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REPORT**



Debt-for-Nature-Swaps: Feasibility and Policy Significance in Africa's Natural Resources Sector

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AFRICAN DEVELOPMENT BANK GROUP

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Table of contents

List of Abbreviations and acronyms	6
Acknowledgements	8
Executive Summary	9
1.Introduction: Challenges for the Governance and Development of Natural Resources in Africa	10
2.Current Challenges for Debt Sustainability in Africa	12
2.1 Global Trends and Developments	15
3. Debt-for-nature Swaps and Conversions	21
3.1 History of Debt-for-nature Swaps	21
3.2 Mechanics of a Debt Swap	25
3.3 Economic Implications and Scaling Potential of DFN Swaps	26
4.Alternative Mechanisms for Linking Sovereign Debt to Climate and Nature Outcomes	30
4.1 Traditional Sustainable Instruments	31
4.2 Sustainability-Linked Instruments	33
5.Opportunities for Africa and the African Development Bank	36
5.1 Methodology	39
5.2 Results and Analysis	44
5.3 Case Studies	48
Angola	48
Democratic Republic of the Congo	53
Zambia	60
6. Conclusion	65
Appendix A: Underlying Country Data	67
Appendix B: Historical World Swap Data	69
References	74

List of Tables and Figures

List of Tables

Table 1. Historical Debt-for-Nature Swaps in African Countries

Table 2. Comparison of debt transaction types for financing climate and nature

List of Figures

Figure 1. Historical Debt-for-Nature Swaps

Figure 2. Belize Blue Bond Swap Structure

Figure 3. Proposed Structure for a Sovereign Sustainability-Linked Bond

Figure 4. Relative Impact of Bilateral vs. Multi-Party Debt Swaps

Figure 5. Country Debt and Percentage of Protected Key Biodiversity Areas

Figure 6. Sovereign Debt and Ecosystem Vulnerability

Figure 7. Angola – External Debt Profile

Figure 8. China’s Debt in Angola

Figure 9. Angola – Debt Affordability and Protected KBAs

Figure 10. Angola – Debt Affordability and Ecosystem Vulnerability

Figure 11. Democratic Republic of the Congo – External Debt Profile

Figure 12. Democratic Republic of the Congo – Debt Affordability and Protected KBAs

Figure 13. Democratic Republic of the Congo – Multilateral Debt Breakdown

Figure 14. Democratic Republic of the Congo – Debt Affordability and Ecosystem Vulnerability

Figure 15. Zambia – External Debt Profile

Figure 16. Zambia – Debt Affordability and Ecosystem Vulnerability

Figure 17. Zambia – Debt Affordability and Protected KBAs

Figure 18. Mechanics of a Multi-party Debt Swap

Abbreviations and Acronyms

AAA	Extremely strong capacity to meet its financial commitments, highest issuer credit rating
ADF	African Development Fund
AfDB	African Development Bank
ALSF	African Legal Support Facility
ANRC	African Natural Resources Management and Investment Centre
ATAF	African Tax Administration Forum
AUC	African Union Commission
BIP	Biodiversity Indicators Partnership
CACs	Collective action clauses
CAFI	Central African Forest Initiative
CI	Conservation International
CIFOR	Center for International Forestry Research
COP	Conference of the Parties
COVID-19	Coronavirus Disease 2019
DFN	Debt-for-Nature
DGIS	Directorate-General for International Cooperation of the Netherlands
DRC	Democratic Republic of Congo
DSA	Debt Sustainability Analysis
DSF	Debt Sustainability Framework
DSSI	Debt Service Suspension Initiative
ECCE	Country Economics Department
ECF	Extended Credit Facility
ECVP	Economic Governance and Knowledge Management Vice Presidency
EFF	Extended Fund Facility
ESG	Environmental, Social, and Governance
G20	Group of Twenty
GDP	Gross Domestic Product
GHG	Global Greenhouse Gas
HIPC	Heavily Indebted Poor Countries
IDA	International Development Association
IDEV	Independent Development Evaluation
IDS	International Debt Statistics
IFC	International Finance Corporation
IFI	International Financial Institution

Abbreviations and Acronyms

IIED	International Institute for Environment and Development
IMF	International Monetary Fund
IUCN	International Union for Conservation of Nature
KBAs	Key Biodiversity Areas
KPIs	Key Performance Indicators
LDCs	Least Developed Countries
MDB	Multilateral Development Bank
MDRI	Multilateral Debt Relief Initiative
ND-GAIN	Notre Dame Global Adaptation Initiative
NGO	Non-governmental organization
NPV	Net present value
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PROFONANPE	Peruvian Trust Fund for National Parks and Protected Areas
RMCs	Regional Member Countries
RST	Resilience and Sustainability Trust
SDG	Sustainable Development Goal
SDR	Special Drawing Rights
SLBs	Sustainability-linked Bonds
SSA	sub-Saharan Africa
TFCA	Tropical Forest Conservation Act
TNC	The Nature Conservancy
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNEP-WCMC	UN Environment World Conservation Monitoring Centre
UNESCWA	United Nations Economic and Social Commission for West Asia
UoP	Use-of-proceeds
USAID	United States Agency for International Development
USD	United States dollar
WB	World Bank
WEO	World Economic Outlook
WWF	Worldwide Fund for Nature

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Executive Summary

The aim of this research is to assist the African Natural Resources Management and Investment Centre (ANRC), an entity of the African Development Bank (AfDB), to meet its commitment to advise regional member countries (RMCs) on important aspects of natural resource management and to ensure nature fully supports Africa's future economic development objectives. With support from the Worldwide Fund for Nature (WWF), this ambitious, nature-positive development agenda acknowledges the magnitude and importance of climate and nature for the future sustainability of regional member countries and will transform the sustainable development narrative.

These goals must be balanced, however, with the reality of the aftermath of the COVID-19 pandemic and the impact of the current conflict in Ukraine on energy and food security. The majority of the Bank's regional member countries fall within the group of countries that have witnessed a weaker recovery from the pandemic. In fact, the Bank has estimated that its constituents will require USD 484.6 billion in additional financing within the next three years in order to support their post-COVID recovery¹. These challenges are being further exacerbated by increasing climate vulnerabilities that are growing very rapidly in the least developed countries, particularly across the African continent². As a result, any climate and nature issues must be situated in the context of the post-pandemic recovery and the ability to meet other sustainable development goals.

Africa's sustainability goals are additionally challenged by global power imbalances, dynamic markets, climate change, and historical inequalities, but opportunities remain to advance these goals despite such impediments. This report highlights opportunities to mobilize finance by leveraging a growing global recognition of the importance of nature for our shared well-being. In order to meet the joint challenges posed by the pandemic and by the climate and nature crisis, bold and creative solutions are necessary, and therefore the collaboration between the AfDB, WWF and Potomac Group for this project on debt-for-nature swaps in Africa is both timely and essential. As part of this collaboration, this flagship report seeks to examine, analyse and explore ways to effectively mobilize finance for African countries while still advancing climate and nature goals.

The report therefore provides detailed policy recommendations for sustainable financing options, with a particular focus on debt-for-climate/nature swaps, transactions designed to exchange debt "forgiveness" for conservation action. Additionally, this report seeks to inform the Bank's new Debt Action Plan, Sustainable Borrowing Policy and specific interventions on debt management and sustainability in African countries, while reducing the risks to countries of debt distress and crisis. The intention is to provide action-oriented advice that can lead to transactions which will have lasting impact on debt sustainability, climate resilience, and biodiversity conservation for both people and the planet.

