



Emerging market debt crisis: biodiversity as a lever for building back better

June 2020

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About Finance for Biodiversity

The Finance for Biodiversity Initiative (“F4B”) is an initiative seeking to better align financial flows with the needs of biodiversity conservation and regeneration by integrating biodiversity considerations into financial decision-making. Its work is framed by five strategic lenses: enhanced liability, policy analysis, public responsiveness, new biodiversity markets and leveraging the current crisis and recovery. F4B has core support from the Mava Foundation.

Biodiversity and Sovereign Debt

The emerging debt crisis resulting from the COVID pandemic has catalysed considerable debate as to how to both support countries in need whilst building in longer term outcomes. This Policy Briefing builds on an initial piece of work was commissioned from Tenke Zoltani and Oliver Withers to explore the options for advancing the place of biodiversity in sovereign debt, available as a technical paper. F4B is now advancing a second phase of work intended to deepen the technical analysis and informed debate, and to advance some specific deal packages as options for sovereign creditors and debtors.

This Paper

This technical paper is part of a series looking at climate change and biodiversity considerations in economic responses to COVID-19. Other notes look at bailout measures, a green stimulus index, and labour market reforms. This paper may be updated as circumstances develop. The paper has been authored by Tenke Zoltani, and Oliver Withers, on behalf of the Finance for Biodiversity Initiative and funded by the MAVA Foundation.

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Executive Summary and key considerations for integrating biodiversity into sovereign debt and the COVID-19 recovery in emerging markets

- COVID-19 and the linked economic downturn has put emerging markets on a pathway to a sovereign debt crisis and default: this requires an urgent global economic response.
- Current insights reveal that debt ‘reprofiling’ is being considered today rather than one off restructures, and deferment dominates the discussions.
- 2020 was designated as a critical year for taking action for biodiversity, given the collective failure to halt biodiversity loss and inability to achieve the majority of our global biodiversity targets.
- Biodiversity underpins sustainable development and achieving the SDG goals; it is not mutually exclusive but mutually beneficial.
- The impending debt crisis for emerging market sovereigns is an opportunity for sustainability and specifically biodiversity to be integrated into the cost of capital in new sovereign debt.
- There are both policy levers and technical instruments for the debt of emerging economies and developing countries that rewards countries that address and integrate solutions to biodiversity loss and restoration in their long-term recovery and growth strategies.
- To achieve growth, support market resilience and achieve biodiversity goals, mechanisms must be enabled that support the issuance of biodiversity-linked debt by developing countries with the buying down of biodiversity externalities, reducing the cost of capital and ensuring the protection of natural assets.
- Specifically, we argue for the implementation of performance-based debt instruments like bonds tied in part to environmental outcomes. This approach is not only timely given the crisis, but in light of the weakness of international agreements and the lack of enforcement mechanisms, will advance natural capital in financial markets without requiring a new regulatory regime.
- This will require collective action from a subset of sovereigns who buy-in to the hypothesis of integrating nature into new debt agreements.
- High ambition creditors that have shown sustainable development and biodiversity leadership are obvious champions to drive this approach forward, i.e. Paris Club members and

observers, the European Commission and China. While private funds and investors are currently limited by their commercial and fiduciary duties there is scope to crowd them in using blended finance approaches. They are important in implementing and mainstreaming this approach in the long-term.

- Debtors can be targeted, particularly emerging markets who have high biodiversity value which means debt is often a cost-effective mechanism for creditors to achieve biodiversity outcomes, and it is possible to target developing countries based on their historical biodiversity management performance as well.
- Creditors and debtors can be coordinated but they require targeting based on key debt and biodiversity lenses. This process can be complex and runs the risk of being drawn out to the degree that it causes delays: targeted engagement with willing actors is key.
- Restructuring is a complex process with many stakeholders so practically relief and restructuring may not be the most effective route to integrating biodiversity outcomes into the cost of capital but rather to focus on new debt instruments.
- The intermediary-broker(s) stakeholder space needs developing in order to expedite this coordination to effectively and efficiently clear the market, and to provide technical assistance to account for the additional biodiversity lens being considered by governments and their advisors in debt restructurings.
- The biodiversity outcomes targeted must support the economic recovery of the debtor country in a socially-inclusive manner.
- Biodiversity outcomes and use of proceeds need to be measurable and verifiable in order to be effectively linked to the cost of capital—this is both to support achieving the sustainable development goals as well as address issues of moral hazard - and there must be coordination amongst creditors and debtors on the outcomes framework to ensure that this does not result in duplication or misalignment and become burdensome or expensive for debtors. There are already frameworks and metrics in place that creditors can use.
- Given growing investor demand for SDG related investment, there is scope to crowd-in ‘responsible’ private investment into the sector and the pursuit of the SDGs

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Frequently Cited Criticisms and Responses

Criticism/concerns of the approach	Response/example
This is imposing biodiversity conditionality on countries already under enormous stress for which the IMF is criticized	Loan repayment, servicing the debt is at risk without conditions. HIPC was conditional and has nonetheless led to a track record of performance-based debt. Biodiversity can be a mutually beneficial for both debtor and creditor.
Countries will get financing from other sources without conditions if conditions imposed, i.e. turning to China	Showing the cost savings from the use of proceeds tied to nature and livelihood improvements will outweigh the short-term benefits of other sources of capital that don't consider a country's natural capital or value it. Similarly, and additionally, historical providers of non-concessional loans are increasingly taking leadership in mainstreaming biodiversity, e.g. China, so this is an opportunity to expedite that process.
We need more of a focus on equity rather than debt, the argument is that debt does not adequately share risk	By introducing cost of capital linked to biodiversity performance we significantly address this issue moving away from a pure debt to equity focus. We aim to use this revised lens as the transformative catalyst for the management of a natural capital balance sheet which begins to incorporate an equity approach to biodiversity.
Quantum of debt for nature too small to make a palpable difference on developing countries' debt	To date, activity has largely been driven at the deal level as opposed to the system level. Historically, the largest debt-swap operations have taken place in medium and high-income countries. In the case of Peru, debt-swap operations resulted in US\$881.5 millions of foreign debt being cancelled between 1992 and 2015, half of which was linked to nature and mobilized circa US\$115 million for conservation. This global debt crisis event presents a mechanism at scale which can be leveraged to dramatically increase the quantum of capital linked to biodiversity, as well as an opportunity to improve the qualifying criteria such as including larger use of proceeds for example green infrastructure means the quantum can be significantly larger.
Biodiversity is a public good and should not be subjected to ownership or liens on natural capital	Private ownership can help to avoid a tragedy of the commons and does not necessarily limit who can benefit from the biodiversity/natural capital, while liens can allow for collateralization and attracting greater capital. This approach seeks to more effectively share the risks of global biodiversity, and through its balance sheet treatment we can begin to better manage this asset into the future.
There is a big difference in creditors that view biodiversity as a public good that can be bought down versus a private good—can it be transacted safely and securely?	Both private and public good options are on the table, they are tailored to the needs of debtor as well as to the intentions of the creditor, for example climate action in the case of the High Ambition Coalition (public good argument).
Developing countries make commitments they don't adhere to	Countries have already made commitments to SDGs, climate accords, and used mechanisms like NDCs to express their commitments and while implementation is fragmented and non-linear there is nonetheless tangible progress on a voluntary basis; this approach uses the benefits to show cost savings and long-term livelihood improvements.

Biodiversity is not a priority for emerging market countries	Research shows that developing countries, particularly those in Africa, have a higher awareness of the importance of biodiversity mainstreaming than others in the developed world. Developing nations were also more likely to involve a greater range of stakeholders in their national biodiversity assessment process (part of the CBD) while developed nations were less likely to give specific details about the monetary contributions of biodiversity to their economies. Especially as natural assets like coral reefs are valued, emerging markets identify these sources of natural capital as strong financial assets that need to be protected and used sustainably.
CBD and other biodiversity initiatives have failed to deliver the transformative change needed. Economic incentives have generally favoured expanding economic activity often at the expense of the environment, over conservation or restoration	Drawing on the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, biodiversity's equivalent to the Intergovernmental Panel on Climate Change, 2019 report and summary for policy makers, "Goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories... Except in scenarios that include transformative change, negative trends in nature, in ecosystem functions and in many of nature's contributions to people are projected to continue to 2050 and beyond." The limited success of platforms such as CBD is why we need a decentralized and targeted approach tailored to the needs and opportunities in each country that is integrated into broader debt. Biodiversity alone will not trigger a global financial reset, it is interconnected and underpins sustainable development and this offers the once-in-a-generation opportunity to enable the transformative change that is necessary. Debt is the transformative mechanism for CBD to interface with to achieve this.
Moral hazard issues, i.e. countries expect favourable future debt terms based on past experience or precedent, or expect not having to repay all debt assumed	This highlights the importance of coordinating with all large creditors to some degree to limit the scope for countries simply waiting for a better deal. Similarly once servicing debt, actions that warrant accelerated debt issuance that are easily and efficiently verifiable are the only ones included in this proposal. Contracts for debt in this proposal are structured to be outcomes based, results-based which are verifiable and difficult to corrupt are considered only. Tools to verify include measures such as asset tagging, checking green procurement policies, and in-country audits. Finally, the outcomes targeted will be of value to both creditors and debtors so should represent favourable terms for debtors.
Natural capital growth or biodiversity improvements unable to be verified.	Biodiversity is very complex and it is simply impossible to measure every single biodiversity indicator. However, we know that there are holistic or proxy indicators, as well as many under development, which allow us to effectively monitor, evaluate and verify biodiversity outcomes. The likes of CBD have an important role to play in coordinating a framework for impact and outcome indicators. Increasing coordination in technology vital to ensure smart monitoring which is cost-effective. (i.e. deforestation monitored by satellite) This will be a journey for all stakeholders and we expect the impact and outcome M&E and verification to advance as the journey progresses, but there is agreement that we cannot wait for perfect metrics before we act.
Biodiversity cannot be valued accurately financially	Accounting methods are available. This will be a journey for all stakeholders and we expect natural capital and biodiversity accounting frameworks to advance as the journey progresses, but there is agreement that we cannot wait for this to be perfect before we act.

Investors can't be coordinated, collective response won't be possible or bringing in the private sector debtholders	Some, like those adhering to ESG or impact criteria will be interested and there is demonstrable demand from these investors for biodiversity linked investment products. This presents an opportunity to transfer some debt away from public and purely commercial creditors to 'new' biodiversity linked funding pools. Purely commercial creditors are incentivized to coordinate with other creditors, ranging from simple endorsement or participating in it, if it is demonstrable that it is in their fiduciary interests as it ultimately reduces risk of default.
Collective action problem	We argue this is a result of a market failure which is exacerbated by the stark differences in financial and natural wealth among developed and developing countries, and not a collective action problem whereby better structured financial instruments will drive investments towards a common goal, even if the risks and benefits differ by party.
Misdirection of funds, does not contribute tangibly to environmental conservation	We agree that debt alone does not spur environmental conservation but rather a well aligned incentive structure (tied to lower cost of capital, savings over the long term) and contracts that are results based can and will prevent fund misdirection and contribute tangibly to biodiversity. Debt shows a positive correlation with deforestation levels, working through instruments that help highly indebted countries strengthen political institutions and enforcement structures will reduce fund misdirection and improve biodiversity.
Investors aren't interested	Whether for yield and purely chasing financial returns or for an additional impact of supporting countries with their post-COVID recoveries, investor demand is proven in the market among banks and asset managers albeit with limited ability to take significant commercial compromises but this lends itself to a blended finance approach. The diversity of risk/return requirements and the strong diversification benefits of these instruments make this a supply rather than a demand issue.

I. Current state of the international finance system and the emerging markets' sovereign debt crisis

An urgent response is needed but there is an opportunity to build back better

Our current financial system is only in place since the second World War—a global reset is not without precedent. The IMF and World Bank were established in response to World War II in 1944 and heralded an age of relative global financial calm for two decades with the gold standard, until several crises—the Vietnam War, oil shocks, the escalation of the Cold War, harbored a new age of financial reforms. The Bretton Woods system of fixed exchange rates ended in 1973. Over the next two decades, countries abandoned capital controls, which had restricted investment flows into overseas markets.

