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# Recapitalising Sovereign Debt

Technical paper

## Executive Summary

- COVID-19 and the linked economic downturn has put emerging countries and their economies on a pathway to a sovereign debt crisis.
- Many of the affected countries are rich in biodiversity. Yet this key component of their “natural capital” is rapidly diminishing and under increasing threat. Nature loss—such as deforestation, draining of wetlands, and species extinction—has reached alarming levels and is being affected by, and is affecting, climate change.
- There is a growing body of research making clear not only the link between nature and climate and sovereign debt, but also how nature loss is eroding many nations’ capacity to generate the economic activity needed to service and repay sovereign debt.
- Global biodiversity loss and nature destruction continues, posing ever-greater systemic risks if not addressed. Many developing countries, with a relative inability to address the risks of natural capital destruction, are most exposed. That is creating a vicious cycle.
- *Finance for Biodiversity* (F4B) believes there is a compelling opportunity—indeed, an urgent need—to break this cycle by offering a sovereign debt instrument that links the cost of sovereign debt with success in protecting or enhancing a country’s natural capital, as part of debt restructuring.
- “Nature Performance Bonds” (NPBs) would redefine new issuance and restructuring of existing sovereign debt around measurable economic, nature and climate outcomes by offering the issuer reductions in coupon payments and principal adjustment in return for the achievement of nature-based outcomes, such as restoring wetlands, protecting forests from encroachment, and reducing threats to wildlife and plant species. There would be no restriction on use of proceeds.
- NPBs would build on the recent evolution of state-contingent debt instruments and green finance products by ensuring that they are not only replicable but standardised for scale, evolving beyond the project-specific nature of much green finance to date, and making NPBs attractive to the private sector.
- The ultimate outcome would be reduced debt repayments, improved nature and climate outcomes, lowered country risk and improved access to capital, and a country’s increased attractiveness as a long-term investment destination.

## The Challenge

### A looming debt crisis

Seven out of the ten nations with the highest number of COVID-19 infections to date are developing economies that were facing debt distress before the pandemic struck. The health crisis has altered the calculus: declines in local currencies have increased the cost of servicing hard-currency debt for many, while evaporating demand has diminished export-dependent nations' income, and tourism has fallen across the world (World Bank, 2020).

At the same time, many countries have dramatically increased public spending to support their health systems and defend their economies and citizens' livelihoods. Emerging and developing countries have unveiled rescue packages worth 5.4% of their gross domestic product (GDP), according to the World Bank (2020).

This combination of factors has led to government budget deficits ballooning out of control. In Sub-Saharan Africa alone, they are projected by the International Monetary Fund (IMF) to reach a record 7.6% of GDP this year (IMF, 2020). This comes as governments in Africa and other developing countries are already facing an avalanche of sovereign debt repayments as a significant amount of post-2008, low-cost issuance comes due.

For some, the strain has already reached breaking point:

- In April, Pakistan became the first large developing country to apply for a debt repayment standstill under an initiative of the G20 group. The Asian country hopes to defer repayments due to bilateral lenders this year amounting to around US\$1.8 billion and use the savings to address the coronavirus crisis.
- In May, Zambia hired bankers to advise on restructuring its US\$11 billion in foreign debts, which threatened to trigger Africa's first coronavirus-induced sovereign default.
- And in July, 12 nations—including Bangladesh, Laos, Nigeria and Ethiopia—applied for their debt service payments to be suspended until December 2020 under the G20's Debt Service Suspension Initiative (Fitch Ratings, 2020).

Few would dispute that a sovereign debt crisis is looming—and action is needed. As UNCTAD claims: "The Covid-19 shock has put a glaring spotlight on the difficulties arising from high and rising developing country indebtedness since it is set to turn what was already a dire situation into serial sovereign defaults across the developing world. It has, therefore, turbo-charged the

need to move from discussion to action on debt matters in developing countries.” (p2 UNCTAD, 2020)

## The nature and climate crisis

Many of the affected nations are rich in biodiversity. Yet this key component of their “natural capital” is rapidly diminishing and under increasing threat. Indeed, nature loss—such as deforestation, draining of wetlands, and species extinction—has reached alarming levels and is in a vicious cycle, both being affected by and affecting climate change. COVID-19 itself, and the prospects of more and worse pandemics to come, are further symptoms of this crisis, since by radically altering nature, we create the conditions in which diseases like COVID-19 emerge and thrive (UNEP, 2016).

Nature-based initiatives to tackle climate change were recently described by Christiana Figueres, former head of the UN Framework Convention on Climate Change (UNFCCC), as “the Cinderella of climate mitigation”, because of a historical focus on the energy dimension of climate change, and an urgent need to turn attention to the role of nature in reducing emissions (Hook, 2020).

But biodiversity protection is rapidly becoming a global priority and addressing the human drivers of biodiversity loss is crucial. The Global Assessment Report on Biodiversity and Ecosystem Services (IPBES, 2019) has stressed the interdependence between nature and human existence, while simultaneously raising the alarm about the state and rate of biodiversity destruction. The report attributes this loss to direct and indirect human action (a finding echoed in the 2019 IPCC Special Report on Climate Change and Land), and argues that continued biodiversity loss will undermine the achievement of broader objectives such as the 2030 Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change.<sup>1</sup>

Research by WWF and others argues that reduction in certain “ecosystem services”<sup>2</sup> associated with high growth path developmental trajectories<sup>3</sup> could result in global economic losses totalling nearly US\$10 trillion between 2011 and 2050, while the adoption of more sustainable developmental approaches could contribute to positive GDP outcomes (Roxburgh *et al.*, 2020).