¹African Development Bank. (December, 2021). "2021 AEC: Africa must manage resources better, strengthen human capital to build back better after COVID-19 – panelists". 2021 African Economic Conference. Cabo Verde. <https://www.afdb.org/en/news-and-events/2021-aec-africa-must-manage-resources-better-strengthen-human-capital-build-back-after-covid-19-panelists-47249>

²34 of 46 least developed countries are located within Africa: <https://unctad.org/topic/least-developed-countries/list>

CHAPTER 1

Introduction: Challenges for the Governance and Development of Natural Resources in Africa

Africa is endowed with abundant natural resources and diverse ecosystems that critically support services, development, and livelihoods across the continent.³ Increasingly, African ecology is understood to be a fundamental pillar of the overall biosphere, offering services that help to mitigate the effects of climate change worldwide. For example, the Congo Basin rainforest is a crucially important carbon sink, providing a substantial offset to global emissions.⁴ Such services, however, are severely compromised through human interventions which result in deforestation and biodiversity loss.

In its Living Planet Report 2020, the WWF highlights an alarming 68% decline in the population sizes of fish, mammals, amphibians, and reptiles in Africa between 1970 and 2016.⁵ These declines are primarily driven by the increasing demand for natural resources to support population growth and global patterns of unsustainable consumption. With other pressures in the form of land clearance for agriculture, heavy livestock grazing, industrialization, and a heavy reliance on wood fuel for cooking and heating, Africa's lush forests are rapidly disappearing, removing a critically important source of carbon capture from the biosphere.

Aside from the global importance of maintaining these ecosystems, climate change is also an increasingly serious threat to development within Africa itself. Many countries in Africa are disproportionately affected by the extreme weather patterns associated with climate change, despite African nations having made minimal contributions to global greenhouse gas (GHG) emissions. The continent is particularly vulnerable due to its geographical location, widespread poverty, and limited adaptive capacity.⁶ Therefore, mobilizing finance for conserving critical ecosystems in Africa, as well as helping nations adapt to and mitigate the effects of climate change, is necessary to further sustainable development.

³World Bank. (2018). "Accelerating Climate-Resilient and Low-Carbon Development: Second Progress Report on the Implementation of the Africa Climate Business Plan". World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/28722>

⁴WWF. (2022). "Congo Basin". <https://www.worldwildlife.org/places/congo-basin>

⁵WWF. (September, 2020). "Living Planet Report 2020". <https://www.worldwildlife.org/publications/living-planet-report-2020>

⁶Niang et al. (2014). "Africa" in: *Climate Change 2014: impacts, adaptation and vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK.

Efforts to reverse environmental degradation are complicated, however, by the competing needs and limited budgets faced by African governments. High levels of poverty and hunger, as well as numerous armed conflicts across the continent have made the implementation of the ambitious 2030 Agenda for Sustainable Development in the region extremely difficult. Furthermore, efforts to mobilize capital for any of these initiatives are severely constrained by existing sovereign debt burdens.

The COVID-19 pandemic has exacerbated the sovereign debt situation for many African countries. The heightened need for health and social spending further constrained national budgets, affecting not only conservation spending, but also the ability to service government debt. According to World Bank (WB) /International Monetary Fund (IMF) debt sustainability analysis, 24 countries in Africa are either in overall debt distress or at high risk of overall debt distress.⁷ More recently, the conflict in Ukraine has worsened the situation even further by disrupting global supply chains and pushing up commodity prices, especially for food and fuel. As many African countries continue to grapple with these challenges, the pressure of debt service on sovereign balance sheets is a substantial hindrance to growth.

It is estimated that by 2020, sub-Saharan Africa had accumulated a total external debt stock of USD 702.4 billion, compared to USD 380.9 billion in 2012.⁸ Increased pressure to service this huge debt will inevitably reduce funding that could otherwise be invested in natural resource management and ultimately increase the funding gap for nature. It is important to note that only USD 49 billion is currently spent on biodiversity protection worldwide, with only 6% of it in Africa.⁹ This figure demonstrates that protected areas in Africa are underfunded when, according to some sources, the cost of protecting Africa's wildlife is estimated to be a comparatively modest USD 1.2 billion annually.¹⁰

Reducing countries' debt burdens will not only help to mobilize finance for closing the climate and conservation funding gap, but would also free up resources for public investment in key areas such as education, health, and infrastructure. This can be done by writing off portions of existing debt obligations or by refinancing through more favourable, sustainability-focused transactions. The global narrative surrounding the urgency of funding climate and nature initiatives has advanced considerably throughout the pandemic period. As a result, mechanisms for achieving climate and nature results through innovative debt transactions have rapidly been gaining traction. In this context, such mechanisms could potentially serve to narrow the climate and nature funding gap substantially, while bringing the additional benefit of aiding African countries to finance their broader development goals.

⁷World Bank. (2022). "Debt Sustainability Analysis (DSA)". <https://www.worldbank.org/en/programs/debt-toolkit/dsa>

⁸Bradlow, D.D. and Masamba, M.L. (Eds.) (2022). "COVID-19 and Sovereign Debt: The case of SADC". <https://www.pulp.up.ac.za/component/edocman/covid-19-and-sovereign-debt-the-case-of-sadc>

⁹Esaro and Biopama. (2020). "Closing the gap. The financing and resourcing of protected and conserved areas in Eastern and Southern Africa". IUCN. Nairobi, Kenya. <https://portals.iucn.org/library/node/49045>

¹⁰DeSmit, O. (October, 2018). "Protections for African wildlife face growing threat: a lack of money". <https://www.conservation.org/blog/protections-for-african-wildlife-face-growing-threat-a-lack-of-money>

CHAPTER 2

Current Challenges for Debt Sustainability in Africa

As in the rest of the world, the COVID-19 pandemic precipitated a recession of historical proportions in Africa, with the GDP declining by more than 2% and a contraction of GDP per capita by 10% in nominal terms in 2020.¹¹ In sub-Saharan Africa, the real per capita income dropped by 5.3%, falling back to 2013 levels.¹² While GDP growth is expected to increase by 3.4% in 2021, this is expected to be the slowest recovery seen compared to the other regions of the world, indicating the disproportionately lingering effects of the COVID-19 pandemic on the African continent. While the continent has thus far escaped large-scale infections, the damage from the disruptions in international economic, trade and financing activity has amplified pre-existing vulnerabilities and effectively reversed the progress made on development and poverty reduction. The pandemic pushed 30 million Africans into extreme poverty in 2020 and it is estimated 39 million Africans could have entered poverty in 2021 — bringing the total to over 465 million people, or over 34% of the total population.¹³

The pandemic is expected to have long-term effects on increasing child mortality, indirect mortality, and economic downturns by 2030 and 2050 that might exceed the extent of the initial shock—especially in the many countries with low government capacity and undeveloped health systems.¹⁴ Many nations in Africa were already in a vulnerable position prior to the onset of the pandemic. Debt levels in many low-income countries were approaching levels seen prior to the advent of the Heavily Indebted Poor Countries (HIPC) and Multilateral Debt Relief Initiative (MDRI) debt relief. The latest build-up in debt levels has been driven by higher exposure to commercial creditors and new official bilateral lenders like China. The share of bilateral lenders in Africa's external debt stock reduced from over 50% in 2000 to just 27% in 2019, as exposure to commercial creditors—banks and bondholders— increased dramatically from 17% to 40% in the same time period.¹⁵ Between 2000 and 2019, 18 African countries have debuted on the

¹¹AfDB. (2021). "African Economic Outlook 2021. From Debt Resolution to Growth: The Road Ahead for Africa." <https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

¹²IMF. (2020). "Regional Economic Outlook Sub-Saharan Africa" <https://www.imf.org/en/Publications/REO/SSA/Issues/2020/10/22/regional-economic-outlook-sub-saharan-africa>

¹³AfDB. (2021). "African Economic Outlook 2021. From Debt Resolution to Growth: The Road Ahead for Africa."

¹⁴UNDP. (2021). "Analyzing long-term socio-economic impacts of Covid-19 across diverse African contexts." <https://www.africa.undp.org/content/rba/en/home/library/reports/analysing-long-term-socio-economic-impacts-of-covid-19-across-di.html>

¹⁵AfDB. (2021). "African Economic Outlook 2021. From Debt Resolution to Growth: The Road Ahead for Africa."

international capital markets, collectively issuing more than USD 155 billion in Eurobonds.¹⁶ These new debt instruments tend to have shorter maturities and higher interest rates. As a result, interest expenses in terms of revenue more than doubled between 2010-2019.¹⁷ Additionally, countries have increasingly been contracting collateralized debt and there has been rising indebtedness in state-owned enterprises, contributing to contingent debt risks.

