-and-green-growth-knowledge-platform-ggkp-join-forces-mainstream-natural-capital-development-finance-40027; Steele and Patel, "Tackling the Triple Crisis".

financial. Such ROI 'impacts' are the conservation outcomes of restored or conserved natural systems, and their enhanced ecosystem services on which humanity depends. Impact investing usually also seeks to have a positive social impact, which generally is impossible to separate from environmental outcomes. One example is investing in improved agricultural practices, which improves not only food security but also soil health and soil carbon sequestration. In addition, it reduces water use and enhances biodiversity habitats.[31]

Given the above, the definition of biodiversity finance by the UN Development Programme Biodiversity Finance Initiative (UNDP BIOFIN) is useful:[32]

> The practice of raising and managing capital and using financial and economic mechanisms to support sustainable biodiversity management. It is about leveraging and effectively managing economic incentives, policies, and capital to achieve the long-term well-being of nature and our society.

According to the UNDP BIOFIN, the goal of biodiversity finance is 'to create economic incentives within both public and private financial sources to preserve the world's biodiversity and stock of natural capital and subsequently guarantee a sustainable flow of ecosystem services for the future'.[33]

Further to this definition, a 'biodiversity finance solution' (BFS) as described by the UNDP BIOFIN is 'an integrated approach to improve biodiversity outcomes and reduce negative pressure on biodiversity by the use of context-specific biodiversity finance mechanisms'.[34] There is also a plethora of approaches: a BFS can be constructed from a combination of elements, including financial instruments, funding sources and beneficiaries or stakeholders, as well as specified financial and/or conservation outcomes, across various space and time frames.[35] While this shows that there is scope for any number of innovative approaches, it once again underlines the complexity of trying to analyse this sector.

Historically, public sources, both international and domestic, have been the largest funders of biodiversity conservation. This remains the case, with public sources providing over 80% of the available financial resources.[36] However, more recently there has been growing interest in additional approaches to financing conservation.[37] Public, philanthropic and private sources of financing are no longer viewed as mutually exclusive. Instead, so-called 'blended finance approaches' are gaining momentum, promoting collaborative partnerships that leverage the strengths and synergies of these different sectors. The dilemma that investment proponents have faced to date is that the economic returns from investing in natural capital and the delivery of crucial ecosystem services have tended to

31 Diaz et al., "Set Ambitious Goals for Biodiversity".
32 UNDP, BIOFIN: The Biodiversity Finance Initiative, https://www.biodiversityfinance.net/.
33 UNDP, BIOFIN.
34 UNDP, BIOFIN.
35 UNDP, BIOFIN.
36 OECD, *A Comprehensive Overview*.
37 Steele and Patel, "Tackling the Triple Crisis".

be undervalued or considered to have no economic value at all.[38] Further, according to a recent McKinsey report, the complexity of natural capital makes investment returns hard to quantify, leading many to overlook nature as an investment opportunity.[39] Despite these measurement complexities, research incorporating hundreds of conservation projects to date provides compelling evidence for biodiversity impact investing – estimating a financial ROI of between $3 and $75, averaging $10, for every $1 of conservation finance spent.[40] Further, the McKinsey report shows how returns from ecosystem services as a result of investments in conserving or restoring ecosystems can and do provide solutions to many pressing socio-economic challenges. This socio-economic ROI has recently been even more explicitly described in a UK government-commissioned report, which details the rationale of why and how 'the economy should pay for nature'.[41]

As the extent of the biodiversity crisis – and our deep dependence on healthy, functioning ecosystems – becomes increasingly apparent, so the arena of conservation financing is developing rapidly

Given that most economic sectors not only depend on biodiversity and ecosystem services for the production of their goods and services but also act as some of the biggest drivers of biodiversity loss owing to their operations and investments, any new global agreements must ensure that all sectors come to the party. Fortunately, as the extent of the biodiversity crisis – and our deep dependence on healthy, functioning ecosystems – becomes increasingly apparent, so the arena of conservation financing is developing rapidly. For example, the UNDP BIOFIN Catalogue of Finance Solutions features over 60 generic mechanisms and 165 specific mechanisms used to finance biodiversity conservation.[42] This synopsis cannot cover this spectrum, and focusses instead on giving a broad overview to stimulate further interest and, indeed, innovation in new conservation finance approaches.