Despite recognition of the crisis that the destruction of nature poses, it has continued (and potentially accelerated) during the pandemic. Research suggests that in parts of Africa and Asia,

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<sup>1</sup> Nature loss and biodiversity destruction both exacerbate and are exacerbated by climate change (IPCC, 2019).

<sup>2</sup> Ecosystem services can be understood as “the benefits people derive from ecosystems”. Biodiversity is a necessary component of ecosystem services (IUCN, 2015).

<sup>3</sup> For this scenario, the authors use RCP 8.5

deforestation increased dramatically in the first half of 2020, likely the result of COVID-19-induced economic hardship (Palma *et al.*, 2020).

It is therefore unsurprising that there are growing calls for transformative change in developmental pathways and recognition of the need to reverse the loss of natural ecosystems, habitats and species. This is not restricted to the public sector. Private sector investors increasingly appreciate the potential risks associated with biodiversity loss and see a role for themselves in addressing it (Foll, 2019; Nauman, 2020; Paun, 2020). Reforestation is becoming a big element of this. Italian oil group Eni, for example, claims that it will plant an area of forest the size of Wales (UK), to meet its 2050 climate goals (Hook, 2020).

## **The Opportunity**

### **Connecting sovereign debt and nature**

The looming debt and green crises are intertwined. Nature loss is eroding many nations' capacity to underpin the economic prosperity needed to deliver livelihoods for their citizens and, in turn, their ability to service and repay sovereign debt. There is now a compelling body of research pointing to the critical role played by nature in driving economic productivity and growth, from such diverse sources as the Paulson Institute, the London School of Economics, the World Economic Forum (WEF), and the Chinese government-hosted China Council on International Cooperation on Environment and Development.

The nascent Task Force on Nature-related Financial Disclosure (TNFD) and the Dutch central bank's pioneering analysis of the systemic financial risks stemming from biodiversity loss, point to the importance of nature to both financial capital and sovereign risk. An emerging body of research is adding to the evidence base:

- Capital markets appear to be pricing climate risks into sovereign risk assessments. Perceived vulnerability and resilience to climate change seem to have a direct impact on the cost of government borrowing. Developing countries, with lower resilience and adaptation capabilities, are most impacted (Kling *et al.*, 2018; Cevik and Jalles, 2020).
- The transmission mechanisms between nature preservation (degradation) and the ability of debtor countries to repay debt are increasingly understood and appreciated (Pinzón *et al.*, 2020).
- Unlike climate change, nature-related issues appear to not yet be effectively priced into sovereign bond issues (Pinzón, Robins and Thoumi, 2020). This is set to change rapidly as the appreciation of the links is coupled with modelling to demonstrate the quantitative

impacts of mismanagement (positive management) of natural resources (Dennis, Singh and Schmitt, 2020).

- There is a better understanding that countries most exposed to economic risks of nature destruction are most likely to experience difficulties in managing these impacts (Dennis, Singh and Schmitt, 2020). Consequently, financial institutions are realising that environmental risks can erode a country's capacity to raise and repay debt, and that climate and natural capital factors should therefore be included in sovereign credit analysis (Dennis, Singh and Schmitt, 2020). Indeed, credit rating agencies have now begun to incorporate climate and nature related risks into their assessment of sovereigns.<sup>4</sup>

In the recent negotiations between Argentina and its creditors over the country's US\$65 billion debts, the link between natural capital and a sovereign's ability to service its debt was brought into focus given the country's heavy reliance on agricultural production to generate its key exports of soybeans and wheat. Output of both crops has been falling as a result of drought and wildfires, a situation exacerbated by the expansion of cattle-ranching onto areas previously cultivated with soybeans (Planet Tracker, 2020).

F4B believes it is only a matter of time before capital market actors (investors, credit ratings agencies, sovereign issuers) fully recognise the benefits associated with better stewardship of natural resources in the form of lower cost of borrowing (for issuers) and lower associated risk of default (for investors).

## Assessing the Urgency of Action

To support our work further, F4B has built a unique database of the debt sustainability and biodiversity status of countries to understand the nexus at which debt distress and biodiversity priorities coincide. Detailed country profiles of outstanding debt and macroeconomic performance were used to assess the scale and characteristics of debt, including debt stock, servicing costs and key creditors. Country-level assessments of habitats and existing biodiversity, as well as threatened areas and species, were compiled to assess the urgency and opportunity for protecting and improving the state of nature. Table 1 shows the range of data that was compiled.

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<sup>4</sup> Ratings agencies including Moody's, Fitch and S&P have all launched initiatives to better quantify the impact of nature degradation and climate change on sovereign credit ratings.