The COVID-19 pandemic triggered an increase in debt levels by 10-15%, with average debt levels recently reaching over 70% of GDP.¹⁸ The onset of the pandemic abruptly elevated the financing requirements of African countries, while tax revenues and export receipts dried up. The initial drop in commodity prices had a severe impact on public revenues in Africa too, where more than three-quarters of economies earn over 70% of their export revenues from commodities.¹⁹ Many countries have limited fiscal space and struggled to generate adequate domestic revenues even in good times. In Africa the average revenue in terms of GDP is below 17%, the lowest regional average in the world and 50% lower than the OECD average of 34%.²⁰

The crisis pushed the gross financing needs in terms of GDP above the critical threshold of 15% for most countries and over 30% of GDP in Somalia, Sudan, Mauritius and Tunisia.²¹ Across Africa, fiscal deficits doubled in 2020, surpassing more than 8% of GDP.²² The immediate need for public health and stimulus spending, combined with drastically reduced tax revenue following the global economic slowdown, put unbearable external pressure on low-income countries, now struggling to stay current on their interest payments. In 2020, over 20 African countries had external debt payments as a share of government revenues of over 14% and in five of the same countries the ratio was over 30%.²³

If left unaddressed, this situation could have triggered a series of widespread defaults, further exacerbating the urgent situation and hampering recovery efforts. Meanwhile, the impending climate and biodiversity crises have finally begun to attract long overdue international attention and concern, but efforts to address this existential threat are greatly inhibited by the ever-growing debt impasse.

The Group of Twenty's (G20's) Debt Service Suspension Initiative (DSSI) therefore freed up liquidity to help International Development Association (IDA)-eligible countries meet their heightened expenditure needs. Likewise, an increase in funding from the official sector has helped to close financing gaps so that emerging and developing countries could continue to address the public health crisis. AfDB additionally approved a total of 30 government lending operations for \$3.8 billion to meet their RMCs' liquidity needs. Although these initiatives have helped to prevent a wave of

¹⁶*Ibid.*

¹⁷*Ibid.*

¹⁸*Ibid.*

¹⁹ UNCTAD. (September 2021). "More than 100 countries depend on commodity exports". <https://unctad.org/news/more-100-countries-depend-commodity-exports>

²⁰ OECD/ATAF/AUC. (2021). "Revenue Statistics in Africa 2021". <https://www.oecd.org/ctp/revenue-statistics-in-africa-2617653x.htm>

²¹ AfDB. (2021). "African Economic Outlook 2021. From Debt Resolution to Growth: The Road Ahead for Africa".

²² AfDB. (2021). "African Economic Outlook 2021. From Debt Resolution to Growth: The Road Ahead for Africa".

²³ OECD/ATAF/AUC. (2021). "Revenue Statistics in Africa 2021". <https://www.oecd.org/ctp/revenue-statistics-in-africa-2617653x.htm>

defaults at the height of the pandemic, they have also left countries with a more burdensome schedule for future debt service payments at a time of stunted economic growth, diminished revenue, and increased public expenditure needs, thereby setting the stage for precarious debt sustainability in the medium- to long-term.

In an effort to manage this fragile situation, the G20 Common Framework for Debt Treatments Beyond the DSSI attempts to provide countries at risk of debt distress with a structured avenue for renegotiating their broader external debt stocks. Concerns about long-term debt sustainability notwithstanding, however, most countries seem apprehensive to participate. Only Chad, Ethiopia, and Zambia have so far sought a restructuring under the Common Framework, and as of October 2021, 15 out of the 38 African countries for whom debt sustainability analyses are available remain at high risk of debt distress.

Although there is little precedent surrounding the specifics of this process, it is very likely that participation in the Common Framework will carry negative implications for a country's credit rating. Although only about 60 percent of African countries are currently rated, certain stipulations of the Common Framework carry implications for both current and future prospects of accessing international financial markets. Unlike the DSSI, the Common Framework holds that comparable treatment for private sector debt is an absolute necessity. While extensive losses are by no means guaranteed, even an extension of maturity constitutes a renegotiation of debt terms, which could well be seen as grounds for a downgrade. As consequences of the increased borrowing and the economic fallout from the pandemic, debt service payments are projected to increase by 1% of GDP in the low-middle income countries and by 0.6% of GDP in low-income countries in 2021-25.²⁴ In Cabo Verde, Tunisia, Mauritania and Senegal, the annual debt service payments are projected to exceed 3.5% of GDP in the same period.²⁵

Simultaneously, the international community is increasingly emphasizing the urgent need to meaningfully address the threats from climate change and biodiversity loss. Many African countries reside on the front lines of these crises, feeling the impact of these phenomena far more acutely than in other parts of the world. This high level of vulnerability underlines a pressing need for conservation and green spending, but the pandemic has submerged this need in favour of public health spending on the immediate crisis. In other words, increased health and social spending as a result of the pandemic have exacerbated the already large financing gap for the urgently needed measures related to climate and nature.

The solution is therefore to address all three issues – debt, climate, and nature – with a comprehensive and holistic strategy. Recent innovations have produced a number of different ways to deal with these threats together, and debt-for-climate/nature swaps are seen as a proven and effective method. Although they have remained relatively small in scale for many years, the “green recovery”

²⁴ OECD/ATAF/AUC. (2021). “Revenue Statistics in Africa 2021”. <https://www.oecd.org/ctp/revenue-statistics-in-africa-2617653x.htm>

²⁵*Ibid.*

movement has sparked efforts to make their impact on both economy and environment, much more profound. That said, even small-scale debt swaps remain effective at addressing the immediate financing needs for conservation and climate adaptation efforts. Whether rerouting near-term interest payments to green project funds or swapping out substantial portions of debt as part of a large restructuring, debt conversion transactions have the capacity to address climate vulnerability needs with a broad range of fiscal outcomes. This study will explore the applicability of these efforts to African economies, and outline how the AfDB can play a key role in facilitating such transactions.

2.1 Global Trends and Developments

The G20 Debt Service Suspension Initiative (DSSI)

In late March 2020, the top leadership of the World Bank and the IMF issued a joint statement calling “on all official bilateral creditors to suspend debt payments from IDA countries that request forbearance.” Similarly, the official communiqué by the African Finance Ministers gave support for the WB/IMF proposal and called on the G20 for the “urgent and immediate release” of \$100 billion to support the fragile health infrastructure and the most vulnerable—including \$44 billion for debt relief for all countries on the continent and an additional \$55 billion for “building back” in 2021.²⁶

In April 2020, the G20 and the Paris Club creditors agreed to provide temporary debt service relief to all countries eligible for IDA concessional borrowing and all the members of the UN Least Developed Countries. In order to participate in DSSI, it was required for a country to either already be in an IMF financing arrangement, or to have made a financing request (including emergency financing) from the IMF. Once they made the financing request, countries were allowed to participate in DSSI even if they were already at unsustainable debt levels, which would ordinarily preclude them from receiving IMF financing. Under the DSSI, the eligible countries have been allowed to request a temporary forbearance on their debt service from their official bilateral creditors. The initial forbearance period of the end of 2020 was extended through the end of 2021. In exchange for participating in the DSSI, countries had to pledge to use the deferred cash flows for social, health and economic spending to respond to the pandemic, to disclose public sector spending and debts and to limit their non-concessional borrowing as required by the IMF and World Bank sustainable debt limit policies. This was the first time that China has participated in a multilateral debt relief effort and it set the precedent for its further participation in the Common Framework (see below). DSSI is not debt forgiveness, and all participating countries will have to repay the deferred amounts on a net present value (NPV)-neutral basis over a four-year period. Participation by private sector creditors was not a mandatory requirement and it is believed that none participated, apart from one Chinese

²⁶UNECA. (March 2020). “Communiqué - African Ministers of Finance - Immediate call for \$100 Billion support and agreement the crisis is deep and recovery will take much longer”. <https://archive.uneca.org/stories/communiqu%C3%A9-african-ministers-finance-immediate-call-100-billion-support-and-agreement-crisis>

official lending agency which participated as a commercial creditor. Similarly, multilateral lenders were excluded in order to preserve their AAA rating.