With the emergence of the IMF (and subsequent Paris Club in 1956) and ability for developing countries to access global capital markets, the landscape for emerging market

debt evolved with the expansion of local currency markets acting as a catalyst. Investors sought out opportunities in countries that could mimic the rapid economic development of the ‘Asian Tiger’ economies in the 80s and 90s, and the ‘emerging markets’ asset class was born. The emergence of Brady Bonds in 1989 allowed commercial banks to exchange their claims for tradable instruments on Latin American debt, and hastened in an era of emerging markets debt accessible to private investors. Portfolio bond and equity flows replaced bank loans as the main source of finance for emerging markets from the 1990s to today.

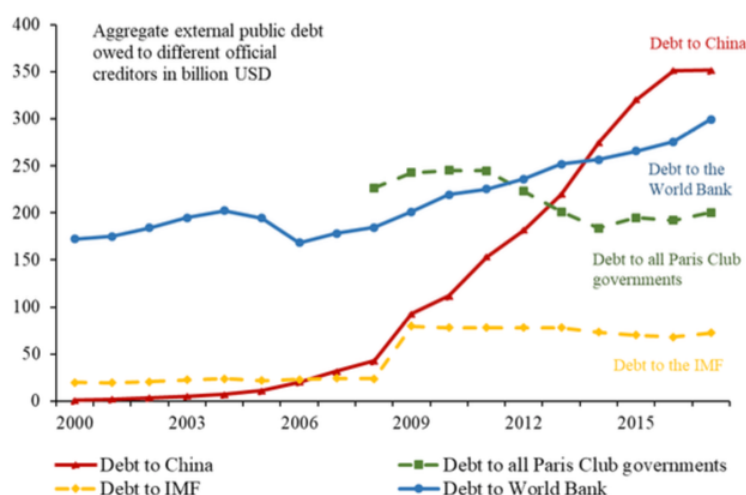
Today, the asset class represents approximately 25% of total outstanding global debt, according to the Bank of International Settlement. It accounts for \$55 trillion of total global debt of \$215 trillion, including domestic bonds, loans and other borrowings. Much of this debt is not yet accessible to foreign investors. Yet according to data from JP Morgan, the total investable universe was almost \$12 trillion at the end of 2018¹ (now over \$15 trillion)—so there is room for expansion and inclusion of new debtholders.

In terms of accessing these markets, sovereign credit ratings drifted upwards between 2000 and 2007. The global financial crisis put an end to this trend. Since Greece’s default in 2012, average credit ratings in emerging markets have deteriorated. This was due to both deteriorating fundamentals and new issuances from lowly rated sovereigns. Foreign capital once again surged into emerging market debt searching for yield following the collapse in interest rates in the developed world over the last several years, largely in response to the 2007/2008 global financial crisis. This has led to rapid growth in government borrowing, including borrowings in foreign currencies.

Poor countries are now at risk. Frontier market debt has climbed from less than \$1tn in 2005 to \$3.2tn, according to the Institute of International Finance, equal to 114% of GDP. Emerging markets as a whole owe a total of \$71tn². Ironically, the pandemic which is believed to have its origins in the illegal wildlife trade and the degradation of biodiversity has delivered an economic downturn that has specifically impacted the biodiversity (tourism) sector on which so many developing and emerging economies are disproportionately dependent. As a result, biodiversity is even more vulnerable and servicing sovereign debt is even more challenging for such countries.

¹ <https://www.aberdeenstandard.com/en-us/us/institutional/insights-thinking-aloud/article-page/four-pillars-of-emd-the-past-present-and-future-of-emerging-market-debt>

² ⁸³ <https://www.ft.com/content/f7157356-e773-47c4-b05d-8624a5ccfd03>



This figure shows aggregate public debt to different official creditors for all 122 developing and emerging market countries contained in the World Bank International Debt Statistics (excluding China). Debt to China is estimated by Horn, Reinhart and Trebesch (2019). Debt to all 22 Paris Club governments is taken from the Paris Club website (available since 2008). Debt to the IMF and the World

Bank Group (IBRD plus IDA) is from the World Bank's International Debt Statistics³.

Since 2008 unusually low international interest rates and unprecedented levels of global liquidity associated with quantitative easing have eased access to commercial finance for developing countries, but by January 2020, the debt of 44% of least developed and other low-income developing countries was already at high risk or in distress⁴.

The IMF has been inundated with requests for support from more than 90 countries in the second quarter of 2020, looking to draw over \$20 billion of the \$50 billion available in its rapid financing programs. Emerging markets and developing countries have about \$11 trillion in external debt and about \$3.9 trillion in debt service due in 2020, but many developing countries simply will not have the foreign exchange to service their debt this year, notably those who are heavily indebted, are commodity dependent (two-thirds of all developing countries according to UNCTAD), have relied on large tourism receipts, or on remittances.

How to help these countries and make a sustainable development impact? As the COVID bailout note from Vivid Economics pointed out last month⁵, integrating climate and biodiversity considerations into recovery measures is much more feasible today than in the previous recession of 2009. Governments today are more capable of making biodiversity and climate stipulations in recovery measures given greater clarity about country targets

³ <https://voxeu.org/article/china-s-overseas-lending-and-looming-developing-country-debt-crisis>

⁴ <https://www.un.org/development/desa/financing/post-news/2020-financing-sustainable-development-report-debt-and-debt-sustainability>

⁵ <https://www.vivideconomics.com/wp-content/uploads/2020/04/200429-greening-COVID-corporate-bailouts-copy-2.pdf>

and the actions required to meet them, as well as improved understanding of the cost of climate change and biodiversity loss to specific companies and sectors.

And when more than \$15 trillion of the global bond market offers negative yields, it is easy to understand the appeal of emerging market debt and why a solution to the crisis must be found to support ongoing investment flows⁶⁷.

The situation today

Now key representatives from the IMF, World Bank and World Health Organization are pushing major economies (China, the United States and other G20 nations) to temporarily suspend billions in debt service payments by the poorest countries owed through year-end. The G20 has agreed to temporarily freeze about \$20bn-worth of bilateral loan repayments for 76 poorer countries and encouraged the private sector—the multitude of bond funds like Global Evolution, Aktia, Capitulum, Eaton Vance, who now dominate developing market lending⁸—to do the same.

In the past 50 years, the human population has doubled, the global economy has grown nearly fourfold and global trade has grown tenfold, together driving up the demand for energy and materials. Economic incentives have generally favoured expanding economic activity often at the expense of the environment, over conservation or restoration. Efforts to integrate global norms around sustainable development (i.e. the SDGs), including biodiversity, into this international financial system have been slow; there is increasingly an acknowledgement that we are failing to do this to the degree demanded by planetary boundaries. Drawing on the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, biodiversity's equivalent to the Intergovernmental Panel on Climate Change, 2019 report and summary for policy makers, "Goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories... Except in scenarios that include transformative change, negative trends in nature, in ecosystem functions and in many of nature's contributions to people are projected to continue to 2050 and beyond." Multilateral approaches and platforms

⁶ The \$15tr figure cited is from the [J.P.Morgan Emerging Market Bond Index \(EMBI\)](#) which is the most widely tracked definition. The index tracks the bond markets of 67 emerging economies.

⁷ <https://www.aberdeenstandard.com/en-us/us/institutional/insights-thinking-aloud/article-page/four-pillars-of-emd-the-past-present-and-future-of-emerging-market-debt>

⁸ Asset-management firms, hedge funds and other private bondholders hold almost 36% of external public-sector debt in emerging markets on average, according to a Wall Street Journal analysis of 2018 data from Fitch Ratings, the World Bank and Haver Analytics. That was up from about 18% a decade earlier.

available to date are not sufficient to address the urgency of this risk and opportunity, due to the fragmented implementation of biodiversity policy, local drivers of habitat loss, and mismanaged linkages between financial value of protection and long-term cost savings or benefits. There are few knowledgeable brokers in the space that can link debtors and creditors and integrate a nature-based or development-based lens. We know that biodiversity alone will not be the driver for a reset of our economic system.

As Mark Carney, then Bank of England governor, warned in 2015: “Once climate change becomes a defining issue for financial stability, it may already be too late.”

Concerned about the increasing risks, BlackRock chief executive Larry Fink recently wrote that “we are on the edge of a fundamental reshaping of finance”. Rather, proposing a clear idea on what debt reform should look like, underpinned by a nature and climate use of proceeds and covenants, will be key.

Whilst many debt restructuring negotiations are already underway, the process itself is complex and time consuming and the market is suggesting that this issue will come to a head in the first half of 2021. As a financial community we are also lacking the right level of data on EM debt—who holds what and what is owed to whom. The business as usual case, without biodiversity interventions, looks most likely like extended negotiations on deferment. Restructuring will take place as in the past, with imposed conditionality from the West and if from China, with the potential for debt traps and the continuation of large-scale infrastructure projects without integrating sustainable development goals. China is however expected to be a willing counterparty to sustainable development conditions. Moral hazard will crop up—business as usual is not to impose results based or outcomes-based financing. We expect fragmented and one-off deals, with occasional vulture behavior from some private creditors. But this will be the exception rather than the rule due to the negative ESG impact being irreconcilable to responsible investors. There will be a lack of integration of climate or biodiversity goals.

II. Biodiversity plays a key role in achieving the SDGs but this is threatened by approaching planetary boundaries

We must act now before ‘gradually’ becomes ‘suddenly’

The Convention on Biological Diversity (CBD) defines biodiversity as, "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems⁹." This widely accepted definition includes not only species and genetic diversity but the diversity of habitats and ecosystems. Through this broad perspective, the issue of biodiversity is linked to nearly every aspect of human and ecological wellbeing. Biodiversity forms the foundation of a resilient and sustainable planet, and its conservation is important not only for preserving key components of biological diversity but for maintaining the associated ecosystem services which provide innumerable benefits and protections to humans, such as water provisioning, carbon sequestration, and flood prevention¹⁰.

Globally, biodiversity and habitat protection efforts in this decade have been primarily guided by a set of internationally agreed upon targets known as the Aichi Biodiversity Targets. Adopted in 2010 by the 196 parties to the CBD, these targets are meant to be achieved by 2020. The Sustainable Development Goals reinforce the targets set under the CBD framework.



Despite its importance and clear goals, the planet continues to see severe declines in biodiversity. The Living Planet Index, which monitors abundance of over 14,000 populations of 3,706 vertebrate species, reveals an average 58% decrease among monitored species between 1970 and 2012¹¹. Some ecosystems and species face more extreme extinction pressures than others. Threatened by habitat degradation, unsustainable resource exploitation, pollution, invasive species, and climate change, the diversity of life on the planet is likely to continue to diminish considerably over the coming years. Drawing on the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, biodiversity's equivalent to the Intergovernmental Panel on Climate Change, 2019 report and summary for policy makers, "Goals for conserving and sustainably

⁹ <https://www.cbd.int/doc/legal/cbd-en.pdf>

¹⁰ (United Nations Environment Programme World Conservation Monitoring Centre & International Union for Conservation of Nature, 2016a, p. 13).

¹¹ World Wide Fund for Nature, 2016, p. 18

using nature and achieving sustainability cannot be met by current trajectories... Except in scenarios that include transformative change, negative trends in nature, in ecosystem functions and in many of nature's contributions to people are projected to continue to 2050 and beyond.”¹²

SDGs and Biodiversity

Among the SDGs, two goals directly relate to Biodiversity & Habitat: Goal 14 on oceans and Goal 15 on terrestrial habitat (United Nations General Assembly, 2015).