**Table 1: Metrics and data used to assess debt sustainability and biodiversity status of sovereigns**

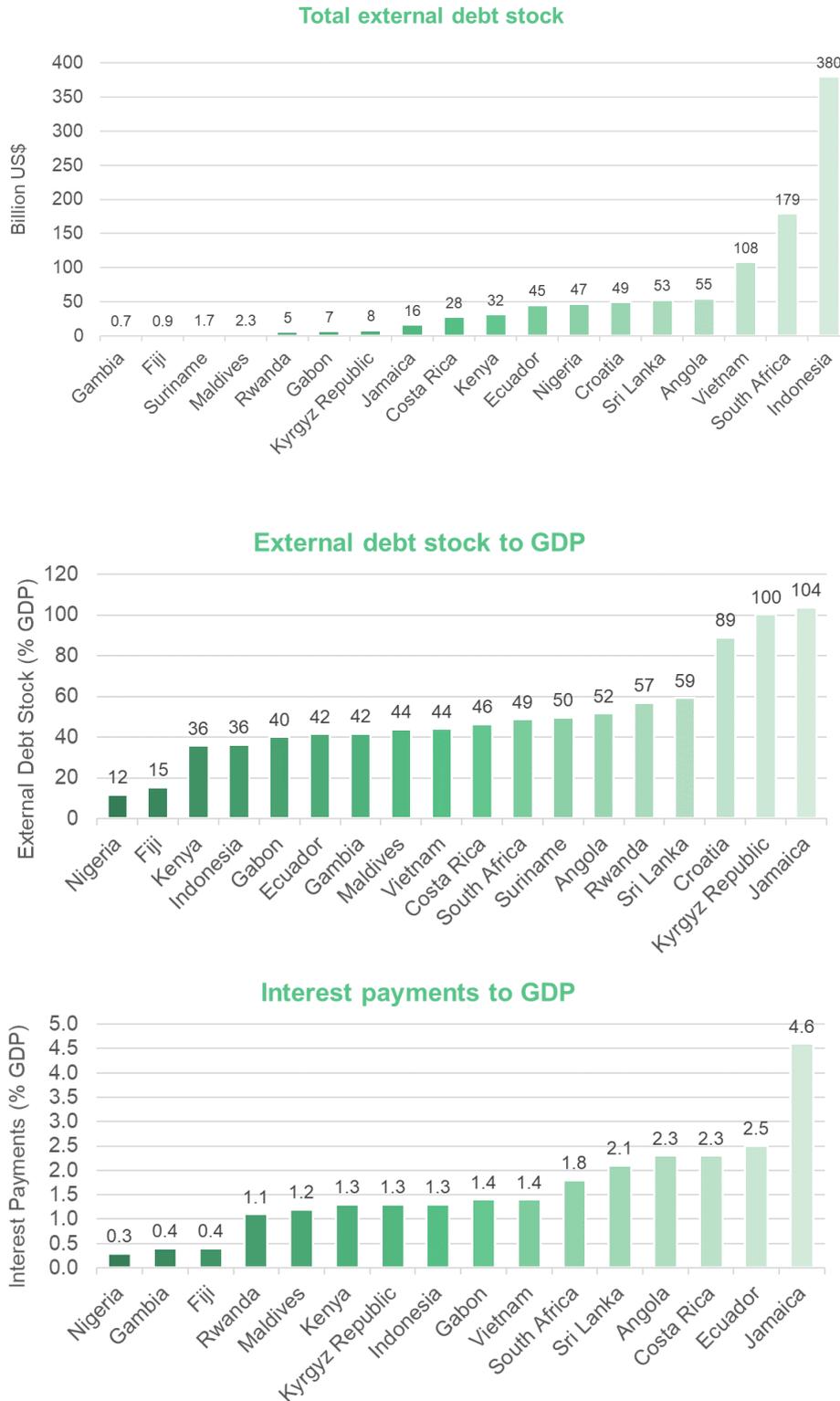
<b>Debt sustainability</b>	<b>Status of biodiversity</b>
<p><b>External debt position:</b> external debt stock to exports and GDP, debt service and interest to exports and GDP, interest payments to exports and GDP, reserves to external debt stocks</p> <p><b>Market view:</b> credit rating, sovereign credit default swaps (CDS)</p>	<p><b>Land cover data:</b> agriculture, shrubland, forest, wetland, urban areas, grassland, sparse vegetation, bare land, permanent snow and water</p> <p><b>Species numbers:</b> birds, amphibians, mammals, reptiles, vascular plants, fish</p> <p><b>Threats:</b> percentage of bird, plant, mammal and fish species threatened with extinction; forest loss between 2001 and 2019</p> <p><b>Protected areas:</b> terrestrial and marine sites</p>
<p>Data from the World Bank was used to provide a consistent set of data on debt sustainability, although data was available only to the end of 2018. Information on sovereign CDS from Bloomberg was used where available. Country credit ratings were sourced from Moody's</p>	<p>A range of country-level biodiversity data was drawn from Protected Planet, Mongabay, the World Bank and Global Forest Watch</p>

Eighteen countries were highlighted as facing both urgent debt sustainability and biodiversity issues: Angola, Costa Rica, Croatia, Ecuador, Fiji, Gabon, Gambia, Indonesia, Jamaica, Kenya, Kyrgyz Republic, Maldives, Nigeria, Rwanda, South Africa, Sri Lanka, Suriname and Vietnam. Combined, the total external debt stock for these countries amounted to US\$1 trillion in 2019 (the latest date for which consistent data is available). Several key debt sustainability metrics are summarised in Figure 1.

We then ranked these countries according to their debt sustainability and the need to take action to stem biodiversity loss. Indonesia, Nigeria, Vietnam, Rwanda, Jamaica, Kenya, South Africa, Gambia and Sri Lanka rank as being the poorest on debt sustainability, and as having the highest need to take biodiversity action from our analysis of a variety of indicators. For instance, Indonesia's external debt stock stands at close to US\$400 billion (see Figure 1), incurring an annual debt service of \$56 billion. At the same time, close to 30% of all its mammal species are threatened by extinction, including orangutans, tigers and rhinos, largely driven by rapid deforestation—between 2001 and 2019, 17% of Indonesia's forests were lost.