A total of 73 low and low-middle income countries were deemed eligible, including 32 countries in Africa. According to preliminary estimates by the G20, between May 2020 and December 2021, 50 eligible countries have been able to defer about USD 12.9 billion in debt service under this initiative.²⁷ While early estimates predicted that African countries could save USD 5.5 billion in debt service between May and December 2020, the actual savings amounted to only USD 1.8 billion in 2020.²⁸ In the first six months of 2021, the potential savings for the region are estimated to be USD 4.3 billion or about 0.4% of GDP on average.

Despite providing temporary savings on debt service at the height of the pandemic, however, the first installments of these postponed payments will now be due in 2023 as the grace period expires. This means that for the next several years, debt service will actually be higher than it otherwise might have been as countries must now service this rescheduled debt in addition to their regular debt service for this period.

G20 Common Framework

In November 2020, the Paris Club creditors and the G20 announced an agreement on a "Common Framework for Debt Treatment beyond the DSSI" (or Common Framework), establishing a multilateral framework for debt treatments for DSSI-eligible countries. Unlike the DSSI, the Common Framework has built-in conditionality and requires a comprehensive treatment of public and private debts. It comprises some of the usual Paris Club principles, such as case-by-case treatment and comparability of treatment, thus ensuring a broad participation among creditors—including the new bilateral creditors like China and India, as well as the private sector. Furthermore, it is expected that the IMF debt sustainability analysis will be used to determine the restructuring envelope. Eligible countries are also required to seek an upper credit tranche IMF programme.

Thus far, only three countries have applied for the Common Framework treatment—Chad, Ethiopia and Zambia—and progress has been slow. According to a December 2021 blog post by the IMF Managing Director, implementation has been fraught with multiple coordination problems, including among the multiple government institutions and agencies within new creditor countries.²⁹ Furthermore, in Chad delays have been on the private creditor side due to the complexity of restructuring collateralized debt held by a commercial entity and partly syndicated to a larger

²⁷G20 Finance Ministers and Central Bank Governors. (February, 2022). "Communiqué". Jakarta, Indonesia. <https://www.bi.go.id/en/G20/Documents/G20-Communique.pdf>

²⁸Fuje, H., Ouattara, F., and Tiffin, A. (August, 2021). "Has the DSSI Helped Lower Sovereign Spreads of Participating SSA Countries?" *International Monetary Fund*. Washington, DC.

²⁹Georgieva, K. and Pazarbasioglu, C. (December 2021). "The G20 Common Framework for Debt Treatments Must Be Stepped Up". <https://blogs.imf.org/2021/12/02/the-g20-common-framework-for-debt-treatments-must-be-stepped-up/>

group of banks and asset managers. Like other non-bonded debt, collateralized obligations do not include collective action clauses and therefore require unanimity among all creditors and lenders for amendments of contract terms.

In light of the implementation delays, the IMF has also called for reforms to the Common Framework, including “greater clarity on the different steps and timelines in the Common Framework;”³⁰ clarification on the enforcement of the comparability of treatment principle; and expansion of the eligibility for Common Framework treatment to other countries with high debts.

The African Union’s Green Recovery Action Plan 2021-2027

In July 2021, the African Union unveiled a five-year continental plan for simultaneously tackling the COVID-19 recovery and climate change. The “Green Recovery Action Plan” focuses on five priority areas, including climate finance; renewable energy; nature-based solutions and a focus on biodiversity through work on sustainable land management, forestry, oceans and ecotourism; resilient agriculture; and green and resilient cities.³¹ The plan aims to strengthen collaboration among the member states, galvanize support from international partners and introduce innovations in the field of green and blue debt transactions. Innovation such as those detailed below, could be ideal methods of facilitating that support.

IMF Special Drawing Rights Allocation

In August 2021, the International Monetary Fund (IMF) Board approved an allocation of USD 650 billion in Special Drawing Rights (SDR), aimed at boosting countries’ reserves and shoring up external buffers. While this is the largest such allocation in history, initial benefits across the countries have been uneven, with only USD 21 billion allocated for low-income countries. A group of developed economies has pledged about USD 45 billion in voluntary SDR contributions towards low-income countries, and there are ongoing efforts to boost this number up to USD 100 billion. In October 2022, the IMF plans to operationalize a new Resilience and Sustainability Trust, which will provide long-term financing to low-income countries, small island developing states, and vulnerable middle-income countries to improve the balance of payments stability, worsened by the pandemic and climate change. A group of African Ministers of Finance has advocated for on-lending of 20-35% of SDRs to support a vaccines facility, the Poverty Reduction and Growth Trust, the Resilience and Sustainability Trust and the regional development and multilateral banks in their response to the pandemic.³² The African Development Bank (AfDB) advocates for the allocation of IMF SDRs through the AfDB and other multilateral development

³⁰*Ibid.*

³¹ African Union. (2021). “Green Recovery Action Plan.” Addis Ababa, Ethiopia.

https://wwfint.awsassets.panda.org/downloads/african_union_green_recovery_action_plan__2021.pdf

³²AllAfrica. (October, 2021). “Africa: Statement by African Ministers of Finance and Economy on the IMF” <https://allafrica.com/stories/202110010999.html>

banks, which could then be leveraged to provide banks with additional capital and financing and hence provide concessional loans to developing countries, particularly those in Africa.³³

The African Development Bank's Actions on Debt Management through the Debt Action Plan (DAP) (2021-2023)

Although debt relief initiatives have helped to prevent a wave of defaults at the height of the pandemic, they raised important issues. First, they have left countries with a more burdensome schedule for future debt service payments at a time of low economic growth, diminished revenue, and increased public expenditure needs, thereby setting the stage for precarious debt sustainability in the medium to long term. Second, past experiences have also revealed that debt relief initiatives have not always delivered the intended results on growth and governance but have instead left countries unreformed and unable to grow out of debt. Third the lack of participation by the private sector in the “Common Framework” has constrained the initiative, currently limited to official government-to-government loans.

This suggests that beyond debt relief initiatives, African countries need to accelerate governance reforms and improve public financial management. This requires building strong budget institutions to efficiently mobilize domestic resources, conduct sound public expenditure and debt management and budgeting. Moreover, strengthening the nexus between debt, growth and governance would help to maximize growth dividends of debt-financed public investments. Finally, countries need to improve debt transparency through improvement in debt statistics, reporting and SOE debt coverage.

The Bank is actively engaged in several technical assistance and capacity building programs to reinforce debt management in Africa through its strategy for economic governance covering the period 2021-2025. These include the provision of grants to countries' Debt Management Offices to help finance national and sub-national capacity-building projects through the Middle-Income Country Technical Assistance Fund. The Bank is also helping RMCs improve their tax policy, tax administration systems, IT systems, and tax audit capacity. This will have significant impacts on the domestic resource mobilization capacities of African countries and help them grow out of debt.

Through the multi-donor trust fund Debt Management Facility (DMF), the Bank is helping RMCs strengthen capacities on debt relief and debt restructuring processes. The Bank is a key stakeholder of the DMF and has contributed US\$1 million to DMF I & II and has signed the Administrative Agreement for DMF III in February 2020 for a period of five years. Besides, the Bank pledged and paid US\$1 million in July 2020 to DFM III to provide customized advice on sovereign debt

³³<https://www.afdb.org/en/news-and-events/press-releases/channel-imf-special-drawing-rights-through-multilateral-development-banks-urge-african-development-bank-governors-51914>

management through the design and application of analytical tools, provision of tailored advisory services and implementation support, training, webinars, and peer-to-peer learning on debt.