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

- Target 14.5: By 2020, conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

- Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.
- Target 15.4: By 2020, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.
- Target 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
- Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

^{12& 6} IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondizio E.S., H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. <https://doi.org/10.5281/zenodo.3553579>

The business case for biodiversity is already clear but this value has not been successfully converted onto the balance sheet at scale yet

Biodiversity loss puts food systems and nutrition at risk, exacerbates climate change and has material financial impacts on businesses directly and indirectly, from reducing crop yields and fish catches, to increased economic losses from flooding and other disasters, and the loss of potential new sources of IP and pharmaceuticals. In the EU alone, six industries: chemicals and materials; aviation, travel and tourism, real estate, mining and metals, supply chain and transport, retail, consumer goods and lifestyle – depend through their supply chain on nature for more than 50% for their gross value added. Efforts to prevent biodiversity loss deliver multiple benefits for the planet, people, and the economy.

Food security, human health, and cultural values are often deeply rooted in biodiversity and natural capital. Healthy, diverse ecosystems maintain critical services such as water and air filtration and pollination¹³. Subsistence and small-scale livelihood endeavors, such as fishing and agriculture, are particularly reliant on the natural capital of biodiversity. According to the CBD, almost half of the world's population is directly dependent on natural resources for their livelihoods¹⁴. Conservation and sustainable management of biodiversity and its ecosystem services can contribute to economic security and sustainable development. The protection of biodiversity requires significant capital investment but research increasingly suggests that the economic benefits of protection may outweigh their costs and ecosystems can assist in reducing the financial cost of damage from increasingly extreme weather events and climate change¹⁵. The shift to seeing biodiversity as a material financial factor is in its infancy but nonetheless expected to follow the trajectory of climate as a serious investor-facing risk that can contribute to credit enhancement or value deterioration. Biodiversity is an asset, or natural capital, for

¹³

https://apps.who.int/iris/bitstream/handle/10665/174012/9789241508537_eng.pdf;jsessionid=ADEF0C8959FA677E7130B6CF30E800AF?sequence=1

¹⁴ <https://www.cbd.int/development/doc/biodiversity-2030-agenda-policy-brief-en.pdf>

¹⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/516725/ncc-state-natural-capital-third-report.pdf

many countries and sits on their balance sheet but has not been valued or managed in most circumstances in financial terms as a tangible asset.

Prophetically, the CBD highlighted the following in 2017, “Prudent sustainability management of external debts has succeeded in reducing the likelihood of debt crisis occurrence, but the inherent risk associated with external debt servicing cannot be eliminated by external debt sustainability. The increasing sheer size of external debts speaks to the need for preparing further measures to exploit debts for biodiversity.”

The link between COVID-19, biodiversity and sustainable development: A \$157 billion illustration

Findings in the coronavirus context reveal that biodiversity protection has a material effect on preventing animal-borne disease outbreaks like COVID-19. More than two-thirds of emerging diseases are zoonoses, infectious agents that can pass between animals and humans. Of these, the majority comes from wild animals. Reducing biodiversity through habitat loss and the illegal wildlife trade have increased human beings’ proclivity towards diseases like Ebola, SARS, and now COVID-19 .

China’s 2019 GNP was \$14.3 trillion, a 6.1% growth rate from 2018, and economic consensus is that growth will decelerate to 5.0% in 2020, a slow down largely due to the COVID-caused lock downs.

An economic slow-down from 6.1% to 5.0% represents an opportunity loss to China of \$14.3 trillion X (6.1% - 5.0%) = \$157.3 billion. This does not account for the COVID-19 related loss of economic output born by the rest of the world. Based on 2017 figures, this is more than twice the \$73bn estimated value of the total wildlife trade in China that would potentially be lost by curtailing and regulating the trade.

While enforcing a wildlife trade ban may be quite difficult and would likely drive part of it underground, and would impose a heavy cost on predominantly low-income wildlife traders, given how large an economic stake there is for the globe, it would clearly behoove the G20 to better regulate wildlife trade, which can be achieved with improved integration of biodiversity into sustainable development.

What is required now is a once in a generation event a la Bretton Woods to ‘reset’ the global economy, the international finance framework and sovereign indebtedness, where biodiversity is adequately integrated into this reset. Countries will need to develop new, more effective and integrated approaches to managing public and private finance while still responding to the SDGs—for example, incentivising performance against national nature-based targets by fast-tracking debt issuances for progress against SDGs.

III. Approaches to integrating SDGs and biodiversity into the current system and relevant policies

Exploring state-contingent debt instruments and the precedent through the Heavily Indebted Poor Countries Initiative

State contingent debt instruments (SCDIs) link contractual debt service obligations to a pre-defined state variable, in other words a sovereign’s debt service payments is linked to its capacity to pay, based on fixed events or variables like GDP, commodity prices or triggers of hurricanes or disasters. In downturns or during disasters these instruments invoke an automatic reduction in the sovereign’s debt service burden. This reduction helps preserve the sovereign’s policy space to undertake countercyclical and stabilization policies, and as such may help avert the need for a debt restructuring. As such, these tools are particularly useful in times of crisis but also have the

Benchmark/ Features	(i) “Linker”	(ii) “Floater”	(iii) “Extendible”
Currency	Local currency	Local or foreign currency	Local or foreign currency
Example of state/trigger variable	Level of nominal GDP, level of a commodity price index	Real GDP growth rate, commodity price change, or a ‘proxy’ variable such as trading partners’ real GDP growth	Discrete triggers linked to: large adverse movements in external demand, commodity prices, goods exports, financial market indices, or to natural or public health disasters
Adjustment mechanism	Principal linked to GDP. Coupon varies somewhat, as it is a fixed percentage of this principal. Principal may also have to be floored to suit the preferences of some investors.	Coupon linked to the growth of GDP, but with a floor of zero. Principal is fixed. Coupon may vary a lot, but could be capped.	Pre-defined extension of the principal payment by 1–3 years. Possible increase in coupon if triggered
Tenor	>=5 years, including perpetuity bond	>=5 years	Varies depending on the trigger and extension period
Main purpose	Stabilizes debt/GDP over the economic cycle and in tail events. Supports countercyclical policies and reduces default risk	Provides debt service relief during recessions, but does not assure a stable debt ratio as principal is fixed	Provides substantial liquidity support during times of distress. No direct impact on the debt level
Target issuers	Primarily AEs and EMs with established local currency markets	All economies, but especially EMs with limited access to capital markets	EMs with limited access to capital markets; countries vulnerable to natural disasters; commodity exporters
Target investors	Domestic pension funds and long-term investors; foreign investors	Mainly foreign investors seeking yield	Investors with little liquidity risk; yield and diversification investors; insurers and reinsurers (esp. for disaster insurance)

potential to be linked to biodiversity outcomes—which can improve the ability to pay for the countries (i.e. improvements in tourism prospects, natural capital enhancements to protect land and water from damage, etc.)

As the premise behind SCDIs is to tie a sovereign’s payment obligations to its repayment capacity, to use biodiversity as an influencing factor is possible but requires data on debtors’ track record in managing and improving its biodiversity assets and the financial benefits. Tied to biodiversity or not, the debt service burden on these instruments would fall in a downturn, providing countercyclical policy space and helping to reduce the severity of sovereign debt crises. Data is needed to move this agenda forward, likely possible only through in-depth engagement with debtors at this stage.

To date the take-up of SCDIs has been low according to the IMF, with issuance mostly limited to debt restructuring contexts (e.g. GDP warrants, hurricane clauses). Limited take-up partly reflects the liquidity/novelty premia demanded on new instruments, but also deeper data integrity, first-issuer moral hazard, and political economy and transition issues. We address these issues throughout this technical piece by requiring new

Instrument	Country (period)	Adjustment: Discrete/ Continuous	Currency	Tenor (years)	State/ trigger variable	Payout/deferral type	Tradeable/ Non-tradeable
Guaranteed equity bond	UK (2002-2009)	Continuous (with principal cap/floor)	LCY	5	Equity index	Payout at redemption linked to FTSE 100 level	Non-tradeable (retail)
Gold bond	India (2015-)	Continuous	LCY	8 (redeemable at 5)	Price of gold	Principal linked to price of gold	Non-tradeable (retail)
Nominal wage linked bond	Uruguay (2014)	Continuous (with coupon floor)	LCY	30	Nominal wage index	Principal linked to level of nominal wage index	Tradeable
GDP-linked treasury certificates	Portugal (2013-)	Continuous (with coupon floor)	LCY	5	Real GDP growth	Coupon linked to GDP growth (in final 2 years only)	Non-tradeable (retail)
Revenue indexed bond	Turkey (2009-12)	Continuous (with coupon floor)	USD /LCY	3	Government SoE revenues	Coupon linked to income from SoEs	Tradeable
Oil-linked bond	Mexico (1977-1980)	Continuous (with coupon floor)	LCY	3	Export price of oil in USD	Principal linked to local currency price of oil	Tradeable
Petrocaribe loans from Venezuela	Petrocaribe members ¹ (2005 -)	Hybrid	USD /LCY	25	Price of oil in USD	Down payment share, interest rate, and grace period linked to price of oil & exchange rate	Non-tradeable (Official)
AFD Counter-cyclical loans	5 countries ² (2007 -)	Discrete ³	EUR	25 (with 5-year grace)	Export earnings	Maturity and grace period extended by up to 5 years	Non-tradeable (Official)
Extendible municipal paper	USA municipalities (2000-)	Discrete	LCY	180-270 days	Issuer’s discretion	90-day Maturity extension if triggered (from 180 to 270 days)	Tradeable

debt to be performance linked, that is tied to specific, measurable and verifiable pre-defined outcomes around biodiversity and natural capital. The table above identifies three existing SCDI frameworks, where the most relevant for the countries under discussion herein is the ‘Extendible’ SCDI¹⁶.

¹⁶ <https://voxeu.org/article/state-contingent-debt-instruments-sovereigns>

Looking at the investor prospects, this type of instrument could offer both attractive yields and SDG benefits. In the low interest rate environment that held prior to COVID this was certainly the case, but now the upside and risk is mitigated with the potential for enhanced risk-sharing and diversification between the public and private sectors, and further upside of supporting recovery efforts.

Adverse selection and moral hazard risks that arise in any insurance-like product would need to be mitigated, which as mentioned is done so through outcomes-based contracting. Using a performance-based framework will allow investors the comfort of a reduction of moral hazard on the part of debtors whether through new debt issuances. Additional measures like credit enhancement and subsidization through blended finance could be essential in unlocking new deals in ongoing discussions.

Led by The World Bank and major donor governments, the Heavily Indebted Poor Countries (HIPC) Initiative provides a commitment by creditor governments and multilateral institutions to forgive large amounts of debt owed by the poorest countries. Significantly, the HIPC Initiative links social and environmental conditionality to such debt relief. To date, HIPC discussions between debtors and creditors have focused sharply on social conditionality, linking debt relief to increased investment by debtors in health and education. However, the debt relief package for a HIPC country could include financing of priority environmental and conservation programs if it were supported by the debtor country government. For African and other poor countries, the HIPC Initiative presents an important untapped opportunity for debt for nature as part of larger debt relief packages¹⁷. The HIPCs Initiative and the Paris Club have played a central role in the resolution of developing and emerging countries' debt problems. Debt treatment agreements may include the special provisions on possibility to conduct debt swaps. Restructuring is a complex process with many stakeholders so practically relief and restructuring may not be the most effective route to integrating biodiversity outcomes into the cost of capital.

¹⁷ https://www.cbd.int/doc/nbsap/finance/Guide_Debt_Nov2001.pdf

The rise of ESG investment as a tailwind for the environmental impact in EM sovereign debt

The share of assets under sustainability-oriented investment management have reached a tipping point in becoming mainstream: today \$17.5 trillion of ESG-integrated assets under management exist globally. Investors have been increasing allocations to sustainability-oriented instruments. And now: ESG demand and interest is on the rise in a COVID world and likely to stay with us after the pandemic. The products that have been sustainability-oriented have been outperforming the traditional financial markets, in part due to diversification away from fossil fuels and in part due to better governance and greater inclusion of best-in-class labour principles and treatment of employees. ESG will continue to show resilience, as during other crises.