Our analysis also shows that several countries facing urgent debt issues have demonstrated recent successes in preserving biodiversity, particularly Costa Rica and the Maldives. Fewer than 5% of all species in these countries are under threat, which is especially important since these countries are large stores of global biodiversity. Despite its small size, Costa Rica has among the largest number of bird, amphibian, mammal and vascular plant species of any country analysed. The Maldives also has among the largest number of fish species of all the countries analysed. Debt sustainability represents an acute challenge, however, with Costa Rica facing one of the highest rates of interest payments in relation to GDP and exports. This analysis highlights what is at stake: the need to ensure that recent progress on nature protection is not put at risk by fiscal pressures and high levels of indebtedness.

**Figure 1: Selected debt sustainability metrics**



Source: Data from the World Bank and collated by Finance for Biodiversity

## The Solution: Nature Performance Bonds

These factors taken together create a collective need to act. The economic crisis in many developing countries, exacerbated by the global pandemic, poses an immediate threat to the health and wellbeing of millions of people around the world. As developing country governments struggle to manage increasingly challenging social and economic environments, the likelihood of debt default and/or need for debt restructuring increases.

At the same time, global biodiversity loss and nature destruction continues, posing ever-greater local and systemic risks if not addressed. Developing countries in many instances, with their greater reliance on natural capital for economic wellbeing, coupled with a relative inability to address the risks of natural capital destruction, are most exposed, creating a vicious cycle.

F4B believes these developments provide early signals of what is to come. They point to a compelling opportunity—indeed, an urgent need—to move forward in deploying a sovereign debt instrument that links the cost of sovereign debt with success in protecting or enhancing a country’s valued, productive natural capital.

These Nature Performance Bonds (NPBs) could provide a catalytic and practical pathway for introducing natural capital into solutions to today’s sovereign debt crisis, and in shaping its systemic place in tomorrow’s global financial system. The instrument would underpin a virtuous cycle of:

- reduced debt repayments;
- improved nature and climate outcomes;
- strengthened country resilience and productivity;
- lowered risk profile and improved access to cheaper capital; and
- increased attractiveness of a country as a long-term investment destination.

### What are NPBs?

NPBs are standardisable sovereign debt instruments with no restrictions on use of proceeds but with performance-based incentives built into the structure of the bond.

The bonds are structured to offer the issuer reductions in coupon payments and principal adjustment in return for the achievement of nature-based outcomes, such as restoring wetlands, protecting forests from encroachment, and reducing threats to wildlife and plant species. A

diverse range of environmental, social and economic performance indicators would be used to monitor delivery of these outcomes. The design of nature performance targets would be country- and deal-specific, depending on the country's biodiversity profile, the costs of achieving outcomes and the ease of demonstrating success, as well as the interests of the creditor.

The NPBs would be packaged in such a way that credit enhancement financing terms, or certain guarantees, from a co-investor sovereign creditor act as an incentive for private sector participation. Equally, it should be possible to “crowd in” private sector impact investors willing to accept a lower financial return in the interest of achieving positive impacts on nature and the climate. Investors with long investment horizons (such as pension funds and sovereign wealth funds) are also likely to see the benefit of these instruments. Above all, there should be a scalable approach that encourages risk sharing.

### **How do they relate to other debt and natural capital instruments?**

Various attempts have been made to address the sovereign debt and natural capital challenge through various green finance products (*see Appendix*). State-contingent debt instruments (SCDIs) link contractual debt service obligations to a predefined state variable—in other words, a sovereign's debt service payments are linked to its capacity to pay, based on fixed events or variables like GDP, commodity prices or triggers of hurricanes or other natural disasters. In downturns or during disasters these instruments invoke an automatic reduction in the sovereign's debt service burden. NPBs would be similar to SCDIs in linking payments to performance indicators. But an important point of difference is that they would incentivise positive outcomes rather than insure against adverse outcomes.

According to the IMF the uptake of SCDIs has been low to date, with debt issuance limited to debt-restructuring contexts (such as hurricane clauses). Limited uptake has partly reflected the “novelty premium” demanded of such instruments, and their ad hoc—and therefore non-standardisable—nature. Standardisation is therefore critical to the liquidity of the market, reducing costs to investors and facilitating widespread use of these products.

Scaling NPBs requires achieving consensus on agreed standards and their use. Success to date in debt-for-nature swaps has been limited by a lack of standardisation, constraining scaling across multiple actors and markets. More recently, guidelines for green and climate bonds have highlighted the scaling potential of even quite modest levels of standardisation. Early-stage principles for SDG-linked bonds, effectively a performance bond with features comparable to the proposed NPB, are a further indication of positive momentum. Yet standardisation should be a key component in any offering if effective debt instruments are to be attractive to private sector creditors.

NPBs would build on this asset class evolution by ensuring that they are not only replicable but standardised in line with existing asset classes, evolving the natural capital financial ecosystem beyond the project-specific nature of much green finance to date:

- By linking the bond structure and financial terms to the achievement of clearly defined and measurable outcomes. This incentivises the debtor to achieve the specified targets and supports growing investor demand for impact-linked investment products.
- Investors pay only for performance that is demonstrably achieved—this is an improvement on “use-of-proceeds” bond models where there is no enforceable link between investment and achievement of sustainability outcomes.
- By not restricting use-of-proceeds and thereby supporting more immediate economic recovery needs.
- By adopting a scalable structure that aligns with emerging standards (such as the International Capital Market Association’s Sustainability-linked Bond Principles) and can therefore be used across countries and performance metrics.