The African Development Bank Group provided concessional funding to 37 African countries through its African Development Fund (ADF) window. At the 14th replenishment (ADF-14), the Fund cumulatively invested over US\$45 billion in various projects and programs. For the three-year ADF-15 Operational Period (2020-2022), UA5.62 billion, equivalent to about US\$7.8 billion, was pledged from contributing countries. In this regard, the Fund has contributed to achieving targets towards the Bank's High 5 priorities. Investments provided through the ADF are also helping with resilience building and recovery from the pandemic in a context of rising debt vulnerabilities. The ongoing ADF-16 replenishment over the period 2023-2025 will be another bold move to support African countries.

The Bank has been championing the establishment of an African Financial Stability Mechanism (AFSM) to strengthen the debt crisis resolution framework and ensure speedier resolutions that minimize costs to debtors, creditors, and the population. The establishment of the AFSM should be a priority on the agenda and fast-tracked, building on the experience of similar mechanisms and other institutions such as the European Stability Mechanism, the Arab Monetary Fund, or the Latin America Reserve Fund. This AFSM will help mutualize Africa's funds and avoid the spill over effects that come from global pandemics or any external shocks.

The African Legal Support Facility (ALSF), hosted by the Bank, is yet another transformative initiative on debt relief and restructuring for Africa. It provides various public debt advisory needs to RMCs on aspects such as debt relief, restructuring, refinancing, reprofiling. Recent achievements of the ALSF in transition states include:

- i. assistance to Guinea Bissau in negotiating significant private debt forgiveness, resulting in reduction of its debt obligations from US\$ 50 million to US\$ 5 million;
- ii. support to The Gambia in restructuring its commercial creditor debt, conducting a Debt Sustainability Analysis (DSA) and developing an Medium-Term Debt Management Strategy (MTDS); and
- iii. assistance to Somalia with its Paris Club negotiations, leading to debt relief in the amount of US\$1.4 billion and moving the country closer to the HIPC Completion Point.

The Bank's Debt Action Plan (DAP) (2021-2023): As Africa's premier development financial institution, the Bank plays a critical role in addressing Africa's debt vulnerabilities. Leveraging its strategic role on the continent, the Bank is leading several global efforts of multilateral development agencies to support African countries to cope with debt vulnerabilities and to build back better and stronger while also recovering from the socio-economic impacts of the COVID-19 pandemic. As part of its Debt Action Plan (DAP) (2021-2023), the Bank has defined specific actions to address fiscal and debt stress in regional member countries, rebuild their economies, and return to a green,

resilient, and inclusive development path. The DAP articulates four strategic objectives to “make debt work for Africa”, namely:

- i. to engage in high-level policy dialogue on debt sustainability, at the national, continental and international levels;
- ii. to increase the availability of low-cost and low-risk development finance, while helping to incentivize sustainable debt accumulation;
- iii. to strengthen the capacity of African countries to manage their public debt productively and transparently; and
- iv. to assist RMCs already in debt distress or in debt crisis resolutions to find solutions.

From this perspective the Bank is promoting innovative financing mechanisms that will help countries reduce their reliance on foreign debt and build resilience. Specific Bank interventions include financing strategies tailored to countries with security-related issues (security-investment-indexed bond), natural resource-rich countries (resource-backed loans) and supporting countries facing climate and biodiversity issues (debt-for-climate-and-nature swaps). Debt-for-climate-and-nature swaps are instruments that were created in the 1980s and 1990s, in which debt relief was linked to investments in reforestation, biodiversity, and protection of indigenous people. The Bank will coordinate and engage with international partners to facilitate the exchange of knowledge and experience to prepare debt deals and implementation strategies for these kinds of debt swaps in selected countries. Several African countries have already completed debt-for-nature swaps with commercial and bilateral creditors, including Cameroon (with France), Madagascar (with commercial banks, France, and Germany), Mozambique (with France), Tanzania (with commercial banks and Russia) and Zambia (with commercial institutions).

CHAPTER 3

Debt-for-Nature Swaps and Conversions

Perhaps the oldest method of linking sovereign debt to environmental outcomes, debt-for-nature (DFN) swaps, sometimes referred to as DFN conversions, are intended to facilitate an effective wealth transfer to a low- or middle-income country to finance local conservation efforts in the recipient country. Although this paper will explore and consider other forms of climate- and nature-linked debt transactions, DFN swaps remain the primary focus of this feasibility study.

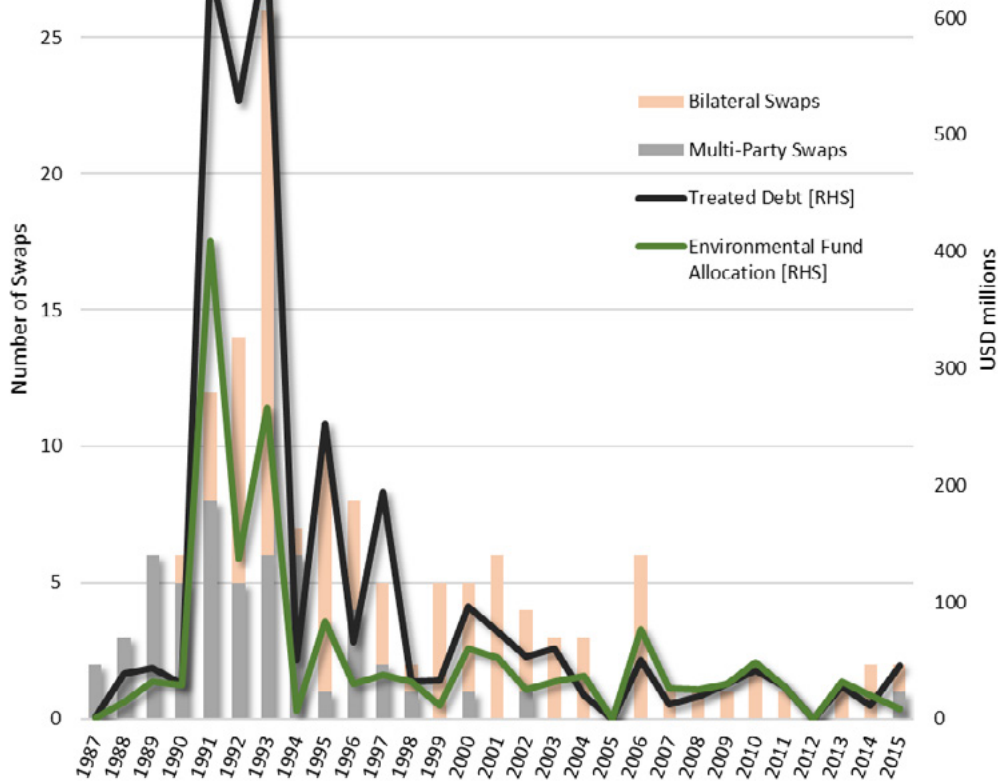
The basic structure of a DFN swap involves forgiving a portion of a country's sovereign debt in exchange for conservation commitments. They usually come in the form of a locally financed and operated conservation fund, but can include high-level policy commitments as well. This debt forgiveness can occur as the result of a bilateral agreement between the debtor and creditor, or as a multi-party arrangement where the existing debt is purchased at a discount by one or more philanthropic entities to reallocate some of the savings to conservation efforts (see below on mechanics of a debt swap). In this way, all parties stand to benefit from the transaction, including the original creditors in a multi-party swap, and the structure is versatile enough to be used in conjunction with other forms of climate- and nature-linked debt transactions.

3.1 History of Debt-for-Nature Swaps

The concept of trading debt forgiveness for environmental outcomes was originally conceived by Thomas Lovejoy of the WWF, and the first successful DFN swap was executed for Bolivia in 1987, facilitated by Conservation International (CI). The general aim of the model was to help control the exploitation of natural resources without ignoring the economic needs of developing countries. This was to be accomplished by using debt forgiveness to mobilize domestic spending on conservation, which might be otherwise limited in developing countries due to budget constraints.