Finally, it is important to make clear that adequate funding, albeit critical, is only one component in solving the biodiversity crisis. Efforts to address conservation funding needs must be integrated with attempts to deal with concurrent environmental and socio-economic crises. Thus conservation and restoration targets must be linked to international

38 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.

39 McKinsey & Co., *Valuing Nature Conservation: A Methodology for Quantifying the Benefits of Protecting the Planet's Natural Capital* (McKinsey & Co., 2020), https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Sustainability/Our%20Insights/Valuing%20nature%20conservation/Valuing-nature-conservation.pdf.

40 Graham Lawton, "Rescue Plan for Nature: How to Fix the Biodiversity Crisis", *New Scientist*, February 17, 2021, https://www.newscientist.com/article/mg24933223-300-rescue-plan-for-nature-how-to-fix-the-biodiversity-crisis/.

41 UK Government, *The Economics of Biodiversity*.

42 The UNDP BIOFIN initiative was created by the UNDP to direct countries on how they could finance their biodiversity goals using evidence-based frameworks. It has supported over 36 countries to develop frameworks and activities to produce and implement comprehensive National Biodiversity Finance Plans (that outline optimum finance solutions to reach national biodiversity targets.

climate change goals of mitigation and adaptation through mechanisms such as NbS to ensure nature-positive investments.[43]

Conservation or 'green' financing approaches

The following section outlines some of the commoner, more recent cross-border financial investment mechanisms supporting biodiversity conservation. It does not deal with the whole area of traditional public funding of national conservation agencies and efforts such establishing protected areas, or with straight grant-making, whether from ODA, philanthropic or other sources, other than where these are linked to the financing mechanisms discussed.

Debt-for-nature swaps

First conceived by the World Wide Fund for Nature in 1984, so-called debt-for-nature (DFN) swaps are – simply put – financial transactions in which a portion of a country's foreign debt is erased in exchange for local investments in conservation measures.[44] Given that, generally, much of the external debt of developing countries has little chance of being fully repaid, it can potentially be bought on the secondary market for a price substantially below face value.[45] As such, in a broader description, the UNDP BIOFIN Initiative defines DFN swaps as[46]

> [a]n agreement that reduces a developing country's debt stock or service in exchange for a commitment to protect nature from the debtor-government. It is a voluntary transaction whereby the donor(s) cancels the debt owned by a developing country's government. The savings from the reduced debt service are invested in conservation projects.

The first DFN swap took place in 1987 between the Bolivian government and Conservation International (CI), a US-based conservation NGO. CI bought $650,000 of the country's foreign debt at a discounted price of $100,000 and, in exchange, Bolivia set aside buffer zones of 1.5 million ha surrounding three conservation areas. Since then, DFN swaps have been applied in more than 30 countries, generating around $1.2 billion for conservation in debtor countries from restructured debt totalling some $2.6 billion.[47]

The UNDP BIOFIN analysis suggests that the DFN investment momentum has been limited in large part owing to the transaction costs associated with these swaps. Challenges include

43 Diaz et al., "Set Ambitious Goals for Biodiversity"; King, "Key African Priorities"; Steele and Patel, "Tackling the Triple Crisis".
44 Wikipedia, "Debt-for-Nature Swap", https://en.wikipedia.org/wiki/Debt-for-nature_swap.
45 Jürgen Kaiser and Alain Lambert, *Debt Swaps for Sustainable Development: A Practical Guide for NGOs* (Gland: International Union for Conservation of Nature, 1996).
46 UNDP, "Debt-for-Nature Swaps", https://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/debt-for-nature-swaps.html.
47 UNDP, BIOFIN.

the length of time that interest rate and debt restructuring negotiations typically take. However, as the economic effects of the COVID-19 pandemic are felt more widely and deeply, there are growing calls for both lender and debtor countries to renegotiate foreign debt burdens. This is a unique opportunity for the unprecedented mobilisation of DFN swaps. Further, more broadly defined DFN swaps may provide opportunities to incentivise more sustainable development investment, including through 'green' new infrastructure build. Most recently, calls have been made for China to take the lead in driving DNF swaps in its massive infrastructure build across the developing world, including Africa, under the wide-ranging Belt and Road Initiative.[48]