Ultimately, as natural capital shapes the risk profile of debtor nations, it should become so significant that it emerges as a mainstream consideration in terms of the risk pricing of sovereign debt.

### **What are the general benefits of NPBs?**

- NPBs can be deployed in the current environment to meet the immediate needs of sovereign debtors for short-term liquidity and debt relief.
- They offer a scalable approach to country performance bonds, which encourages risk sharing and connects sovereign debt to nature-based priorities and performance.
- Over the longer term, given the links between natural capital management and credit risk, they should enhance long-term debt sustainability through improvements in natural capital. This creates an alignment between the interests of creditors and debtors.
- They create an emerging asset class, with its own yield curve, enabling sovereigns in emerging and developing regions to drive economic and nature-based priorities simultaneously.
- They would provide an additional mechanism for contributing to the achievement of urgent biodiversity and climate goals.

- They would address a growing demand from investors for green/sustainability-linked investments.
- They would support developing and emerging nations to further enhance and protect natural assets, thereby contributing over the longer term to greater fiscal stability.

### **What are the benefits for sovereign debtors?**

- NPBs would support short-term economic recovery, with most of the funds released available for general purpose use.
- They could be part of a solution in a debt-restructuring process given that the product structure offers a mechanism through which debtor countries can obtain some debt (principal and repayment) relief.
- Developing nations would benefit financially because the terms of their debt will improve as they achieve agreed performance milestones, while over time a strengthened, more productive natural capital balance sheet will bring new economic opportunities and resilience.
- The proceeds would help countries fund their environmental objectives—including those on biodiversity and climate change—as well as critical economic and social goals, over the short, medium and long term.
- The bonds would ultimately contribute to improved nature and climate outcomes, such as restoration of degraded forest and other landscapes, wetland management, or species conservation and recovery. This in turn would increase the country's nature-based resilience, enhance productivity, and generate new market opportunities.
- If appropriately targeted, NPBs could enhance the ability of debtors to meet impending debt obligations.

### **What are the benefits for creditors?**

- Lenders—whether public or private—would have a new way to build into their portfolios alleviation of financial risks stemming from biodiversity loss and ecosystem degradation.
- For creditors, the creation of this standardised, new asset class—designed also with a balance of risk offsets between government and the private sector—would offer a way of helping the financial sector meet its increasing obligations to incorporate environmental and climate risk into portfolios.
- The bonds would support delivery of existing and future international commitments to outcomes such as climate change adaptation and mitigation, job creation, health and

other social goals, as well as biodiversity protection itself, enabling investors to demonstrate the broader social benefit of their activities.

- Governments, international financial institutions and private creditors that recognise the economic and wider value of protecting and restoring nature could embrace a new, pay-for-performance approach that would simultaneously secure both nature and climate objectives, and strengthen a developing nation's solvency and prosperity.
- The NPBs would help reduce the likelihood of defaults and/or need for debt restructuring, and contribute to the ongoing fiscal and debt sustainability of debtors.

### **How would NPBs work?**

We have produced a model of an NPB, which allows us to test a variety of bond structures, including different coupon rates, principal reductions and term structures. We used this to conduct sensitivity analyses of alternative structures of the bond.

We then examined how the issuance of bonds based on performance could deliver meaningful improvements in debt terms. We first used the model to test whether changes in interest rate were sufficient to free up much capital. We concluded that interest changes alone are unlikely to free up sufficient funds to improve debt positions, and to protect natural capital and fuel economic recovery.

We then examined how changes to both the coupon rate and reductions in the principal linked to verifiable performance could lead to meaningful improvements. The following illustration shows how an NPB would work.