FIGURE 1:

Historical Debt-for-Nature Swaps



Soon after its debut, the United States government adopted the model to help address the Latin American debt crisis. Large international NGOs would act as intermediaries with donor financing, purchasing debt at a price far below the actual face value in return for the debtor country setting up an environmental fund for financing local conservation projects. The introduction of bilateral swaps in the 1990s saw official creditors voluntarily writing off portions of debt in return for the promise of similar environmental commitments from debtor countries. Since the end of the 1990s, however, there has been a sharp decline in the volume of debt forgiven in swap transactions, and particularly multi-party swaps. This was not due to a diminishing interest in nature conservation, but rather the advent of other sources of debt relief, such as the HIPC initiative. When presented with the option to effectively erase the vast majority of its external debt, a highly indebted country is likely to forego other alternatives, despite their environmental aims.

Additionally, procedural lessons can be learned from the experience of earlier swaps. For example, streamlining the disbursement process is critical to the success of any foreign currency grant programme, particularly in an inflationary environment.³⁴ Without precisely targeted environmental objectives and an expedited approval process, any local counterpart funds supporting the

³⁴ Moyo, M. and Paddock J. (2003). "Madagascar's Experience with Swapping Debt for the Environment: Debt-for-Nature Swaps and Heavily Indebted Poor Country (HIPC) Debt Relief". WWF. <https://www.cbd.int/financial/debt/nature/madagascar-debtdev.pdf>

and Cameroon in 2006 allocated USD 25 million over five years to protecting part of the Congo Basin rainforest.³⁶ In Africa overall, debt swaps have secured over USD 135 million in conservation funding and other environmental projects (see Table 1). While these amounts are relatively small in terms of fiscal space, they have provided meaningful financing for conservation projects, for which a government might have otherwise lacked the necessary budget. In essence, DFN swaps redirect government funds from debt service to environmental initiatives, and sometimes to other development projects as well.

Since COP20 in 2012, there has been renewed interest in DFN swaps from both the debtor and creditor sides of the table. More recently, COP26 and the surrounding international movement for a “green recovery” have prompted analysts and policymakers around the world to seek innovative ways to finance conservation and climate change mitigation in debt-burdened countries (see below on “Sustainability-linked Instruments”). For example, in 2021, The Nature Conservancy (TNC), another veteran in the field of DFN swaps, facilitated a commercial debt swap for Belize that had a substantial positive impact on the country’s debt sustainability, making it the first commercial DFN swap of this scale (see Figure 2).

The success of the Belize Blue Bond swap for ocean conservation has demonstrated the feasibility of an upscaled DFN swap, and thereby the possibility that this model could be replicated in other parts of the world. Although such a sweeping debt treatment is not necessary for a successful, environmentally impactful swap, reducing the debt burden can have additional longer-term benefits. Properly designed, it can allow a country greater flexibility in its future budgetary decisions, increasing its capacity to address environmental needs in the future without the burden of additional debt restructurings.

³⁶ WWF. (June, 2006). “Debt-for-Nature Swap Protects Forest in Cameroon”. <https://news.mongabay.com/2006/06/debt-for-nature-swap-protects-forest-in-cameroon/>

TABLE 1:

Historical Debt-for-Nature Swaps in African Countries

Country	Year	Type	Face Value of Treated Debt	Environmental Allocation	Purchase Price
Madagascar	1989	Multi-Party	\$2,111,112	\$2,111,112	\$950,000
Zambia	1989	Multi-Party	\$2,271,112	\$2,044,001	\$454,222
Madagascar	1990	Multi-Party	\$919,364	\$919,364	\$445,891
Madagascar	1991	Multi-Party	\$119,000	\$119,000	\$59,000
Nigeria	1991	Multi-Party	\$149,000	\$93,000	\$65,000
Egypt	1992	Bilateral	\$0	\$11,600,000	N/A
Ghana	1992	Multi-Party	\$1,000,000	\$1,000,000	\$250,000
Tunisia	1992	Bilateral	\$1,342,000	\$1,342,000	N/A
Egypt	1993	Bilateral	\$17,300,000	\$0	N/A
Egypt	1993	Bilateral	\$6,200,000	\$0	N/A
Madagascar	1993	Multi-Party	\$3,200,000	\$3,200,000	\$1,500,000
Madagascar	1993	Multi-Party	\$3,735,000	\$1,867,500	\$1,818,824
Madagascar	1993	Multi-Party	\$725,000	\$725,000	\$362,500
Nigeria	1993	Bilateral	\$7,300,000	\$0	N/A
Nigeria	1993	Bilateral	\$10,200,000	\$0	N/A
Tanzania	1993	Bilateral	\$15,400,000	\$15,400,000	N/A
Tanzania	1993	Bilateral	\$25,600,000	\$190,000	N/A
Tunisia	1993	Bilateral	\$477,300	\$477,300	N/A
Madagascar	1994	Multi-Party	\$1,340,469	\$1,072,376	N/A
Madagascar	1994	Multi-Party	\$200,000	\$160,000	\$50,000
Zambia	1994	Multi-Party	\$985,986	\$162,687	\$108,458
Egypt	1995	Bilateral	\$121,000,000	\$18,000,000	N/A
Guinea-Bissau	1995	Bilateral	\$8,400,000	\$400,000	N/A
Madagascar	1996	Multi-Party	\$2,000,000	\$1,500,000	N/A
Ghana	2000	Multi-Party	\$120,000	\$120,000	\$104,000
Egypt	2001	Bilateral	\$7,450,000	\$7,450,000	N/A
Madagascar	2003	Bilateral	\$25,092,000	\$14,843,000	N/A
Botswana	2006	Bilateral	\$8,300,000	\$10,000,000	N/A
Cameroon	2006	Bilateral	\$0	\$25,000,000	N/A
Mozambique	2014	Bilateral	\$0	\$7,536,020	N/A
Mozambique	2015	Bilateral	\$15,779,733	\$1,803,398	N/A
Seychelles	2015	Multi-Party	\$29,600,000	\$6,600,000	\$28,000,000
TOTAL			\$318,317,076	\$135,735,758	\$34,167,895

Sources: WWF, Congressional Research Service³⁷, USAID, TNC, Kamel and Tooma³⁸

³⁷ Sheikh, P. (July, 2018). "Debt-for-Nature Initiatives and the Tropical Forest Conservation Act (TFCA): Status and Implementation". Congressional Research Service. Washington, DC. <https://sgp.fas.org/crs/misc/RL31286.pdf>

³⁸ Kamel, S. and Tooma, E. (May, 2005). "Exchanging Debt for Development: Lessons from the Egyptian Debt-for-Development Swap Experience". Economic Research Forum. Cairo, Egypt. https://www.researchgate.net/publication/263735645_Exchanging_Debt_for_Development_Lessons_from_the_Egyptian_Debt-for-Development_Swap_Experience

3.2 Mechanics of a Debt Swap

The “Debt and Debt Management and Financial Analysis System” glossary, published by the United Nations Conference on Trade and Development (UNCTAD) to establish standard definitions of related terminology, describes a debt swap as a debt relief technique that alters the original value or nature of loan instruments. In general, a debt-for-nature swap involves the cancellation of some amount of sovereign debt in exchange for environmental action on the part of the debtor country. This debt can be written off directly by the creditor, as would be the case with official bilateral swaps, or it can be purchased at a discount by a donor organization, often a large environmental NGO, with a similar debt write-off occurring thereafter.

Two-Party (Bilateral) Swaps

The simplest form of DFN swap, two-party swaps, can be described most simply as the write-off of a bilateral loan by a creditor in return for something else, generally environmental results within the debtor country. Although it is certainly not a formal rule, two-party swaps have historically, and understandably, involved only official bilateral debt. It should also be noted that a debt write-off conducted by an organized group of bilateral creditors, such as the Paris Club, would still constitute a two-party swap. The United States is the largest individual creditor to have executed DFN swaps, mainly facilitated through specially-established US Government facilities: initially the Enterprise for the Americas Initiative, later succeeded by the Tropical Forest Conservation Act (TFCA) in 1998, and finally the Tropical Forest and Coral Reef Conservation Act in 2019.