For the first time ever, monthly sustainability bond issuance (\$19.4 billion) eclipsed green bond issuance (\$16.8 billion). But 76% of the total ESG issuance in April came from multilateral development banks, with the majority supporting COVID-19 relief efforts, Moody's found in a recent analysis. We have already seen how the pandemic is creating a need for new debt instruments to support new issuances. Rather than encouraging conventional use of proceeds in instruments there is an opportunity to leverage the demand for green bonds and other environmentally focused financial instruments.

Supporting this trend is the concept of materiality which is becoming embedded in financial discourse and policymaking in the private markets especially, but certainly relevant for EM and frontier markets. Forthcoming nature-related financial disclosures, proposed in the context of the next CBD convening, will cement the financial materiality of biodiversity vis-à-vis companies and governments: exposure to tourism based sectors, dependence on public natural assets (like mangroves and coral reefs) for protection from weather events, and provisioning (water, raw materials, food, medicinal resources) reinforce the need. The adoption of the proposed approach, including financing and policy tools, in the context of the new Global Framework on Biodiversity will put a stake in the ground for investors and governments to bring financial flows in line with the need for biodiversity conservation and restoration.

Debt for nature swaps (DFNs)

DFNs were developed to lower the cost of capital for indebted countries by using nature-based conditionalities around conservation goals. DFNs reduce the debt, mostly commonly official bilateral debt, of a developing country with eased debt repayment especially if payment is at least in part in local currency instead of foreign currency. The

aim is for significant local currency funds for conservation to be generated. DFNs become popularized through the 90s and 00s as a derisking mechanism to attract further sources of capital for nature and development. And in debt crises, such a mechanism may counteract debt-servicing pressures to exploit natural resources. In countries where commodities are a significant economic driver, the collapse in prices during this crisis creates an incentive to exploit other resources for countries in lieu of oil income. Building in protective measures for debt issuances linked to protecting nature can offset this negative impact.

However, DFN as other debt restructuring entails moral hazard for future lending (debtors will enter future loan agreements assuming some debt repayment will be forgiven or discounted). These transactions are time consuming and labor intensive with negligible overall debt relief for countries to date. There are also limited counterparties and brokers adept at executing these transactions.

A variant on the debt-for-nature model, debt-for-climate swaps were floated at the 2019 UN General Assembly by the UN Economic Commission for Latin America and the Caribbean (ECLAC) to respond to the Caribbean's vulnerability to climate change and natural disasters and the region's high level of debt (in 2018, the average Caribbean debt was 70.5% of GDP). Similarly to the debt-for-nature instrument, debt-to-climate links debt relief to investment in sustainable development and green economy projects. The aim is to help restore GDP growth to pre-2008 levels, all the more timely given the current crisis. While several of these instruments are under discussion, they have not yet been deployed. Under debt conversion bonds, developing countries may issue bonds against the future debt service payments by creditors with investors forgoing future debt service payments on outstanding loans. The debtor's use of proceeds from the bonds would be to fund biodiversity linked projects pre-agreed upon with the donors.

The scope for debt swaps has been severely under-utilised for biodiversity. As advised by the CBD, "less than 0.2% of treated debts have ever been swapped for nature conservation or conservation funds. Africa experienced the lowest swap ratio at less than 0.07%, while Latin America and the Caribbean had the highest swap ratio of 1.32%. This difference can be partly explained by participation ratios - the proportion of treated countries undertaking debt for nature swaps: Africa had the lowest participation ratio at 27%, i.e., only 10 out of 37 potential debt swap countries realized debt for nature swaps, while 83% of potential debt swap countries in Latin America and the Caribbean conducted debt for

nature transaction.”¹⁸ “Globally speaking, if governments agree to an automatic reduction of 1 percent of all external debts of all emerging markets and developing countries and countries with economies in transition for supporting biodiversity and ecosystem services, some \$54 billion may be generated as the critical mass of funding for implementing the Strategic Plan for Biodiversity 2011-2020.”¹⁹

IV. Proposing Nature-Based Solutions to the Debt Crisis to build back better and greener

To achieve growth, support market resilience and achieve biodiversity goals, mechanisms must be enabled that support the issuance of new debt by developing countries with the buying down of biodiversity externalities, both reducing the cost of capital and ensuring the protection of natural assets. We reviewed solutions on a spectrum, from an aggregate target a la the ‘2 degrees’ that the globe has coalesced around to fight climate change, to a fragmented approach where buyers and sellers of biodiversity assets negotiate to achieve mutually satisfactory outcomes.

This initiative is proposing a suite of options (policy and financing) to successfully integrate biodiversity into the international finance system based on the review of available instruments, new ideas proposed by policymakers, economists and financiers, and our own expertise in the domain in terms of what is efficient, actionable and practicable. This consists of providing an enabling environment, and enabling transactions.

On the one hand, we explored the inclusion of quantitative global targets (i.e. globally establishing 30% of land and sea as protected areas, in line with the EC’s Biodiversity Target announced in May 2020²⁰), but as with climate action, responses are uneven, difficult to monitor and impossible to enforce. There exists both a collection action problem and a market failure. On the highly country-specific and proprietary basis, we examined what liens on biodiversity could look like--monetizing natural capital (treating them as assets) to be collateral for creditors on government balance sheets. Our view is that a market-based approach which includes conditionality on new debt with embedded nature-based goals, performance-based financing tied to pre-defined

¹⁸ <https://www.cbd.int/financial/debts.shtml>

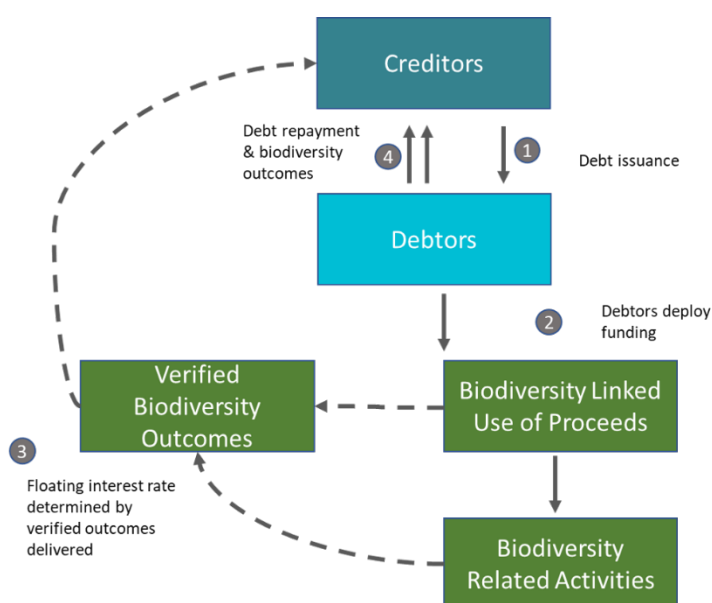
¹⁹ <https://www.cbd.int/financial/debts.shtml>

²⁰ https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/EU-biodiversity-strategy-2030_en

results, and context-specific debt issuances linked to conservation-based targets is one trajectory that would yield financial, social and environmental returns. This can be accompanied by country-level measures like building nature into public balance sheets, integrating green procurement, asset tagging tied to the SDGs etc., further explained below. The ultimate goal is reducing the cost of capital for debtors during this crisis and the next one to strike.

Simply, what we propose for new EM sovereign debt issuances is:

1. **New debt issued with cost of capital terms linked to upfront debtor biodiversity commitments and verifiable outcomes targeted.** The new debt issuance incorporates the value of any upfront biodiversity outcome purchase by creditors in its valuation and pricing. An immediate biodiversity outcome purchase by some creditors is agreed for countries identified as having the greatest debt burden and greatest biodiversity value, the value being a function of the upfront debtor biodiversity commitments and verifiable outcomes targeted (performance-based contracts). Outcomes beyond biodiversity, i.e. livelihoods linked, can be extrapolated and/or built into the instrument.
2. **EM debtors then deploy the proceeds** from the debt issuance to achieve their strategic objectives and are incentivized to link this to achieving biodiversity related outcomes at the same time, reinforcing that biodiversity and sustainable development are not mutually exclusive.
3. **The biodiversity outcomes delivered are verified against the pre-agreed commitments and targets** in order to determine the biodiversity discount on the cost of capital and thereby addressing moral hazard.



4. **Servicing** of the debt is ongoing. **The floating interest rate inversely linked to biodiversity outcomes and** incentivizes developing countries to achieve pre-agreed biodiversity goals, or at minimum demonstrate verifiable progress towards them; as such the EM debtor is able to proactively reduce its cost of capital whilst contributing to the sustainable development goals.

Financial levers include the interest rate, the duration, payment frequency, currency or the capital stack etc.

A demonstrable increase in natural capital on the debtor's balance sheet can serve to increase the country's debt ceiling and be put towards a future 'biodiversity discount' i.e. cheaper future debt. We can also capture the effects of nature-based solutions through improvements in climate resilience and livelihood gains—delivering the SDGs measurably, quantifiably. Viewed as a monetizable asset, natural capital can be collateral for future bond issuances. New debt issuances can also be structured to crowd-in new private sector capital that values biodiversity outcomes (see box above “The rise of ESG investment as a tailwind for the environmental impact in EM sovereign debt.”) This approach provides an opportunity to use blended finance approaches which foregoes traditional ODA in favour of instruments with risk spread across different investors, potentially leveraging more capital and enabling increased biodiversity management effectiveness and value for money. Incentivizing the integration of biodiversity outcomes into sovereign debt cost of capital can reflect its materiality.

At the core, our proposed approach uses tested instruments and policies from other sectors applied to biodiversity to reduce the debt burden of developing countries by lowering their cost of capital thanks to strict adherence to pre-defined and mutually agreed and beneficial outcomes or results. In one interpretation, this ‘buys down’ biodiversity externalities, and satisfies the needs of the debtor without imposing undue conditionalities, and also makes nature accessible to investors through a sustainable risk-return approach.

The moral hazard feared by policymakers of distressed countries striking new deals with creditors without adequate safeguards on future performance (economic, sustainable development or otherwise) is also avoided by tying cost of capital savings to mutually beneficial outcomes rather than conditions. It is not a ‘conditionality’ with mutually exclusive value but rather it is mutually beneficial as the biodiversity value generated for creditors (supporting long term sustainability) can be captured and monetized by emerging markets, realizing this through a cheaper, ‘biodiversity-subsidized’ cost of

capital. By having a floating interest rate inversely related to biodiversity outcomes, a country is able to proactively reduce its cost of capital. Servicing of the debt will consider verification against pre-agreed biodiversity qualified use of proceeds and/or biodiversity outcomes in order to determine the biodiversity discount on the annual interest rate.

In the case of the biodiversity outcome being a demonstrable increase in natural capital on a country's balance sheet, we will consider how a country might be able to use this natural capital as collateral for future bond issuances, such that the interest rate and cost of capital increases when the natural capital balance sheet decreases. Climate resilience investments in nature-based solutions might not be captured on the balance sheet but rather through verifiable climate valuation and credit mechanisms. In the long term climate resilience is financially material and should similarly lower cost of capital for resilient nations.

IV. From biodiversity as a public good to commoditization

Viewing biodiversity as a national asset on the balance sheet of governments

By considering biodiversity as an asset and part of the sovereign balance sheet, it can be used as an enabling or limiting factor on adjusting debt ceilings. A parallel accounting of natural capital alongside traditional sources of revenues and expenses offers benefits of using nature as a lever, or incentive, i.e. having creditors offer debtors speedier debt savings against positive performance when it comes to improving natural capital accounts, or for sustainable procurement practices, or increases as measured by (natural) asset tagging in public budgets.

We view options for mainstreaming biodiversity again on a spectrum. On the one side, we can consider that biodiversity is an international public good which cannot be bought or sold and is best managed on an international treaty level, using carrots to entice countries to protect their natural assets, but largely without recourse. An existing example of this approach: the CITES treaty to some extent provides protection against countries from trading wildlife/endangered species but without clear financial incentives or disincentives. Treating biodiversity as an international public good does not lend itself to effective valuations and financing solutions. We have seen global aggregate targets (i.e. 2 degrees for climate change) enable success in the past for example through financial markets for emissions trading, but predicated on a global treaty like the Kyoto Protocol which is unlikely to come to fruition today for biodiversity.