According to the World Economic Forum, given the increased indebtedness of less developed countries arising out of the COVID-19 pandemic, attempts are being made to suspend debt-service payments fully, partially or temporarily. This is in recognition of the fact that prospects for such countries' sustained recovery are limited without extensive external financing.[49] Apparently, about 37 African countries are eligible for some form of debt relief. It would seem prudent to take the opportunity to include the principle of DFN swaps in such negotiations, which can then be brought into individual bilateral discussions on a country-by-country basis as debt relief deals are negotiated. The IIED has developed this concept further, laying out a detailed mechanism for scaling up both the size of DFN swaps and their conservation (and climate) impact. As a key part of international post-COVID-19 recovery initiatives, it proposes a major shift away from the largely ad hoc and opportunistic project approach implemented to date with DFNs, to more coordinated programmatic support for debtor country budgets linked to comprehensive debt relief.[50] This more strategic approach to DFNs holds great promise as a cornerstone for new economic approaches.

Other green financial products

Other green financial products include the majority of conventional funding instruments, thus green bonds, green lending (including sustainability-linked loans and green loans) and green equity – ie, they are the application of conventional funding instruments to conservation outcomes or impacts of some sort, and thus are, broadly, 'impact investing'.[51] Accordingly, green bonds are comparable to conventional market bonds in that an issuer of a green bond pays the principal and interest back to the lender over a designated period of time, but the proceeds of the bond issuance are designated for nature-positive outcomes. They are no different from conventional bonds, with their only unique characteristic being

48 Steele and Patel, "Tackling the Triple Crisis"; Hongqiao Liu, "Explainer: How China Could Offer Debt Swaps to Help Developing Nations Tackle Climate Change", CarbonBrief, January 28, 2021, https://www.carbonbrief.org/explainer-how-china-could-offer-debt-swaps-to-help-developing-nations-tackle-climate-change?utm_campaign=Carbon%20Brief%20Weekly%20Briefing&utm_content=20210129&utm_medium=email&utm_source=Revue%20newsletter.

49 Chido Munyati, "How Africa Can Lead an Inclusive, Cohesive and Sustainable Pandemic Recovery", WEF, January 27, 2021, https://www.weforum.org/agenda/2021/01/how-africa-can-lead-an-inclusive-cohesive-and-sustainable-pandemic-recovery/?utm_source=sfmc&utm_medium=email&utm_campaign=2740992_Agenda_weekly-29January2021&utm_term=&emailType=Newsletter.

50 Steele and Patel, "Tackling the Triple Crisis".

51 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.

the specified use of proceeds, which are invested in projects that generate environmental benefits. According to ClimateBonds, the cumulative green bond issuance to date (as of January 2021) has just surpassed $1 trillion.[52]

In similar vein, green lending operates like conventional lending: a bank provides a loan to a borrower who seeks to invest in nature-positive activities, and who then repays the financing with interest over an agreed period. Green equity comprises public and private equity that seeks social and environmental benefits in addition to financial ROI. This is commonly referred to and understood as the 'triple bottom-line' approach in business. Biodiversity-related funds invest in businesses with a positive biodiversity impact or in thematic assets, such as sustainable forestry, that also offer biodiversity conservation benefits.[53] In an encouraging move, in 2016 the Luxemburg Stock Exchange launched the Luxembourg Green Exchange, the world's first and currently leading platform dedicated exclusively to sustainability-linked financial instruments.

Green financial products can channel funding towards projects related to many forms of land, water or ocean conservation and to sustainable resource management in a myriad forms – again, the complexity of this field is apparent. Despite the ClimateBonds cumulative figure, according to UNDP BIOFIN, to date there has been limited use of green financial products for biodiversity conservation per se. This is partially owing to the small financial size of projects, and the difficulty in pricing benefits or evaluating returns on biodiversity and ecosystem services.[54] Thus far green financing has generally not targeted biodiversity outcomes directly, but instead has focused on infrastructure such as renewable energy and the transportation sector. Around 50% of the cumulative amount raised from green bonds between 2014 and 2019 was invested in renewable energy infrastructure.[55] By comparison, in 2019 less than 1% was allocated to biodiversity conservation. Mainstreaming biodiversity conservation in sectors such as renewable energy can provide additional returns and cost avoidance measures derived from biodiversity conservation to investors. For example, green bond investors in solar photovoltaic projects can be incentivised, through public financial guarantees or tax incentives, to allocate a percentage of the green bond proceeds to natural infrastructure for wetlands or other habitat conservation.[56]