An example of this structure in practice is the October 2006 TFCA swap for Botswana, wherein the US Government forgave USD 8.3 million of bilateral debt in exchange for Botswana's commitment to facilitate grant financing for its tropical forests, funded partially through its savings from the swap (see Table 1).³⁹

The US additionally contributed almost USD 7 million to the initiative to create a total of USD 10 million in conservation funding, meaning that a good portion of Botswana's debt flow savings through the swap were reallocated for general budget spending.⁴⁰

Whether any given transaction constitutes the forgiveness of an entire loan or just a portion, a bilateral swap can be an effective and efficient way of freeing up a debtor government's budget for other uses, including local environmental initiatives.

Multi-Party (Commercial) Swaps

The primary difference between a multi-party DFN swap and a two-party DFN swap is the involvement of third-party donors with the intention to buyout an existing sovereign debt instrument from the

³⁹ USAID. (September, 2017). “Countries with TFCA Programs”. Archive. <https://2012-2017.usaid.gov/biodiversity/TFCA/programs-by-country>

⁴⁰ Ibid.

original (or current) creditors. Although it is not an inherent feature of this type of swap, this structure is exceptionally useful for treating publicly-traded commercial debt. The primary intermediary in this arrangement is often an environmentally-oriented NGO, such as CI, TNC, or WWF, though it is certainly not uncommon for a group of donor institutions to coordinate and share the burden of a single transaction (see Appendix B). In a multi-party swap agreement, the donor or intermediary will offer to purchase debt at a substantial discount from the creditors who currently hold it. In return for this reduced debt burden, the debtor country would then allocate a portion of the savings to a locally-based conservation fund with the intention of protecting its own natural environment.

Aside from the green publicity to be gained from such a swap, a major incentive for the commercial creditors to accept the discounted buyout of their held debt is the opportunity to achieve a "cash now" outcome from an instrument that may otherwise be viewed as somewhat risky. Although multi-party debt swaps in the past have been used to treat commercial debt, it is important to reiterate that this is by no means a requirement of the structure. In other words, it should therefore be feasible for a donor institution, whether an NGO or a development bank, to provide financing to one or more bilateral creditors for a similar swap transaction. For example, the Seychelles blue bond swap, facilitated by TNC, allowed the government to use donor money to repurchase Paris Club debt in exchange for marine conservation and protection.⁴¹

In fact, it should even be possible for a third-party bilateral creditor, in an effort to meet its own commitments to narrow the climate and nature financing gap, to provide financing assistance to another creditor country for such a transaction, thereby constituting a multi-party DFN swap involving only official creditors.

Multi-party debt swaps are versatile, allowing a variety of unique structures for treating different types of debt. This creates further opportunities from a fiscal standpoint. Although the environmental benefits of a swap are not dependent upon the amount of debt relief that they provide, a swap that additionally improves debt sustainability could help a government continue to pursue sustainable development policies in the longer term. This would involve scaling up the transaction to provide sufficient debt relief to a country to create viable fiscal space.

3.3 Economic Implications and Scaling Potential of DFN Swaps

Historical DFN swaps have had minimal fiscal impact on the countries involved. Since their debut in 1987, the total face value of debt treated globally through both two-party and multi-party swaps is only about USD 3.7 billion, of which only about USD 318 million were in Africa (see Appendix B). There may, however, be additional macroeconomic benefits to successfully implementing a swap agreement. For example, with enough positive public communication surrounding the conservation

⁴¹ Ministry of Finance, Economic Planning and Trade, Republic of Seychelles. (March, 2016). "Seychelles closes landmark buyback of paris club debt and activates marine conservation and climate change adaptation initiative". Victoria, Seychelles. <http://www.finance.gov.sc/press-releases/26/Seychelles-closes-landmark-buy-back-of-paris-club-debt-and-activates-marine-conservation-and-climate-change-adaptation-initiative>

term benefits of the environmental measures themselves, depending on how well they are executed and maintained, could yield other economic advantages from a sustainable development standpoint.

The data on historical debt-for-nature swaps (included in Appendix B) were collated from a variety of existing catalogues in order to close gaps, and any discrepancies between those sources were reconciled through the use of news articles, contemporary announcements, or other third-party accounts. Therefore, although a comprehensive investigation into the long-term macroeconomic effects of DFN swaps is beyond the scope of this study, the accompanying database should provide a reliable corpus from which to conduct any future empirical research into the topic.

Any potential long-term benefits aside, it remains true that DFN swaps, for the most part, have had little effect on the actual balance sheets of participating countries. The recent ocean conservation swap in Belize was a notable exception to this trend (see Box 1 and Figure 1). While it cannot be said that this swap completely restored the country's debt sustainability, the fact that it was able to retire Belize's only sovereign bond (worth nearly a third of its GDP) in exchange for a smaller, more affordably-structured instrument has left Belize with substantially more fiscal space than before. This is a testament not only to the scalability of the DFN swap model, but also to its potential for securing concessions from private sector creditors.

Although this is the first multi-party debt swap to achieve such a scale relative to the size of the country's economy, the model has now been shown to work, and could therefore be replicable in Africa. Embedded in a deeper restructuring, a sufficiently scaled swap could obtain similar concessions from other commercial creditors, since a cash settlement, even a disappointing one, may be preferable to retaining a diluted position with a longer maturity.

The potential impact of debt swaps in Africa is difficult to quantify precisely for a number of reasons. As made evident by Table 1, the environmental allocation from a swap transaction is not always equal to the face value of treated debt. Moreover, while any reduction in principal may vary widely across different transactions (reduced to 55 cents on the dollar in the case of Belize, but only 93.5 cents on the dollar in the case of Seychelles), the maturity extension and interest reduction attainable through a multi-party swap should naturally provide greater budget flexibility to the sovereign even if the stock of debt remains largely unchanged. Finally, even in the case of a relatively small environmental allocation, the initial capitalization of local conservation funds, combined with policy commitments from the sovereign, should allow those funds to slowly grow over time, widening their ecological impact and gradually chipping away at the financing gap.

It is possible, however, to observe the quantity of debt flows that would be treatable under swap arrangements, whether two-party or multi-party transactions, over the next several years. Excluding debt service to multilateral creditors, who generally enjoy preferred creditor status and are therefore unlikely to consider any debt write-offs, African countries are

currently expected to have to pay around USD 242.8 billion in debt service through 2028.⁴² Although this amount is not enough to fully address the financing gap, the fiscal space that swapping it could provide to African sovereigns would improve their capacity to seek new funding, as well as equip local conservation funds to grow and expand their impact.

BOX 1:

Belize – Ocean Conservation Through a Debt-for-Nature Swap⁴³

On November 5, 2021, the Government of Belize finalized an agreement with the holders of its only external sovereign bond to buy back USD 553 million of commercial debt at only 55 cents on the dollar. The funds for the buyback were raised by The Nature Conservancy (TNC), which issued USD 364 million of “blue bonds” through a special subsidiary and in turn lent the proceeds to Belize in exchange for substantial environmental commitments around the Belize Barrier Reef and the surrounding coastline.¹

In addition to capitalizing a USD 23.5 million conservation trust to protect the coral reef and an annual commitment of USD 4 million in conservation funding, Belize also made noteworthy policy commitments. These included improvements in transparency and the development of the country’s environmental protection enforcement framework, as well as various milestones for marine protection, such as the protection of 30 percent of Belize’s marine territory by 2026.

The blue bond transaction that funded this swap was underwritten by Credit Suisse, and the loan to Belize was insured by the International Development Finance Corporation, the development bank of the US Government. This credit enhancement provided TNC with enough risk mitigation to structure the loan favourably for Belize, with a long maturity, low interest rate, and 10-year grace period on the principal.