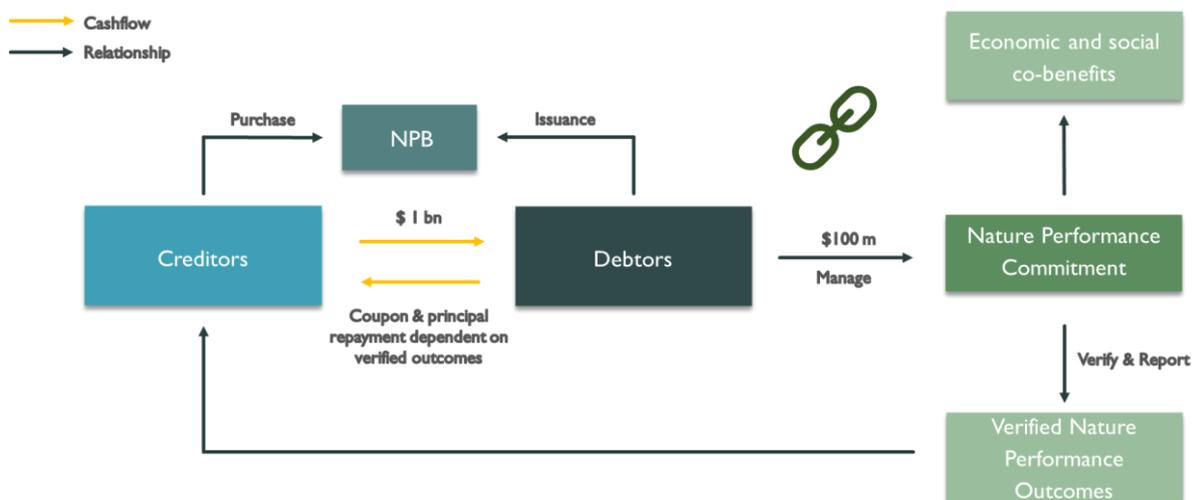
#### **The concept:**

- A bond is issued by Country A that commits itself to a specified level of nature performance over the term of the bond.
- If it meets its nature performance commitment, Country A repays the bond on more favourable terms specified on issuance. This would be defined as either lower coupon payments and/or an adjustment to the bond's principal.
- The purchaser of the bond would agree to receiving lower coupon repayments and/or less of the principal if Country A was successful in delivering its nature performance commitment.

#### **An illustration:**

- Country A issues a ten-year bond worth \$1 billion. Its nature performance commitment is to restore 10,000 hectares of forest annually. Successful achievement of this target reduces the amount of interest repaid by 50% and the principal repaid by 20%.
- For every year Country A meets this commitment, it repays 1.5% interest compared with 3% if the commitment is not achieved, saving \$15 million in interest each year. If it has met its commitment at the end of the term, it will repay 80% of the principal, saving \$200 million.
- In total, Country A would repay \$950 million if it achieves its nature performance commitment, compared with \$1.3 billion if it does not.

**Figure 2: How the NPB works**



## How would performance be defined?

Performance indicators would be set according to specific areas of performance a country is targeting. These would cover a range of potential habitats where nature outcomes could be improved, including forest, wetland, mangrove and coastal/marine habitats. Many nature outcomes, such as improving species numbers and/or increasing species richness, are complex to measure and may not be observable for many years following an intervention. Therefore, performance indicators must be linked clearly to actions that a country can take.

There are various efforts under way to encourage consistency and promote common frameworks and metrics in order to assess the state of biodiversity and nature, which paves the way for increased standardisation. Key examples include:

- the SDGs and Aichi Biodiversity Targets, with multiple indicators for biodiversity conservation;
- 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, which collects data that monitors species changes and is also listed as an indicator for SDG Target 15.5;
- Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) from the United Nations Statistics Division, the United Nations Environment Programme, the Secretariat of the Convention on Biological Diversity and the European Union; and
- Wealth Accounting and the Valuation of Ecosystem Services (WAVES), which is a World Bank-led global partnership promoting sustainable development by ensuring that natural resources are incorporated in development planning and national economic accounts.

Performance indicators can also be designed to incentivise nature performance that contributes to nature and climate co-benefits, such as habitat restoration that targets job creation. Climate outcomes might be an integrated element of the performance model, especially if they could be monetised through, for example, carbon credits. Natural capital investments stimulate the economy in the short term, and have positive consequences in the long term. Hepburn *et al.*, (2020) surveys 300 experts who agree that natural capital investments have higher potential for recovery than other traditional stimulus measures (i.e. infrastructure investment). Social and economic objectives might be part of the performance dashboard—for example if the debtor wanted to harvest green enterprise and livelihood opportunities.

Examples of key performance indicators we see for NPBs are:

<b>ECONOMIC RECOVERY</b>	<b>ECOSYSTEM PRODUCTIVITY AND RESILIENCE</b>	<b>CREATING MARKET OPPORTUNITES</b>	<b>STRENGTHENING GOVERNANCE</b>
<ul style="list-style-type: none"> <li>Number of jobs supported through forest, wetland, peatland, mangrove, and coastal restoration</li> </ul>	<ul style="list-style-type: none"> <li>Number of hectares of restored forest in flood-prone areas</li> <li>Number of hectares of forest area protected from encroachment</li> <li>Number of farms undertaking sustainable agriculture practices</li> </ul>	<ul style="list-style-type: none"> <li>Area of forest under Forest Stewardship Council or similar certification scheme</li> <li>Fishery area under sustainable certification</li> <li>Forest area included in carbon-offsetting schemes</li> </ul>	<ul style="list-style-type: none"> <li>Number of farms given land titles</li> <li>Sustainable management systems established in marine areas</li> </ul>

### How would NPBs be monitored?

- Performance indicators will need to be monitored and verified in order to appropriately award debtors for performance and to assure creditors that they are paying for actual performance. Monitoring and verification of performance outcomes would be conducted by independent, third-party auditors to provide assurance.
- Performance indicators must be set on the principle of additionality: a country must only be rewarded for doing something it was not going to do without the incentive being in place.
- At first, performance metrics are likely to be bespoke and designed around a debtor country's specific nature and climate. As the product develops, there will be increasing amounts of standardisation of performance metrics and verification processes, including the development of principles, taxonomies and certification protocols. This will need to occur to ensure that deals can be done quickly and that bonds are tradable—and that market participants understand what they buying and on what terms. There are various metrics used in equity and fixed-income markets to evaluate the environmental performance of investments, including methodologies to assess the impact of business and financial assets on nature. Emerging examples of these tools include ENCORE, a suite of products developed by the Natural Capital Finance Alliance in partnership with UNEP-WCMC, and Trase.finance, a web platform developed by public and private sector

partners. Both allow financial institutions to assess how their portfolios directly and indirectly impact deforestation and biodiversity.