We know that voluntary commitments that happened post Kyoto, i.e. with the Copenhagen Accord, saw limited success for reducing climate change. The fragmented regime for climate action birthed (nonbinding) commitments at the developing country level in the form of Nationally Determined Contributions (NDCs) which have produced a patchwork of success for low carbon development, and includes general intentions by countries to improve their protection of biodiversity and natural capital. NDC achievement is a benchmark that donors use when drafting agreements, hence can lend itself to debt considerations as well, whereby a creditor can cheapen sovereign debt in exchange for NDC achievements linked to biodiversity. This will be done on a country by country basis, given both the nature of NDCs and the lack of expectation to agree en masse to either biodiversity targets or debt terms.

On the other side, approaching biodiversity as a private good, the ‘property’ of countries which can be bought and sold lends itself to serving as a contingent outcome in debt restructuring as well as a lien on biodiversity assets. This is our approach of choice. We know that forests produce an enormous return on investment, mangroves and coral reefs similarly. As a private good, countries will be responsible for their own biodiversity portfolios, valued financially as an investment portfolio would be, which can be marketed and traded. A lien to a creditor would, essentially, mean that a creditor can take ‘ownership’ of the asset until the debtor pays off its debts. This interpretation also commoditizes biodiversity and naturally requires a financial value ascribed to it—we can argue this is inevitably taking place as biodiversity is viewed as a material factor to companies through forthcoming disclosures as climate risk and stakeholders are negotiating biodiversity outcomes-based financing mechanisms. But for this to work, deals must show reduced risk and savings where possible, e.g. outcomes-based financing (as in the case of the Washington DC water environmental bond²¹), and freeing up fiscal space for the debtor country.

²¹ <https://www.epa.gov/waterfinancecenter/dc-waters-environmental-impact-bond>

A portfolio of policy and instrument approaches is emerging to tying nature and biodiversity to debt but application should be context specific

Based on research released by Oxford²², three key insights for policymakers designing COVID-19 recovery packages are already in order. The message: recovery policies can deliver both economic and climate goals. Following the existing proposed “colourless” emergency rescue packages (i.e. these are neither green and low carbon nor brown/traditional), there are a set of fiscal recovery policies which offer high economic multipliers and positive climate impact. Two of these, namely integrating green/resilient infrastructure and natural capital investment for ecosystem resilience and regeneration lend themselves well to addressing biodiversity needs and a responsible debt issuance for the debtors. The Oxford proposed recovery policies that can deliver both economic and climate goals (and by extension biodiversity goals) include:

1. clean physical infrastructure investment in the form of renewable energy assets, storage (including hydrogen), grid modernization and CCS technology;
2. building efficiency spending for renovations and retrofits including improved insulation, heating, and domestic energy storage systems;
3. investment in education and training to address immediate unemployment from COVID-19 and structural shifts from decarbonization;
4. natural capital investment for ecosystem resilience and regeneration including restoration of carbon-rich habitats and climate-friendly agriculture;
5. and clean R&D spending (in low and middle income countries however clean R&D spending might be replaced with rural support for sustainable agriculture, ecosystem regeneration, or accelerating clean energy installations.)

But these policies stop short of success if they are not measurable, verifiable and accountable. Hence policies need to go one step further, embedded at the Ministry of Finance level to show tangible outcomes both in country to citizen stakeholders and to potential investors and creditors. This can take the form of policies and instruments such as:

²² https://www.smithschool.ox.ac.uk/publications/wpapers/workingpaper20-02.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosgenerate&stream=top

- **Asset tagging:** The tagging of assets in government budgets and on balance sheets related to biodiversity, using the frameworks mentioned above, and included in the section below on choosing debtor countries to test the approach with. This means ascribing natural capital to the balance sheets of governments, monetizing them, and proposing their use as collateral as well in future instruments. Tagging of assets would also support transparency in investors' ESG reporting and positive impact missions, bringing in impact-aligned capital for the SDGs more broadly.
- **Natural capital balance sheets:** Already applied by some corporates, a natural capital balance sheet at the sovereign or company level entails an inventory of natural resources held by the entity as an asset (or liability), which can be certified and valued and therefore tied to future financial contracts, debt ceilings, or indeed restructuring. Basic accounting principles are applied to nature and ecosystems, and can use ecological units like 'habitats' to appraise benefits that accrue financially like ecosystem services provided by the natural environment such as flood risk reduction, carbon sequestration and recreational opportunities.
- **Incentivizing performance against national nature-based targets** by fast-tracking biodiversity-linked debt issuances for progress against SDGs—setting a precedent for others to follow suit. Credit enhancement and subsidisation through blended finance can be critical in unlocking deals, tied to performance again, and opening up space for DFIs and multilaterals to participate.
- **Similar to a multilateral facility**, a multi-stakeholder fund would convene diverse investors to invest in emerging markets' SDG-linked debt. A template exists in the Amundi Planet Emerging Green One Fund developed with the IFC as the largest green bond fund targeting emerging markets to date. In such an SDG (or biodiversity-linked) debt fund, a first-loss absorbing junior tranche leveraging the strong balance sheet of a single International Financial Institution (IFI) or group of IFIs could improve the credit rating of sovereign debt, enabling the fund to attract more risk-averse investors for the senior tranche and benefit from a biodiversity use of proceeds. The vehicle would blend traditional (non-biodiversity linked) debt to lower the cost of capital and improve refinancing possibilities, and slowly ramp up biodiversity committed capital over time²³.

²³ <http://www.lse.ac.uk/GranthamInstitute/news/how-could-sustainable-finance-help-avoid-an-emerging-market-sovereign-debt-crunch/>

- Use of proceeds for new policies and instruments would be expected to support the struggling SME sectors traditionally given the COVID response, but a biodiversity carveout could certainly improve countries' future nature-based economy and job creation, such as tourism, as well as areas like soil health, forest cover, and water/food security. The proposed areas put forward by Oxford (clean physical infrastructure, renovations/retrofits, natural capital for ecosystem resilience and rural support for sustainable agriculture) resonate in both a multisector/multi-country facility at the regional level while meeting verifiable outcomes.
- Issuance of new green and SDG and sustainability bonds: in April 2020, total issuance of ESG bonds — green, sustainability, and social bonds — increased by 272% year over year and was double the total from March, reaching \$48.5 billion. With the majority of the new bond issuances coming from multilaterals, executed quickly in supporting COVID-19 relief efforts, the credentials of how impactful, verifiable and sustainable these will be remains to be seen and questioned. Considering the frameworks for biodiversity and the results-based structure going forward can yield more attractive long term results and inclusion of new investors as bond issuances accelerate.
- Policy tools proposed by the UN like Integrated National Financing Frameworks (INFFs) and the associated Development Finance Assessments²⁴: These are tools to respond to the growing demand from countries to establish evidence and analysis linked to development, and introduce reforms for managing the increasing complexity of domestic and international sources of finance for development. These frameworks provide a structure and prompt for governments to assess their financing frameworks as a whole, and guide thinking about reforms that are needed to strengthen them to implement a strategic, holistic, results-driven approach to financing their development objectives, part of the recommendation of the Addis Ababa Action Agenda²⁵. Integrating these measures would secure the buy-in of UN actors and relevant stakeholders moving the SDG agenda forward and those who

²⁴

<https://www.undp.org/content/dam/rbap/docs/meetTheSDGs/Achieving%20the%20Sustainable%20Development%20Goals%20in%20the%20Era%20of%20the%20AAAA%20-%20DFAs%20as%20a%20tool%20for%20Linking%20Finance%20with%20Results.pdf>

²⁵ https://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf DFA focuses on establishing the baseline of an INFF, through both quantitative (mapping of finance flows) and qualitative (analysis of policy and institutional context) assessment of the financing landscape and the strength of the government's existing financing strategies, policies, and institutional structures to meet key financing challenges. Following the DFA, and building on its findings and recommendations, Integrated Financing Solutions entail action-oriented support towards crafting the INFF.

work at the nexus of environment, development, and finance. These measures give investors confidence and can channel biodiversity outcomes.

- The adoption of binding criteria for sustainable public procurement: As of 2015, public procurement represented up to 25-30 % of GDP in developing countries, and governments progressively use this purchasing power to drive markets towards innovation and sustainability²⁶. Sustainable public procurement involves embedding social and environmental considerations on top of financial ones in meeting government needs for goods, services, works and utilities²⁷. By using biodiversity improvements as one factor in procurement, this can further support the meeting of biodiversity targets and improving long term financial performance attributable to sound ESG practices.

How to prevent moral hazard and ensure results are tangible- Robust but practical biodiversity measurement, reporting and verification

The world exists in an era of data-driven policymaking, and this increasingly includes environmental policies. With the UN's 2015 Sustainable Development Goals, governments are increasingly being asked to explain their performance on a range of pollution control and natural resource management challenges with reference to quantitative metrics. Effective measurement of environmental trends and progress towards targeted outcomes provides a foundation for effective policymaking but also enables biodiversity to be more effectively valued and linked to the cost of capital. We have the frameworks to identify and to some extent price biodiversity improvements and this is part of the approach now. Over the medium term, to grow the market, we will need to support stronger global data systems alongside scientific/academic/field M&E research and development as well.

Despite some recent improvements and technical advancements, better data collection, reporting, and verification across a range of environmental metrics are urgently needed. This is especially pertinent in the areas of sustainable agriculture, water resources, waste management, and threats to biodiversity.

There is value to coordinating biodiversity with broader environmental and climate MRV efforts to establish a net impact position from SDG-biodiversity linked debt.

Efforts to integrate global norms around sustainable development (i.e. the SDGs), including biodiversity, into this international financial system have been slow; there is

²⁶ http://www.nachhaltige-beschaffung.ch/pdf/Sustainable_Public_Procurement_spp_briefing_note_UNEP_en_2012-02-06.pdf

²⁷ Adapted from Defra (2006), UK Sustainable Procurement Task Force

increasingly an acknowledgement that we are failing to do this to the degree demanded by planetary boundaries. There are various efforts to encourage consistency and promote a common framework in assessing biodiversity. Examples include:

- the SDGs and Aichi Biodiversity Targets include multiple indicators for biodiversity conservation, e.g. measuring forest area as a proportion of total land area.
- the Biodiversity Indicators Partnership (BIP) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' (IPBES) task force on knowledge and data.
- the IUCN Red List of Threatened Species collects data that monitor species changes, it is also listed as an indicator for SDG Target 15.5: "Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species".
- Linked to this, IUCN and partners have developed the Species Threat Abatement and Recovery (STAR) metric which measures the contribution that investments can make to reducing species extinction risk.
- The Natural Capital Protocol is a decision-making framework that enables organizations to identify, measure and value their direct and indirect impacts and dependencies on natural capital.
- The EU Taxonomy is a tool to help investors, companies, issuers and project promoters and sets performance thresholds (referred to as 'technical screening criteria') for economic activities which make a substantive contribution to one of six environmental objectives: climate change mitigation; climate change adaptation; sustainable use and protection of water and marine resources; transition to a circular economy; pollution prevention and control; protection and restoration of biodiversity and ecosystems.
- The United Nations Statistics Division, the United Nations Environment Programme, the Secretariat of the Convention on Biological Diversity, and the European Union have the project "Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES).

- Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a World Bank-led global partnership that aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts. WAVES is now part of the broader World Bank umbrella initiative, the Global Program for Sustainability (GPS).

Further enabling the opportunity is credible data on governance, management effectiveness, species declines, ecosystem-based adaptation to climate change, and economic impacts of biodiversity loss which would assist in the formulation of a comprehensive biodiversity metric. Spatial data on PAs across countries, however, remain the most widely accessible, nationally-specific indicators of progress. Such data can be incorporated into terms for forthcoming debt issuance/SCDIs.