'Blue' financing

More recently, green financial mechanisms have also started to be applied to ocean and marine conservation projects. As so-called 'blue' financing, these are no different to green finance structuring other than that they are used to finance projects related to the ocean or 'blue' economy, eg, sustainable fisheries and ocean-based tourism. The first major blue DFN swap has taken several years to come to fruition, but is an important milestone in applying

52 Climate Bonds Initiative, https://www.climatebonds.net/.
53 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.
54 UNDP BIOFIN, "Catalogue of Finance Solutions", http://www.biodiversityfinance.org/finance-solutions.
55 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.
56 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.

the DFN mechanisms beyond terrestrial and freshwater ecosystems. Beginning in 2010, The Nature Conservancy (TNC) has worked with the Seychelles government to restructure $22 million worth of debt into investment in marine protection. Although a protracted process, involving various stakeholders, by 2020 this had resulted in formal protection over some 32% of Seychelles' territorial waters (exceeding the agreed 30% target), as well as the establishment of a permanent trust fund to continue delivering conservation funding. TNC believes that Seychelles is setting an example that many countries can follow. It estimates that up to 85 countries, including many in Africa, could use a similar model to develop more resilient blue economies, opening the door to greater global ocean protection.[57] Indeed, TNC already has plans to roll out similar deals to 20 countries in the next five years. 'Any sovereign island or coastal continental country with an ocean frontage would be suitable, making many African countries eligible – the secret really is, where can we buy debt at a discount?'[58]

Building on the ongoing Seychelles venture, in 2014 TNC launched NatureVest, a dedicated programme for research, investor outreach and market analysis to raise and structure impact investments supporting conservation outcomes. Through the programme, TNC has enabled investment in a range of conservation initiatives – from sustainable timber to water and carbon offset markets.

Payment for ecosystem services

Payment for ecosystem services (PES) is one of the most commonly used mechanisms to generate revenue for biodiversity conservation through 'impact investing'. PES effectively creates incentives for biodiversity protection and restoration by local communities and individuals, as payments are made in exchange for the sustainable natural resource management needed to maintain healthy stocks of natural capital and thus the resultant ecosystem service flows. PES schemes incentivise landowners to conserve natural habitats, thereby securing continued ecosystem services beyond their boundaries, and disincentivise them from using their land unsustainably, eg, through deforestation.

PES schemes take a wide range of forms. Large-scale, national-level PES schemes have been highly productive in certain Latin American countries. The first formalised national PES programme was introduced in 1996 in Costa Rica to provide incentives for communities to halt the country's rapid deforestation. To compensate landowners for loss of income (and thus pay for forest conservation), the government makes direct cash payments to PES contract holders based on the type of conservation work they undertake. This includes forest protection, reforestation and agroforestry. The programme was funded initially

57 The Nature Conservancy, "Seychelles Achieves 30% Marine Conservation Commitment", https://www.nature.org/en-us/about-us/where-we-work/africa/stories-in-africa/seychelles-conservation-commitment-comes-to-life/.

58 World Ocean Initiative, "Seychelles Swaps Debt for Nature", https://ocean.economist.com/blue-finance/articles/seychelles-swaps-debt-for-nature.

through an allocation of 5% of fuel tax revenues, which is now supplemented with a portion of water fees collected from hydroelectric companies.

In Costa Rica four main objectives guide the national PES programme, namely biodiversity conservation, carbon sequestration, water provision and scenic beauty. However, generation of carbon credits at scale for sale in voluntary markets is currently in its infancy. Despite successful examples being limited in number thus far, it does appear to be an approach with increasing potential to scale up, particularly if compliance markets are formalised. As outlined earlier, given the early stage of development and the relatively long-term realisation of ecological ROI, there is considerable scope for innovation. For example, Costa Rico has recently launched a complementary initiative, Huella del Futuro (Footprints for our Future), that seeks to add various sources of international funding to internal PES investments, including from the Green Climate Fund, the EU's Green Development Fund, and UNDP. An additional innovation is the inclusion of a global crowd-funding campaign. This illustrates both the relative newness of this field and the potential for growth through new approaches.