- NPBs could use existing monitoring frameworks, such as the REDD+ frameworks that already exist in many countries with large areas of tropical rainforest. This would have the benefit of lowering costs and reducing the time needed to agree metrics.
- The cost of monitoring performance could be significantly reduced by picking indicators that can be monitored at scale. Remote-sensing approaches can be used to map changes in habitat extent and condition in near real time.

## How NPBs can be developed

Incorporating nature performance into sovereign debt markets will require the involvement of a varied set of actors, including official creditors, debtors, multilaterals, ratings agencies and the private sector, to develop the market from an initial phase to a scalable financial asset. This pathway could be structured as follows:

1. **Develop a small number of nature performance bond pilot deals between sovereign debtors and creditors to demonstrate proof of concept.** Sovereign creditors may be open to paying directly for nature outcomes as part of their policy interests and international commitments.
2. **Develop a set of protocols and features that allow the instruments to be traded.** Scaling NPBs requires achieving consensus on agreed standards and their use. This could involve setting envelopes on the payments that creditors would receive, such as defining interest collars to ensure a baseline level of return. Success to date in debt-for-nature swaps has been limited by a lack of standardisation, constraining scaling across multiple actors and markets. More recently, guidelines for green and climate bonds have highlighted the scaling potential of even quite modest levels of standardisation. Early-stage principles for SDG-linked bonds, effectively a performance bond with features comparable to the proposed NPB, are a further indication of positive momentum. The TNFD offers the opportunity to further refine the data and metrics needed to align financial sector activities with improved nature outcomes.
3. **Build natural capital into credit ratings.** ESG (environmental, social and governance) considerations are being increasingly mainstreamed into sovereign credit ratings. For instance, S&P Global has produced the ESG Risk Atlas, which assesses the environmental and social exposure of sovereigns.

## **How private sector funding could be unlocked**

Private sector actors are crucial for providing liquidity and scale. F4B sees the involvement of the private sector in the market for NPBs evolving as the bonds become increasingly standardised and the demand for debt instruments incorporating nature performance outcomes continues to grow. Four phases have been identified:

### **1. Public sector concessional finance and guarantees to reduce risk to the private sector**

Public financial institutions can reduce the cost of capital by demonstrating a willingness to pay for performance outcomes. They can also reduce the financial risk to investors through credit enhancement, providing assurance or guarantees against bonds in emerging markets that have higher risk or lower returns—a practice widely known as “blended finance”. An archetypal model for the role of the public sector in increasing private sector involvement in green finance is the Amundi/IFC Planet Emerging Green One fund (Amundi Asset Management, 2018), which aims to unlock private funding for climate projects in emerging markets. Risk sharing between the public and private sector is built into the fund by the IFC and other development banks investing to offset risk and attract private sector investment.

### **2. Development of a multilateral platform**

To overcome the fact that private sector investors are likely to be less willing than the public sector to buy products where the amount of principal returned would be less than originally lent, a platform could be developed where multilaterals cover the cost of any principal reduction due to successful performance, while the private sector engages in the market based on the assumption the interest rate of the bond will vary according to performance.

### **3. Impact investing**

Impact investing targets investment with social and environmental returns in emerging and developed markets where investors are often willing to take lower than market returns. In June 2020, the Global Impact Investing Network found that the total size of this market was US\$715 billion. Such investors may be willing to engage early in the market for nature performance outcomes given their focus on investments that generate positive environmental and social returns.

#### **4. Natural capital is incorporated into private sector investment decisions**

All creditors would be interested in nature performance outcomes if they materially affect solvency risks that feed into credit ratings. As summarised above in this Technical Paper, an increasing body of work is emerging that links natural capital to sovereign credit risk. Financial institutions are increasingly incorporating environmental risks into assessments of a country's capacity to raise and repay debt. HSBC Global Asset Management and Pollination Group's Natural Capital Fund aims to raise US\$6 billion from institutional investors, highlighting how mainstream investors are increasingly factoring in natural capital into their investment portfolios (HSBC, 2020).

### **Next Steps**

This year—2020—was to be a “super year” for global environmental action, given multiple commitments to halt biodiversity loss and climate change. There is an opportunity to do even better in 2021.

With a looming sovereign debt crunch, and an accelerating set of climate initiatives in the run-up to the United Nations Convention on Biological Diversity (COP-15) meeting in Kunming, China, in May 2021 and the UNFCCC's COP26 climate conference in Glasgow, Scotland, scheduled for November 2021, the time to grasp the debt and nature opportunity is now.

F4B invites creditors, debtors and other interested partners to engage to help shape its NPB proposition, so as to:

1. Further develop and refine this approach to sovereign debt based on nature-related performance, including a common approach across multiple initiatives, identifying proven pathways for standardisation and scale.
2. Develop country-specific deal packages, including short-to-medium-term reductions in the cost of capital and interest to debtors, linked to delivery of measurable biodiversity/climate, social and economic outcomes.
3. Build consensus among policymakers, international organisations and the private sector ahead of forthcoming meetings of the IMF, World Bank, G7 and G20, with the aim of establishing NPBs as a key element of international sovereign debt architecture.



## About Finance for Biodiversity

*Finance for Biodiversity's* mission is to increase the materiality of biodiversity, or nature, in financial decision-making. In so doing, it seeks to better align financial flows with the needs of biodiversity conservation and restoration.