Interim solutions do exist that would give investors confidence and could be brought to market immediately. Supporting stronger global data systems and coordination across SDGs is essential to better management of sustainable development and critical to supporting a performance linked cost of capital approach to integrating biodiversity into EM sovereign debt. It raises the question of whether there is a role for a task force on biodiversity-related financial disclosures.

V. Emerging Market Sovereign Debt Stakeholders and the Political Economy

How to choose who to work with in taking implementation forward

Emerging Market sovereign debt stakeholders are varied and so too are their responses to debt crises. There is value to a coordinated and targeted approach to implementation of the biodiversity-facing integration, which accounts for the creditors most likely to participate and the debtors most likely to support this approach, taking into account debt levels, past track records on restructuring and adherence to IMF criteria as well as a track record in protecting their natural resources and meeting biodiversity targets. Other development targets, like job creation, can be considered. Regardless of which counterparties are chosen, we need to consider coordination amongst creditors and debtors on the outcomes framework to ensure that this does not result in duplication or misalignment between creditors and become burdensome or expensive for debtors.

Creditors

Creditors can be categorised as official (sovereign) or private. Official creditors can be subdivided into either OECD or non-OECD, and further subdivided as either bilateral or multilateral. Private creditors are made up of international banks and institutional investors who own sovereign bonds. Emerging Market (EM) sovereign debt creditors are increasingly non-OECD and private. Growth in new EM sovereign creditors requires new forums for coordination. EM creditors are varied and ‘new’ creditors important, but coordination may take too long so targeting of key creditors most likely to participate will be vital for execution, e.g. those highlighted below. Private investors are important but practical market challenges exist, e.g. fiduciary duties, so focusing on those that can move quickly on immediate deals and capture the rest through market curation and development is essential.

OECD - Paris Club²⁸: The Paris Club is an informal group of official creditors whose role is to find coordinated and sustainable solutions to the payment difficulties experienced by debtor countries. All members of the Paris Club agree to act as a group in their dealings with a given debtor country and be sensitive to the effect that the management of their particular claims may have on the claims of other members. There are 22 permanent members, mainly OECD countries, as well as Brazil, Russia and South Africa, who have large exposure to other states’ debt. Paris Club members regularly share views and information with each other on the situation of debtor countries, benefit from participation by the IMF and World Bank, and share data on their claims on a reciprocal basis. In order for discussions to remain productive, deliberations are kept confidential. The Paris Club:

- Cannot take decisions without a consensus among the participating creditor countries.
- Makes decisions on a case-by-case basis in order to tailor its action to each debtor country's individual situation.
- Only negotiates debt restructurings with debtor countries that need debt relief, have implemented and are committed to implementing reforms to restore their economic and financial situation, and have a demonstrated track record of implementing reforms under an IMF program.

²⁸ <http://www.clubdeparis.org/>

- A debtor country that signs an agreement with its Paris Club creditors should not accept terms of treatment of its debt less favourable than those terms agreed with the Paris Club from other creditors.

The Paris Club has completed 434 agreements across 90 debtor countries covering \$586 billion of debt.

Its observers are also EM sovereign debt creditors with financial and development goals, namely IFIs like the IMF, World Bank, AfDB, ADB, EBRD and IADB.

International banks - London Club: Its Bank Advisory Committee is formed ad hoc and the members may differ from case to case. It is typically composed of 10 to 20 senior representatives of the banks with the largest credit exposures to the debtor country. Members of the committee negotiate only on behalf of the banks participating in the syndicate, they do not represent other banks or other categories of creditors. Together with the debtor, the committee works out a restructuring plan, which is recommended to the creditors, who then decide whether to accept or reject it. ²⁹

Non-OECD: Emerging, non-traditional bilateral creditors are becoming increasingly important as providers of both concessional and non-concessional financing to EM borrowers. These entities may provide financing to developing countries directly, or through government agencies, state-owned banks, and other entities. Rather than providing the government with direct budget support, these creditors concentrate lending on certain sectors of the economy, most notably in the infrastructure sector, to support productive activities. Major non-traditional official lenders include China, India and Saudi Arabia. These creditors often take a different view with respect to conditionality and adhere to the principle of non-interference in the internal affairs of recipient countries. In the process of a restructuring, many non-OECD bilateral creditors may behave very differently from the traditional creditors and some have resisted the Paris Clubs' principle of comparability of treatment. Rather they have sought bilateral negotiation which can make the collective debt restructuring process more complex and can lend itself to political agendas influencing results.

Institutional investors – Bond Holders: With the liberalisation of global capital markets there has been a marked increase in private institutional investors participating in EM sovereign debt. These investors are varied and include pension funds, insurers, asset managers, and hedge funds. These include funds like Global Evolution, Aktia, Capitulum,

²⁹ <https://ouclf.law.ox.ac.uk/private-ordering-in-sovereign-debt-restructuring-reforming-the-london-club/#d>

Eaton Vance, NN Investment Partners, some seeking purely commercial returns, and some like Global Evolution who is one of the world's largest private holders of developing market debt, have a specific impact mission and ESG criteria in developing and executing their investments. As most of these funds are unregulated, this has enabled more flexibility to EM sovereigns (below investment grade) and increased non-concessional financing, e.g. Eurobonds. An implication of this is the presence of a secondary market for EM sovereign debt. This liquidity means less risk for institutional investors, which enabled increased institutional allocations to EM sovereign debt. However, the secondary market also provides an opportunity for some investors, known as vulture funds, to prey on distressed sovereign debt. Vulture funds buy debt often at deep discounts with the intent of taking legal action for full recovery. They have averaged recovery rates of about 3 to 20 times their purchase value which is equivalent to returns net of legal fees of 300%-2000%³⁰. This represents a significant commercial incentive which may prove challenging, or at least time consuming, to convert into a biodiversity-linked debt supporter or participant.

Rather than vulture funds, responsible and impact oriented institutional investors will be increasingly important in integrating biodiversity into EM sovereign debt, and there are clear industry leaders who should be enabled as much as possible to demonstrate their leadership. New EM creditors are important, but coordination may take too long so targeting of key creditors will be vital for moving from concept to actual biodiversity-linked debt issuance.

Structural challenges to private institutional investor creditors enabling EM sovereign debt relief

The most common derivative in sovereign debt markets is a credit default swap (CDS). Under the standardized conditions from the International Swaps and Derivatives Association and their interpretation as adopted by the courts, CDSs become due if the sovereign debtor defaults or the creditor is legally bound to a restructuring plan, e.g. through collective action clauses. A free approval of an exchange offer by the debtor caused by factual pressure does not lead to maturity. As a result, creditors holding CDSs have a significant incentive not to participate in a negotiation. Their incentive is instead to cause or to contribute to the default of the sovereign debtor. Since the CDS insures the purchase price, creditors may behave destructively in order to receive the higher insurance payment in the form of the purchase price.

³⁰ <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/african-legal-support-facility/vulture-funds-in-the-sovereign-debt-context>

The Paris Club remains the traditional and most influential group of creditors outside of the IMF who are supportive of debt relief, but where sustainable development-linked conditions have rarely been part of negotiations. Their 22 members generally speak as one voice (embodying the principles of consensus and solidarity), but also impose conditionality, i.e. negotiations take place only when debt relief is required after support from the IMF, a country is implementing reforms, and has a demonstrated track record. Bilateral debts owed to countries that are members of the Paris Club have, for the most part, simply been rescheduled rather than reduced. Typically, Paris Club creditors have offered to extend debt maturities over 12 years with a five-year grace period. A lowering of interest rates can also be negotiated with Paris Club creditors on a bilateral basis. Private bond funds who are the largest holders of EM/frontier market debt outside of sovereign creditors do not speak as one voice but approach their sovereign debt holdings on a spectrum ranging from zero-tolerance for deferment and restructuring to interest in supporting debtors both repay their debt to the extent possible while also addressing development goals. China is today the largest single holder of emerging and frontier market debt with outstanding claims in 2017 surpassing the loan books of the IMF, World Bank and of all other 22 Paris Club governments combined. Terms are generally on par with the private markets and collateral backed, with shorter durations than those offered by the IMF. However, debt-trap diplomacy is attributed to China and developed nations have cautioned that any new debt relief is channeled to confront the COVID-19 pandemic and not to repay pre-existing debts to China.

The G20's call for private-sector creditors to copy their blanket debt "standstill" is not expected to be a resounding success. It will be challenging to come to a collective and voluntary agreement for creditors and debtors alike (especially if negotiating en bloc). Instead, investors expect that debt crises will have to be handled on a case-by-case basis³¹. For the investment funds looking to take an aggressive stance in any default talks as in the vulture funds of past, the obstacle might not only be the ESG risks that accompany this type of behavior but rather the view from debtors that the pandemic gives them more leverage. This issue of moral hazard is chiefly addressed only by collective action which will be challenging to achieve and many believe that this will lead to relief negotiations delivering deferment at best, hence the need to consider new sovereign debt issuances as a mechanism for debtor recovery plans to integrate biodiversity.

³¹ <https://www.ft.com/content/f7157356-e773-47c4-b05d-8624a5ccfd03>

In terms of targeted creditors for new issuances of biodiversity-linked EM sovereign debt, groups like the High Ambition Coalition emerged from the UN climate negotiations at COP21 in Paris as a set of developed countries "determined to step up ambition by 2020" through enhanced national climate pledges, increased short-term action and long-term low emission development strategies. As sovereigns, they are a natural target to engage in biodiversity-linked debt issuances underpinned by financial sustainability. China and the European Commission are arguably best placed to take leadership on this critical and urgent opportunity. Both have large exposure to EM sovereign debt markets, and both have recently demonstrated global leadership on key sustainable development challenges, including biodiversity. The EC recently announced their precedent setting green recovery plan to respond to the economic impacts of COVID-19 in the EU and China has a key leadership role in setting the post-2020 global biodiversity framework.

Debtors

The list of debtor countries with ballooning public debt is long and growing each month as the pandemic proceeds. For the purposes of this paper, private and corporate borrowing is not considered unless disclosed as part of state-owned enterprises due to data fragmentation and opacity. EM debtors are varied but can be targeted based on debt levels, COVID-19 impact (e.g. high tourism dependency), past track records on restructuring and adherence to IMF criteria as well as a track record in protecting their natural resources and meeting biodiversity targets.

Targeting debtors: shortlist using a biodiversity lens

In addition to the ranking based on public debt, the main biodiversity lens we consider to target countries for biodiversity-linked debt is country biodiversity value. We have used the Mongabay 2016 list as a simple illustration that is arguably less politicised than some other rankings and approaches. It uses species richness as a measurement, creating a weighted index using five groups of animals — amphibians, birds, fish, mammals, and reptiles — and one group of plants — vascular plants. Each country is ranked by its percentage of species in each group relative to the total global number of species for each group. Mongabay acknowledges obvious major omissions by not accounting for insects and other invertebrates, fungi, microorganisms, and a number of other large groups of living creatures. Nor does it attempt to measure diversity of populations within species, levels of endemism, or intactness of ecosystems. Despite this, it produces a very similar ranking to

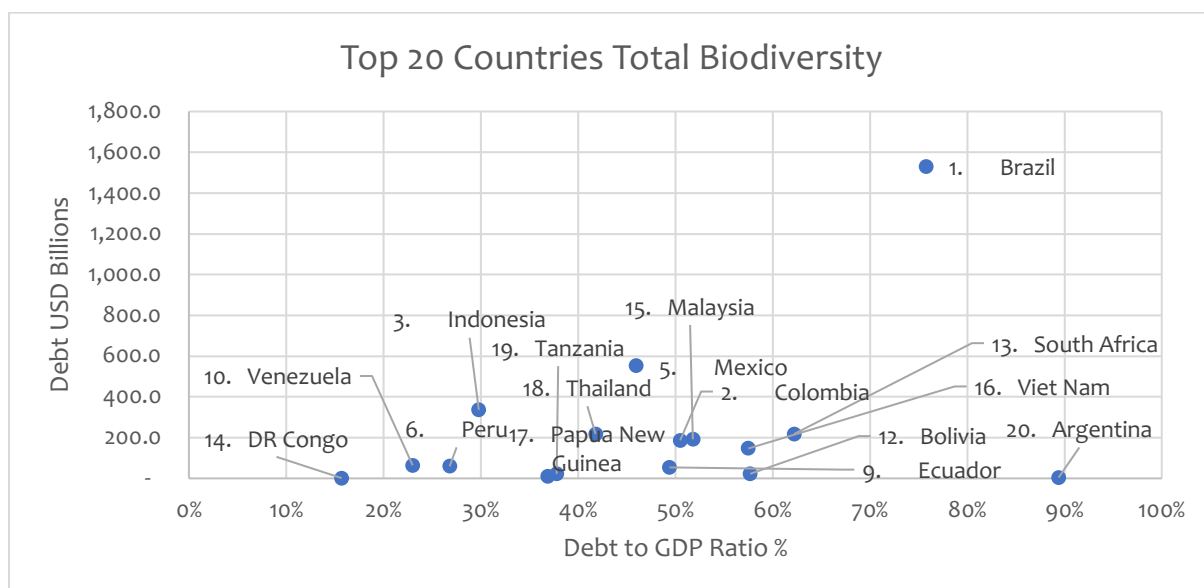
the majority of other approaches, highlighting that identifying a shortlist of priority EM countries based on biodiversity value is less problematic than many assume.