Key questions for the success of such PES schemes include what to monitor, how benefits are linked to conservation outcomes and how, to whom and in what form payments are made. Variously, this has included a range of community, household and individual benefits, including cash, investments in conservation-linked enterprises and other forms of livelihood support, as well as investments in social benefits such as healthcare and education. A number of these schemes are national level, involving the establishment of large-scale funds to provide ongoing rewards and incentives for conservation practices. According to a recent comprehensive survey commissioned by the Luc Hoffman Institute (LHI) of community-level conservation income streams in Africa, there may be considerable scope for African governments to explore similar national approaches for establishing funds that provide ongoing conservation investments.[59]

The survey found that within the broad PES arena, generation and sale of carbon credits offer potential for high revenue flows. It cites the example of the Wildlife Works Kasigau Corridor reforestation project, which covers 1% of the land area of Tsavo National Park in Kenya but generates roughly the same revenues as the whole park. It also generates shared community benefits that can be invested in local development needs. One limitation identified is that current schemes all rely on avoided deforestation or forest degradation and thus are only suited for areas with high rates of deforestation or degradation where these rates can be slowed, stopped or reversed. However, methodologies for assessing soil carbon are advancing rapidly, opening huge potential for generation of soil carbon credits.

Using this approach in more arid areas (such as parts of Northern and Southern Africa) is increasingly feasible, but a key constraint on broader uptake is the availability of buyers of

59 Dilys Roe et al., *Diversifying Local Livelihoods While Sustaining Wildlife: Exploring Incentives for Community-Based Conservation* (Gland: LHI, 2020), https://luchoffmanninstitute.org/wp-content/uploads/2020/05/Diversifying_Local_Livelihoods-Report-webV2.pdf.

carbon credits.[60] Given the lack of any current compliance markets relevant to Africa, the demand relies on the willingness of buyers, whether businesses or other entities, to offset their emissions voluntarily. Yet the LHI concludes that prospects for increased interest and demand in coming years are very positive. With relatively large rural populations, African countries have considerable scope to benefit from experiences in implementing PES elsewhere in the world, and can implement the principles in innovative ways as part of post-pandemic stimulus packages.

Biocredits

The broad field of biocredits is gaining increasing attention as an opportunity for local landowners to generate income from non-consumptive use of their natural resources, thereby incentivising conservation and restoration of degraded systems. PES as implemented in Latin America has been a forerunner of this approach, but it also encompasses any number of levels right up to individual species conservation outcomes.

According to the LHI's recent overview, biodiversity credits ('biocredits') are coherent measurement units that track conservation actions and outcomes and can be used to finance biodiversity-enhancing actions (such as protecting species or restoring natural habitats) through the creation and sale of biodiversity units. Like tradeable credits for carbon, biocredits are units of biodiversity emerging from pre-agreed management actions that improve biodiversity against a baseline.[61] Reportedly, biocredits (or, as initially known, biobanking) started in 1995 in the US as an innovative form of species conservation. By 2017 there were 154 listed species banks – areas of land conserved and managed under the Endangered Species Act – across the US. 'Species credits' are approved according to the provision of management plans and endowment funding agreements, and can be bought by developers to offset loss of species elsewhere.

An innovative adaptation of this approach has been successfully implemented in Namibia, in the form of 'wildlife credits' for communal conservancies, whereby the conservancies are paid an agreed cash fee based on monitored sightings of iconic wildlife species at tourist lodges.[62] The conservation benefit of this approach appears almost unlimited. According to recent research in the US, giving privately owned, undeveloped land across the country some form of protection through conservation incentives would ensure adequate habitat for all of its formally listed endangered species.[63]

With the growing need for local community conservation initiatives to find additional sources of funding other than tourism (in all forms, including hunting) the recent LHI

60 Roe et al., *Diversifying Local Livelihoods*.

61 Ina T Porras and Paul Steele, "Making the Market Work for Nature: How Biocredits Can Protect Biodiversity and Reduce Poverty" (Issue Paper, IIED, London, 2020), http://pubs.iied.org/16664IIED.

62 Wildlife Credits, "How We Work", https://wildlifecredits.com/how-we-work.

63 Niall G Clancy et. al., "Protecting Endangered Species in the USA Requires Both Public and Private Land Conservation", *Scientific Reports* 10 (2020): 11925, https://doi.org/10.1038/s41598-020-68780-y.

review uncovered over 130 community conservation initiatives in sub-Saharan Africa (some already mentioned above).[64] The review concluded that promising options for diversifying community income streams included carbon credits, PES, improved agriculture, wild product trade and sustainable forestry, with certification playing a reinforcing role.