For further information: <https://www.f4b-initiative.net/>

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## Appendix: Evolution of performance-based, nature-related financial instruments

Nature Performance Bonds would form part of a larger landscape of financial instruments aimed at achieving environmental (and broader sustainability) outcomes. Each of these has its own particular advantages and shortcomings, and is discussed in more detail below.

### 1. Debt-for-Nature Swaps

**How they work:** In return for debt forgiveness or debt reduction, the developing country sovereign agrees to invest the accrued savings in the achievement of conservation (or more recently, climate) goals. Debt-for-nature swaps were popularised through the 1990s and 2000s as a de-risking mechanism to attract further sources of capital for nature and development. They have also been used in debt crises as a mechanism to counteract debt-servicing pressures to exploit natural resources.

**Who:** Most debt-for-nature swaps have been produced by the United States and other creditors, including Switzerland and Germany. The recipients have been Bolivia, Costa Rica, El Salvador, Jamaica, Peru and Poland. Many of these deals have been facilitated and co-financed by non-governmental organisations including WWF, The Nature Conservancy (TNC) and Conservation International. The total amount of debt under debt-for-nature swaps amounted to US\$2.6 billion between 1985-2015, which resulted in \$1.2 billion of funding for conservation projects globally. The vast majority (93%) of these were bilateral deals between countries (UNDP, 2017).

**Scalability:** Debt-for-nature swaps tend to be bespoke deals, which limits their scalability. Negotiations to agree terms of the swap can also be lengthy.

**Performance:** Funds for conservation are held in a conservation trust fund that monitors use of proceeds.

### 2. Blue Bonds

**How they work:** Capital is raised to form a non-profit trust, which extends a loan to a government that has a high debt burden and natural capital challenges. This is used by the government to repay its creditors. The government repays the trust on more favourable terms and the trust pays for the initial capital raised and ongoing conservation. The government commits to creating marine protected areas in exchange for restructuring its debt obligation on more favourable terms.

**Who:** In 2018 the World Bank helped the Seychelles launch the first blue bond in 2019, raising US\$15 million from private sector investors. The Nordic Investment Bank followed in 2019 with

a Nordic-Baltic Blue Bond, raising SEK 2 billion (US\$220 million). TNC aims to raise US\$1.6 billion in blue bonds by 2025 over 20 countries.

**Scalability:** There is a potentially scalable approach to crowding in private sector capital.

**Performance:** Largely limited to use of proceeds for marine protected areas where spending and performance models could be replicated across countries.

### 3. Green Bonds

**How they work:** A green bond is a fixed-income instrument where the use-of-proceeds is specifically assigned to climate and environmental projects. Coupons and maturity are fixed regardless of performance. As at the end of April 2020, total global green bond issuance stood at US\$829 billion. (Climate Bonds Initiative, 2020b).

**Who:** Since the issuance of the first green bond in 2007 by the European Investment Bank and the World Bank, the range of both green bond issuers and investors has grown exponentially. As at the end of 2019, green bond issuers included corporates (financial and non-financial), sovereigns, development banks and asset-backed securities (Climate Bonds Initiative, 2020a).

**Scalability:** The development and broad acceptance of frameworks such as the Green Bond Principles, Climate Bonds Standard and the EU Green Bond Standard have contributed to the standardisation, and consequent scalability, of the market.

**Performance:** Despite the significant growth in the market, the instrument itself does not guarantee positive environmental outcomes as there is no linkage between the product structure and specific outcomes.

### 4. Sustainability-linked Bonds

**How they work:** Sustainability-linked bonds do not have a specific use-of-proceeds requirement, and the financial or structural components of the bond will vary according to the achievement (or otherwise) of predefined sustainability performance targets (ICMA, 2020).

**Who:** In 2019, the Italian energy group Enel issued a US\$1.5 billion five-year sustainability-linked bond. The bond rate is subject to it having achieved a target of at least 55% of its installed capacity in renewable energy by 2021. If this goal is not reached by the end of 2021, the coupon will be increased by +25 basis points until the bond matures (BNP Paribas, 2019).

**Scalability:** The flexible use-of-proceeds structure and the recent (June 2020) publication by ICMA of Sustainability-Linked Bonds Principles offer opportunities for standardisation and scalability, making it potentially attractive to a broad range of both issuers and investors.

**Performance:** As the financial structure of the bond is explicitly linked to the achievement of predefined sustainability targets as measured using defined performance indicators, there is a clearer relationship between investment and impact (Mathew, 2020).

## 5. Pandemic Bonds

**How they work/Who:** Pandemic bonds are a form of insurance-linked bond created to raise funds for the World Bank's Pandemic Emergency Financing Facility (PEF), aimed at providing funding to developing countries facing the risk of a pandemic (World Bank, 2020a). Structurally they are similar to catastrophe bonds inasmuch as the pay-out is triggered when a pre-agreed set of parameters is breached (in the case of COVID-19, this included outbreak size, confirmation ratio and cross-border spread). Investors received a sizeable interest payment but would lose all or a portion of their principal in the event of the bond being triggered (Hodgson, 2020).

**Scalability:** Pandemic bonds are essentially a form of catastrophe bond, a fairly well-established and understood financial instrument. However, as the World Bank's pandemic bonds have shown, agreeing the relevant trigger events in order to both make the product attractive to private sector investors while still achieving the desired developmental outcomes can be challenging (Cheng, 2020).

**Performance:** The use of parametric triggers and pay-out structures means the pay-out can diverge significantly from the actual loss and is highly reliant on the ability to accurately measure the relevant trigger events.

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