The reality is that each creditor and each debtor may apply different technical lenses to reflect their respective biodiversity priorities and objectives. Establishing these priorities and objectives for ‘high ambition’ creditors will allow bespoke target debtor shortlists to be developed.

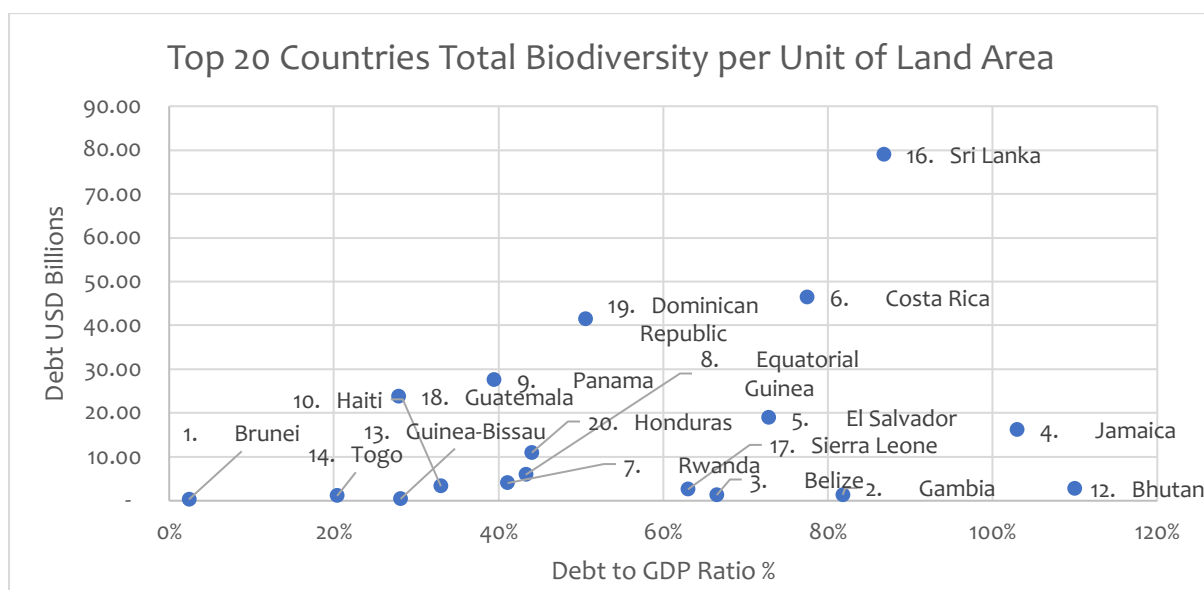
Top 20 candidates based on total biodiversity value and biodiversity value per unit of land are:

Total Biodiversity Value				Biodiversity Value per Land Area			
Country Rank				Country Rank			
1	Brazil	11	USA	1	Brunei	11	Solomon Islands
2	Colombia	12	Bolivia	2	Gambia	12	Bhutan
3	Indonesia	13	South Africa	3	Belize	13	Guinea-Bissau
4	China	14	DR Congo	4	Jamaica	14	Togo
5	Mexico	15	Malaysia	5	El Salvador	15	French Guiana
6	Peru	16	Viet Nam	6	Costa Rica	16	Sri Lanka
7	Australia	17	Papua New Guinea	7	Rwanda	17	Sierra Leone
8	India	18	Thailand	8	Equatorial Guinea	18	Guatemala
9	Ecuador	19	Tanzania	9	Panama	19	Dominican Republic
10	Venezuela	20	Argentina	10	Haiti	20	Honduras

Total country biodiversity value skews towards large countries. Top 20 countries (excluding China, Australia, India and USA as not EMs) based on total biodiversity value and total debt of \$3,615 Billion are:



On a per unit of area basis, small land mass tropical countries are biodiversity champions. Top 20 countries (excluding Solomon Islands and French Guiana for lack of data) based on biodiversity value per unit of land and total debt of \$287 Billion are:



Other biodiversity lenses to consider relate to countries' dependency on natural capital (e.g. the contribution of nature-based enterprises like tourism to GDP), environmental

performance and the degree to which they have mainstreamed biodiversity into their future plans.

The Environmental Performance Index (EPI) ranks 180 countries on 24 performance indicators across ten issue categories covering environmental health and ecosystem vitality. These metrics provide a gauge at a national scale of how close countries are to established environmental policy goals. The EPI thus offers a scorecard that highlights leaders and laggards in environmental performance, gives insight on best practices, and provides guidance for countries that aspire to be leaders in sustainability.³² The EPI reveals a tension between two fundamental dimensions of sustainable development:

1. environmental health, which rises with economic growth and prosperity, and
2. ecosystem vitality, which comes under strain from industrialization and urbanization.

The inherent tension of sustainable development is that income growth too often comes at the cost of the environment. A key message is that good governance emerges as the critical factor required to balance distinct dimensions of sustainability of environmental health and ecosystem vitality. The EPI shows a positive correlation with country wealth and environmental performance, achieving sustainability goals requires the material prosperity to invest in the infrastructure necessary to protect human health and ecosystems.

Drawing on the results of the 2018 EPI, China and India rank 120th and 177th respectively, reflecting the strain rapid economic growth imposes on the environment. Brazil ranks 69th, suggesting that a concerted focus on sustainability as a policy priority will pay dividends – and that the level and pace of development is just one of many factors affecting environmental performance. South Africa ranks 142nd. Latin American nations are broadly distributed over the middle half of the 2018 EPI rankings. Latin America is home to over 40% of the earth's biodiversity and more than 25% of its forests. The area also encompasses the Amazon rainforest, the world's most biodiverse region, according to UNEP. Developing countries, particularly in sub-Saharan Africa, have the greatest to gain from improvements in environmental performance. Investments in clean water, sanitation, and energy infrastructure could help these countries significantly boost their scores. High performance in sub-Saharan Africa is still possible, with Seychelles and Namibia both making significant progress on certain issue categories. Some of the lowest-

³² <https://epi.envirocenter.yale.edu/2018-epi-report/biodiversity-habitat>

ranking nations face broader challenges, such as civil unrest, but the low scores for others can be attributed to weak governance.

Mainstreaming biodiversity into the plans, strategies and policies of different economic sectors is key to reversing biodiversity declines and achieving sustainable development. This is recognized by the CBD and its Aichi targets. Individual countries can implement the goals of the CBD through their National Biodiversity Strategies and Action Plans (NBSAPs), which aim to, inter alia, support the mainstreaming of biodiversity into the policies of key economic sectors, such as agriculture, forestry and fisheries. It has also been seen as part of countries' NDCs, which include CO₂ reduction and climate change adaptation measures, and in most cases set goals for conservation and biodiversity as well. A large-scale review of 144 NBSAPs conducted against five criteria to calculate a national-level indicator for comparing levels of mainstreaming among countries, that allows the level of biodiversity mainstreaming to be compared among countries has shown that developing countries, particularly those in Africa, are more aware of the importance of mainstreaming biodiversity across economic sectors than developed countries.³³

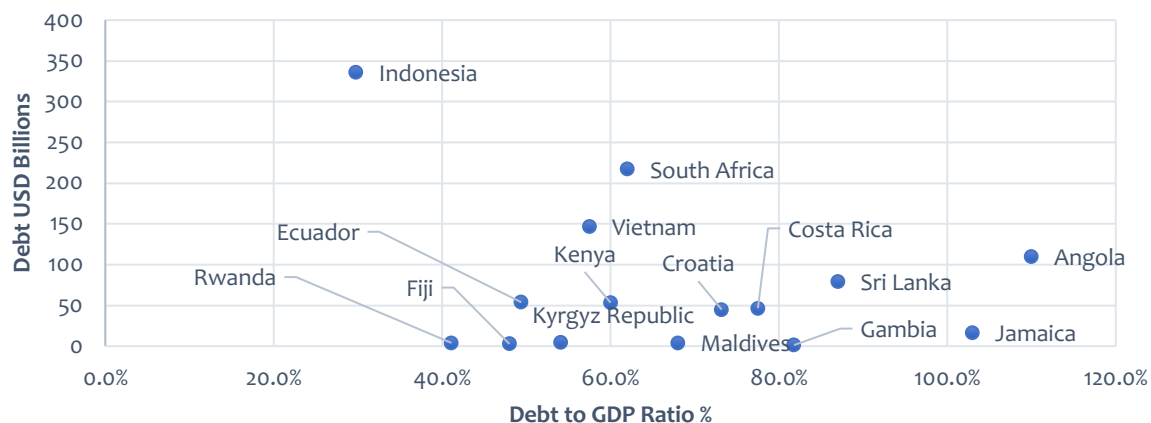
The policy and planning commitment alongside the ability to deliver on targeted and pre-agreed biodiversity outcomes will be key considerations and context-specific lenses for specific debtors and creditors.

Taking into consideration the debt and biodiversity lenses above we arrive at the following shortlist of target EM debtors to engage on biodiversity linked debt issuances.

- | | |
|---------------------------|-----------------------|
| 1. Angola | 9. Croatia |
| 2. Kenya | 10. Costa Rica |
| 3. South Africa | 11. Jamaica |
| 4. Maldives | 12. Ecuador |
| 5. Sri Lanka | 13. Fiji |
| 6. Indonesia | 14. Gambia |
| 7. Viet Nam | 15. Rwanda |
| 8. Kyrgyz Republic | |

³³ <https://www.sciencedirect.com/science/article/pii/S0006320719303179?via%3Dihub>

Targeted Cross-Section of High Biodiversity Value and Debt



Biodiversity policy landscape and stakeholders

In 1992, the international community established the Convention on Biological Diversity (CBD), recognizing the intrinsic, environmental, and economic value of biodiversity. The CBD asserts that biodiversity conservation is a "common concern of humankind," and therefore one that spans present and future generations.

Several international organizations are charged with orchestrating biodiversity protection at the global level. Key orchestrating bodies include:

- **Convention on Biological Diversity (CBD) Secretariat:** The CBD Secretariat global governance serves as the support structure for the Convention on Biological Diversity, a multilateral treaty that aims to protect biological diversity and promote sustainable and equitable use of the resources where biodiversity can be found.
- **International Union for the Conservation of Nature (IUCN):** The IUCN is a membership union composed of government and civil society groups. Its role is to provide public, private, and non-governmental organizations with the information and tools they need to collectively promote economic development, human progress, and conservation.
- **United Nations Division for Ocean Affairs and the Law of the Sea (UN DOALOS):** UN DOALOS supports the wider acceptance, uniform and consistent application, and effective implementation of United Nations Convention on the Law of the Sea. Its core functions include offering advice, studies, assistance, and research on the convention's implementation; maintaining a comprehensive information system; and providing training and technical assistance to States.