Realignment and nature-positive subsidies

The broad consensus is that the international community has failed to meet CBD Aichi 2020 Target 3 on eliminating detrimental subsidies and replacing them with 'positive incentives for the conservation and sustainable use of biodiversity'.[65] Such a 'realignment' involves a series of policy, fiscal, business and financial measures that reorient existing financial inputs to activities that reduce negative impacts or increase positive outcomes for biodiversity. Public policy measures include reforming, redirecting and removing subsidies harmful to biodiversity. Private sector measures include environmental and social risk management practices, including sustainable supply chain finance, and environmental and social impact assessments.[66] To date this has not occurred at remotely the scope and scale required, as underlined by the most recent failure of the World Trade Organization negotiations to make meaningful progress on curbing harmful fishing subsidies. This is despite the fact that an estimated 63% of the global total of fisheries subsidies (around $35 billion in 2018) was deemed harmful. These subsidies incentivise catches above ecologically sustainable levels, and ignore the catastrophic decline in fish stocks to date, with almost 94% fished to maximum capacity or overfished, compromising the continued potential of this renewable resource.[67] Soberingly, the Global Canopy analysis concludes that unless governments and businesses prioritise the reform of harmful subsidies and strengthen environmental and social risk management measures – ie, introduce systemic change in the way society values, uses and manages natural resources – all other mechanisms will ultimately prove futile.

In tandem with realignment is the need to roll out new nature-positive subsidies to incentivise economic activities that further conservation objectives. Such activities can include reforestation and pesticide-free crop cultivation, and channel funding via PES programmes, where funds from beneficiaries or users of ecosystem services are delivered to those who restore and improve the ecosystems that deliver these services.[68]

64 Roe et al., *Diversifying Local Livelihoods*.
65 CBD, *Global Biodiversity Outlook 5*.
66 Tobin-de la Puente and Mitchell, *The Little Book of Investing*.
67 Elizabeth Fitt, "Fishing Fail: WTO Negotiators Flunk Deadline to End Harmful Fisheries Subsidies by 2020", Mongabay, December 15, 2020, https://news.mongabay.com/2020/12/fishing-fail-wto-negotiators-flunk-deadline-to-end-harmful-fisheries-subsidies-by-2020/.
68 OECD, *A Comprehensive Overview*.

Future developments and investment opportunities

Despite conventional wisdom holding that sustainability practices increase costs and make businesses less competitive, a comprehensive analysis of over 100 case studies has found exactly the opposite to be true.[69] The study concludes that the vast majority of cases examined found that positive relationships (ie, investing in innovations for sustainability and adopting sustainability objectives as the core of business practices) improved business success. The case for eradicating the myth that profit must necessarily come at planetary (and hence societal) expense is now abundantly clear, opening the opportunity for extensive new investments in conservation. This new paradigm is borne out by the recent development of the World Economic Forum's Stakeholder Capitalism Metrics, designed 'to embed sustainability at the heart of value creation … and … creat[e] a global standard for sustainability reporting', to which the CEOs of 61 of the world's largest corporations have reportedly already signed on.[70] This bodes well for the private sector's increasingly assuming responsibility for addressing the nature-negative impacts of business operations and investments and creating new business opportunities based on nature-positive outcomes, rather than a culture of resisting development, and then adhering to the absolute minimum, of compliance standards.

This momentum from the corporate sector provides impetus to the important new field of 'mainstreaming biodiversity' as the preferred way of financing sustainable development. Mainstreaming biodiversity is defined as integrating or including actions related to conservation and sustainable use of biodiversity at every stage of the policy, planning, programme and project cycle. This should be the case regardless of whether international organisations, businesses or governments are involved, with the overall objective of helping to reduce the negative impacts that productive sectors, development investments and other human activities have on biodiversity.[71]

Importantly, there is a growing call, most especially from civil society, to integrate biodiversity conservation ('mainstreaming biodiversity') into COVID-19 pandemic stimulus packages and recovery plans. This is to ensure that economies are made more resilient to systemic shocks, as well as to prevent future pandemics arising from our damage to natural systems.[72]

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69 Fanny Hermundsdottir and Arild Aspelund, "Sustainability Innovations and Firm Competitiveness: A Review", *Journal of Cleaner Production* 280, no. 1 (January 2021): 124715, 2021, https://www.sciencedirect.com/science/article/pii/S0959652620347594.