Multilateral efforts on biodiversity include:

- **Convention on Biological Diversity Meetings of the Conference of the Parties:** The Conference of Parties is the governing body of the CBD. Its purpose is to advance the implementation of the Convention through decisions made at its periodic meetings.
- **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES):** Established in 2012, the IPBES assesses the state of biodiversity and the ecosystem services it provides to society. As an implementing body for global conservation efforts, the IPBES provides policymakers with scientific assessments and knowledge on the state of biodiversity and the tools and methods they need to mitigate risks. IPBES has 126 member states (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, n.d.). NGOs, civil society groups, and individuals also participate as observers.

- Meetings of the Preparatory Committee on General Assembly Resolution 69/292: Resolution 69/292 is an international legally binding instrument under the United Nations Convention on the Law of the Sea that addresses the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

Regimes like the Convention on Biological Diversity (CBD) have had limited success due to the fragmented implementation of biodiversity policy, local drivers of habitat loss, and mismanaged linkages between financial value of protection and long-term cost savings or benefits. At the next CBD meeting governments will come together to adopt a post-2020 global biodiversity framework. This global biodiversity framework will replace the Strategic Plan for Biodiversity 2011-2020, which has failed to halt the decline in biodiversity and will not achieve its targets. This will be a key event to advance from proposed measures to implementation.

Intermediating between debtors and creditors: the role of brokers

There are well established processes for issuing sovereign bonds and negotiating loans. “The structure, legal documentation, target investor market, nature of the parties involved, and market conditions can all influence the issuance process.”³⁴

Financial and legal advisors play a key role supporting debtors in debt issuances, they are an integral part of the government's team responsible for the sovereign's negotiations with multilateral (including the IMF), bilateral and private lenders. They are often a conduit between debtors and creditors. Their scope of work is varied, and they themselves vary in organizational form. Financial advisors might assist the sovereign debtor with the debt sensitivity analysis which informs what is required to achieve debt sustainability, or they may provide the sovereign market access to funding or assist the sovereign in optimizing their credit rating. In the case of a biodiversity-linked bond issuance, this would also potentially require an arranger, a manager, a guarantor, a registrar, a listing agent, a ratings agency, a transfer and paying agent, and a calculation agent. Legal advisors may advise on the legal risks and support the development of a legal strategy. They may also work collectively to develop a coordinated strategy for creditor engagement.

As outlined by the African Legal Support Facility, a public international institution hosted by the African Development Bank which is dedicated to providing legal advice and technical assistance to African countries in the negotiation of complex commercial

³⁴ <https://www.afisf.org/sites/default/files/resources/2019-05-31%20Understanding%20Sovereign%20Debt%20Eng.%20v10.pdf>

transactions, creditor litigation and other related sovereign transactions:³⁵ “International financial advisors are professionals with deep expertise in macroeconomic and financial issues faced by sovereigns. They have accumulated experience working for several countries in a variety of regions around the world, and can draw on both lessons learned and global best practices. Some are known for their regional focus, while others have a more global practice and may at times partner with qualified local nonconflicted experts with in-depth knowledge of the local market and political and economic environment. Legal advisors are reputable international law firms (or experienced legal consultants) specialized in providing best-in-class advice to sovereign governments on a range of legal and strategic matters, including but not limited to debt financing, the regulatory framework, legal risks, liability management and litigation. There are several global firms that have well-known sovereign advisory practices, and they may partner with locally-qualified correspondent legal firms as needed.”

Communications is often overlooked or undervalued in facilitating debt relief but increasingly connected global capital markets and their influence from information in real time is a major consideration for both debtors and creditors. In conjunction with the debtor, and its legal and financial advisors, the communications advisors aim to develop a credible and effective narrative around key topics to both international and domestic stakeholders. Part of this approach also includes the development of an advocacy strategy underpinned by communications targeting key stakeholders and decision-makers for both the immediate deal level and long-term market development level.

In pushing the agenda detailed in this document forward, the role and identification of neutral brokers, ideally with a communication and advocacy platform, is strongly considered to take these approaches to implementation quickly. A large proportion of these intermediaries and advisors are private sector organisations which have the ability to move quickly at scale with the right incentivization.

There is a clear need to identify, engage, coordinate, inform and empower these key brokers and advisors on biodiversity matters and establish what technical assistance they need to successfully integrate biodiversity into debt issuance. Biodiversity advisors, alongside financial and legal advisors, have a key role to play in facilitating and expediting responsible EM sovereign debt which integrates natural capital. With the growth of investor appetite for SDG linked instruments there is also the possibility that this becomes a market force for brokers/intermediaries to particularly focus on SDG and

³⁵ <https://www.afisf.org/sites/default/files/resources/2019-05-31%20Understanding%20Sovereign%20Debt%20Eng.%20v10.pdf>

biodiversity linked EM sovereign debt sustainably into the future. These considerations raise the question of whether a coordinated communications strategy is needed to effectively position debt relief integrating biodiversity to key stakeholder groups, identifying leaders and voices to take the agenda forward, in parallel with direct biodiversity technical assistance.

VI. Conclusions and recommendations to move from concept to action and deliver biodiversity linked EM debt relief

COVID-19 and the linked economic downturn has put emerging markets on a pathway to a sovereign debt crisis and default, this requires an urgent global economic response. 2020 was designated as a critical year for taking action for biodiversity, given the collective failure to halt biodiversity loss and inability to achieve the majority of our global biodiversity targets.

Biodiversity underpins sustainable development; it is not mutually exclusive but mutually beneficial. As such, biodiversity needs to be represented by a holistic voice, not just from a conservation lens, and the timing in the current crisis perched on a cliff of financial and natural disaster puts the global financial system in an action mode. New debt issuances will go ahead—the question is how we improve the offerings in a way that makes sense to debtors and creditors, improving the short term financial, social and environmental outlook which can be carried into the future. We face the option of continuing to try and integrate biodiversity into the existing international finance system with the instruments we have and new ones we innovate – this is slow with limited scale, and does not represent a material valuation of biodiversity while still being plagued by moral hazard and unmet potential; or resetting the international finance system and integrating biodiversity more fundamentally within it.

We need an approach and process which aggregates the myriad of stakeholder interests such that there is an effective way to engage and develop solutions for integrating biodiversity into the international finance system, we believe in this proposal we have mapped the way forward. To achieve growth, support market resilience and achieve biodiversity goals, mechanisms must be enabled that support the debt issuance of developing countries with the buying down of biodiversity externalities, both reducing the cost of capital and ensuring the protection of natural assets.

There are both policy levers and technical instruments for issuing the debt of emerging economies and developing countries in a way that rewards countries that address and integrate solutions to biodiversity loss and restoration in their long-term recovery and growth strategies. It is not yet clear what the most effective platform, or mix of advisors and broker intermediaries, is for deploying these interventions, but this needs to be determined and potentially developed. We are confident in seeing a reduced cost of capital in developing countries and results for biodiversity on the near horizon. Regardless of the specific approaches deployed, the impending debt crisis for emerging market sovereigns is an opportunity for biodiversity to be integrated into the cost of sovereign capital.

Current insights reveal that debt ‘reprofiling’ is being considered today rather than one off restructures, and deferment dominates the discussions. Reprofiling is a form of sovereign debt restructuring in which the amount of time left for repayment of a government's liabilities are extended in maturity, while interest rates on bonds and amounts borrowed in loans are not cut (this was the principle approach to Greece by creditors). Many believe that relief negotiations will deliver deferment at best, hence the need to consider new sovereign debt issuances as a mechanism for debtor recovery plans to integrate biodiversity. Whilst arguably easier than navigating the complex debt relief and restructure landscape, new debt issuances will still require collective action from a subset of sovereigns who buy-in to the hypothesis of integrating nature and development into new debt agreements. Transparent debt information flows are crucial.

In terms of targeted creditors for new issuances of biodiversity-linked EM sovereign debt, groups like the High Ambition Coalition emerged from the UN climate negotiations at COP21 in Paris as a set of developed countries "determined to step up ambition by 2020" through enhanced national climate pledges, increased short-term action and long-term low emission development strategies. As sovereigns, they are a natural target to engage in biodiversity-linked debt issuances underpinned by financial sustainability. The Paris Club members and observers are expected to demonstrate a willingness to do so, while the private investors will be convinced, at least in part, through the improved long term prospects of the markets where they have deployed their investments, through outcomes in development and environment, and through pressure towards sustainable finance—of course underpinned by the attractive yield prospects that emerging markets will continue to provide post-crisis. China and the European Commission are arguably best placed to take leadership on this critical and urgent opportunity. Both have large exposure to EM sovereign debt markets, and both have recently demonstrated global leadership on key sustainable development challenges, including biodiversity. The EC

recently announced their precedent setting green recovery plan to respond to the economic impacts of COVID-19 in the EU and China has a key leadership role in setting the post-2020 global biodiversity framework.

Being strategic about choosing debtor countries to test the approach will ensure more efficient uptake and lessen the risk of failure on the financial or environmental front. Debtors can be targeted, particularly in the emerging markets who have high biodiversity value which means debt is often a cost-effective mechanism for creditors to achieve biodiversity outcomes. We know it is possible to target developing countries based on their historical biodiversity management performance. There is evidence that many emerging market debtors value biodiversity and have integrated it into their strategic plans, for example their Nationally Determined Contributions (NDCs).

Biodiversity outcomes need to be measurable and verifiable in order to be effectively linked to the cost of capital. The biodiversity outcomes targeted must support the economic recovery of the debtor country in a socially-inclusive manner. There needs to be coordination and agreement of a broad biodiversity outcomes framework, acknowledging that this will develop over time but that there are already frameworks and metrics in place that creditors can use to structure these agreements and feel confident about the veracity of results achieved. The curation of this space will be critical to mainstreaming biodiversity into debt capital markets beyond just the crisis-driven issuance of biodiversity-linked EM sovereign debt.

At the coordination level, alignment, if not agreement, amongst creditors and debtors on the outcomes framework should be achieved ex-ante to ensure that this does not result in duplication or disagreement among creditors and become burdensome or expensive for debtors. A neutral third party can play this role and support a transparent ‘brokerage’ service to enable deal making. Debtor and creditor coordination can be complex and runs the risk of being drawn out to the degree that it causes delays—currently we have a window to act over the next several months, but not next several years. The role of broker intermediaries is critical to debt issuance and the addition of a biodiversity lens to the process arguably demands new biodiversity advisors and/or technical assistance. For long-term advancement of this approach capacity building for EM countries should be promoted.

We suggest initially considering short dated debt, dependent upon the debtor’s underlying portfolio, which will allow for a quick feedback loop into the debt capital markets and will allow further evolution and advancement of the integration of

biodiversity. This can inform scientific/academic/field research and development and refine the determination of the biodiversity discount on the cost of capital and other terms, which will underpin growing this market.

VII. Looking ahead

In the next phase of work we will engage directly with targeted creditors and debtors. We are looking for access to detailed debt data and determining if only possible through direct engagement with debtors or if support can be found to better evaluate the landscape. We will explore the intermediary-broker(s) stakeholder space in order to effectively and efficiently clear the market. Existing advisors, with specialised skillsets, are being identified and will be engaged and coordinated, then empowered to be biodiversity friendly and enable deals. We will look for opportunities to showcase biodiversity targets which reduce risk, increase savings and/or revenue in a socially-inclusive way. Finally, we are calling for institutions that can offer credit enhancements and subsidisation through blended finance. We will account for the input from technical experts and champions of this proposal as to the most effective platform for implementation of the strategic approach. We envision it as including the private investors as conduits of direct investment into emerging and frontier markets. We must include funds, banks and institutional investors in order to really mainstream and have momentum into the future, letting a thousand flowers bloom in terms of implementation modes in the future to achieve the outcome we set out—integrating biodiversity into debt and reducing the cost of capital for developing countries.

Given the growing investor demand for impact-aligned, ESG and biodiversity related instruments we will explore using this programme to crowding-in new and more ‘responsible’ private investment into the sector.