70 Maha Eltobgy and Jonathan Walter, "What Gets Measured Gets Managed: How Sustainability Reporting Can Help Save the Planet", WEF, January 26, 2021, https://www.weforum.org/agenda/2021/01/what-gets-measured-gets-managed-how-sustainability-reporting-can-help-build-a-better-world/?utm_source=sfmc&utm_medium=email&utm_campaign=2740992_Agenda_weekly-29January2021&utm_term=&emailType=Newsletter.

71 CBD, "Mainstreaming Biodiversity in Development Cooperation", https://www.cbd.int/development/about/mainstreaming.shtml.

72 OECD, *Biodiversity and the Economic Response to COVID-19: Ensuring a Green and Resilient Recovery* (Paris: OECD, 2020), http://www.oecd.org/coronavirus/policy-responses/biodiversityand-the-economic-response-to-covid-19-ensuring-a-green-andresilient-recovery-d98b5a09/.

The CBD's upcoming 15th Conference of the Parties is focussed on adopting the Post-2020 Global Biodiversity Agenda, once again establishing key global targets to protect and restore biodiversity and ecosystem services. Whatever the agreed targets, implementation will require the unprecedented mobilisation of financial resources from all potential sources. This presents unparalleled opportunities for investment innovation, entrepreneurship and collaborative partnerships on all levels and across all sectors of society. The 'global compact' needed to achieve the UN's 2030 Sustainable Development Goals, which rely first and foremost on achieving the four 'biosphere' goals of protecting and restoring life on land and underwater, addressing climate change and safeguarding freshwater resources, needs to come to fruition in the agreement on financing the Post-2020 Biodiversity Agenda. Such a global compact approach can then also make massive debt relief, incorporating more strategic, programmatic DFN swaps as proposed by the IIED, a cornerstone of transnational support for COVID-19 recovery packages.

Conclusion

What is abundantly clear from all analyses to date is that the pace and reach of the biodiversity crisis is outstripping the cumulative response to date. While there is a rapidly growing realisation of the importance of addressing this crisis, it is concerning that current global to local political and economic systems and corporate culture show such resistance to providing the required funding. However, this also presents enormous opportunities – governments and corporations, and indeed all stakeholders, need to overturn their perceptions of conservation being a cost and thus minimally funded 'at the back of the queue'. Instead, conservation should be acknowledged as an imperative investment in a secure future for humanity and thus maximally funded to secure, repair and restore our fragmenting planet and the biodiversity and ecosystem services we are dependent upon.

The pace and reach of the biodiversity crisis is outstripping the cumulative response to date

With the COVID-19 pandemic necessitating increasing injections of public funds to re-boot economies, calls to reduce foreign debt burdens are gaining momentum. This is an opportunity to raise the required conservation funding. The two can be achieved simultaneously through DFN swaps, and such co-benefit outcomes should be a priority for African countries in these negotiations. The funds released could be applied to wide-ranging and innovative forms of PES and biocredits across the continent to both stimulate rural economies and halt and reverse the loss of biodiversity and vital ecosystem services.

In addition, the climate finance packages being deployed on the continent, especially through local financial institutions such as the AfDB, should be 'greened' through NbS, incorporating 'nature-positive' outcomes while achieving climate-positive objectives.

Finally, a compact between governments and business must be pursued to ensure that such stimulus packages promote a realignment of current nature-negative policies, subsidies and incentives, together with expanding nature-positive subsidies and incentives. African countries can go a long way to close the financing gap for post-2020 biodiversity priorities by driving this broad spectrum of funding mechanisms in international negotiations, and implementing the necessary enabling policy frameworks at home, supported by their own national stimulus funding.

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Acknowledgement

SAIIA gratefully acknowledges the support of the Swedish International Development Cooperation Agency (SIDA) for this publication.

Full acknowledgement is hereby given of the extensive use of content from a number of voluminous references covering this wide-ranging and complex topic. In particular, the two comprehensive recent publications, the 200+page Global Canopy 2021 and the 2021 Dasgupta Review, as well as the IIED 2020 Issue Paper, are recommended for further reading.

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Cover image

Aerial view of a Bai (saline, mineral lick) in the rainforest of the Congo Basin. This rich mineral clearing is located in the middle of the rainforest where forest elephants, buffalos and gorillas gather in large numbers to reap the benefits of the mineral salts. Odzala National Park, Republic of Congo (Guenterguni/Getty Images)

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