Debt swaps present an excellent method of converting burdensome, budget-restricting debt into meaningful environmental action. There are, however, some natural drawbacks to this mechanism. The first and most apparent is the need to find a current creditor willing to pay for these outcomes. The task is less daunting in the case of bilateral debt, particularly when dealing with Paris Club lenders who have historically been more open to such transactions. Since the Paris Agreement and COP26, bilateral lenders in general may be more likely to oblige a swap request as it serves to fulfil

⁴²World Bank. (2022). “International Debt Statistics”. Database. <https://databank.worldbank.org/source/international-debt-statistics>

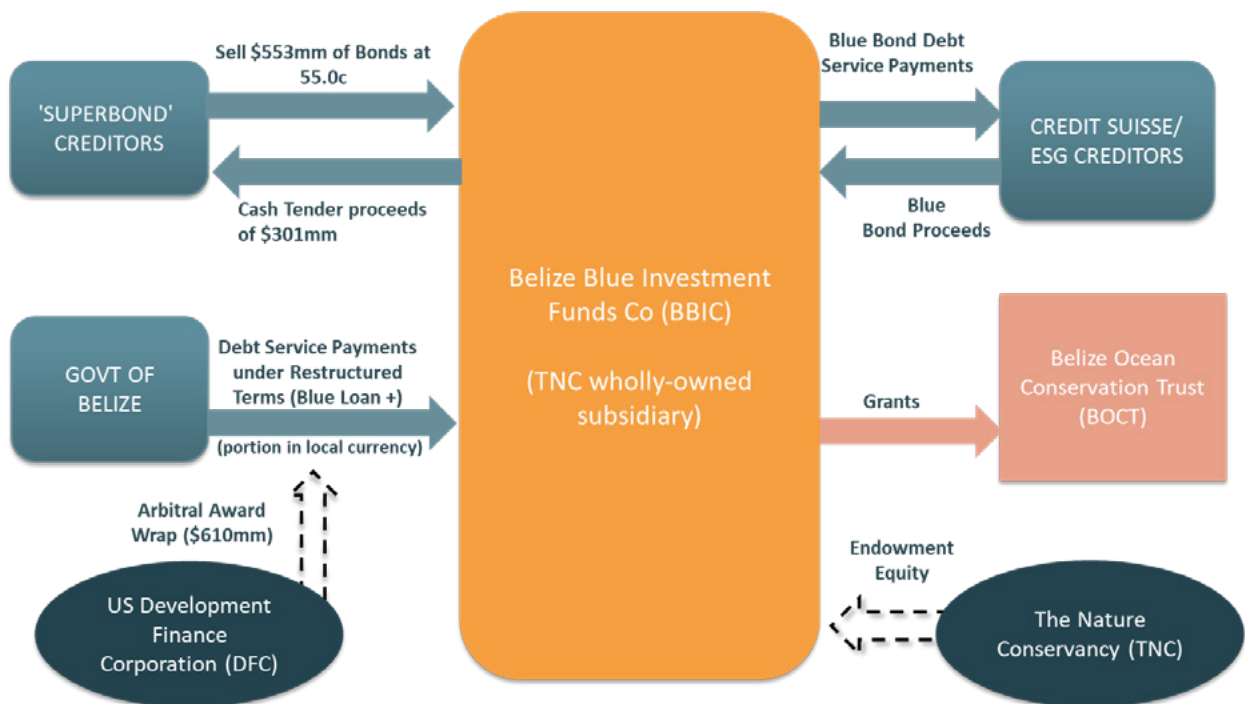
⁴³Bala, A., Behsudi, A., and Owen, N. (March, 2022). “Three countries—Belize, Colombia, and Ghana—highlight the potential of technology and innovation to strengthen public finances” in *Finance & Development*. International Monetary Fund. <https://www.imf.org/en/Publications/fandd/issues/2022/03/Country-cases-meeting-the-future-Belize-Colombia-Ghana>

their commitment to mobilize financing for climate and nature. Commercial creditors, on the other hand, may be less likely to accept a financial loss for the sake of an overseas conservation fund. In the case of distressed debt, the idea of receiving an upfront cash settlement from a donor may be appealing, given that a standard restructuring would be likely to result in a substantial loss anyway.

This situation, however, points to the second main disadvantage of a debt swap. At least in the case of commercial debt, any sort of renegotiation of the original bond or loan terms, even for the sake of biodiversity conservation, will naturally have a negative impact on the country's perceived credit worthiness, potentially leading to a ratings downgrade and thereby increasing the cost of future borrowing. It can therefore be said that, while debt swaps work as a useful tool for countries already in default, those that have retained market access may wish to pursue alternative methods of financing climate and nature initiatives.

FIGURE 2:

Belize Blue Bond Swap Structure



CHAPTER 4

Alternative Mechanisms for Linking Sovereign Debt to Climate and Nature Outcomes

In the past couple of decades, other mechanisms for linking debt to environmental outcomes have begun to emerge as alternatives to the DFN swap model, beginning with the first green bond issuance in 2007 by the European Investment Bank and followed shortly thereafter by the World Bank's first green bond issuance in 2008.⁴⁴ These are “new money” instruments, rather than transactions involving existing debt, and while the specific structure of an instrument can vary widely from one transaction to the next, they broadly tend to fall under two main categories: traditional sustainable bonds, also known as use-of-proceeds (UoP) bonds, such as green bonds and blue bonds; and sustainability-linked bonds (SLBs), which utilize contingent debt mechanisms. The latter is mostly exclusive to corporate debt markets, with the recent notable exception of Chile's SLB issuance in March 2022. Chile's SLB framework closely follows the corporate model, which may suit an A-rated emerging market issuer, but the green recovery movement has prompted multiple international dialogues to assess innovative potential designs for a more tailored sovereign SLB.

All three structures – DFN swaps, UoP bonds, and SLBs – offer potential solutions to various green financing needs, but determining the optimal model for any situation will be based on the goals, needs, and the debt profile of the country in question (see Table 2)⁴⁵. A country's decision to pursue any of these initiatives should be based on a comprehensive engagement process involving all of the relevant agencies across the government. Coordination is essential, and the process is likely to involve a number of outside parties, including multilateral institutions for capacity building, legal and financial advisors, and non-governmental environmental organizations that can also help to identify opportunities and verify results:⁴⁶

⁴⁴ IFC. (December, 2016). “Mobilizing Private Climate Finance – Green Bonds and Beyond” in *EM Compass. Note 25. World Bank Group*. <https://www.ifc.org/wps/wcm/connect/2996f197-a75b-422a-9e2f-cdc022d8ea96/EMCompass+Note+25+Green+Bonds+FINAL+12-5.pdf?MOD=AJPERES&CVID=IzgXSmr>

⁴⁵ IIED, Potomac Group LLC, UNECA, UNESCWA, UNDP. (2021). “Linking sovereign debt to climate and nature outcomes. A guide for debt managers and environmental decision makers”. IIED, London <https://pubs.iied.org/20651iied>

⁴⁶ *Ibid.*

TABLE 2:

Comparison of debt transaction types for financing climate and nature

Transaction	Purpose	Risks and Drawbacks	Outcome
Debt-for-Nature (DFN) swaps	<p>Reallocating short-term debt service payments to conservation.</p> <p>OR</p> <p>Seeking a better deal in a restructuring situation through committing to tangible conservation initiatives and policies.</p>	<p>Potentially detrimental to credit rating outside a restructuring scenario.</p> <p>Relatively small fiscal impact outside a broader restructuring.</p>	Portion of outstanding debt stock cancelled in return for substantial climate and nature commitments, including capitalizing a local conservation trust, or even government policy changes.
Traditional sustainable bonds (27p bonds)	Financing a specific climate or nature initiative through private capital markets.	<p>For sovereigns, restriction on the use of proceeds means a less flexible budget despite adding liabilities to the balance sheet.</p> <p>For creditors, risk of greenwashing due to the lack of regulatory mechanisms for ensuring that the proceeds are used as intended.</p>	Liquidity raised through capital markets with the expectation that the proceeds will be used to fund pre-designated sustainable development initiatives.
Sustainability-linked bonds (SLBs)	Raising general-purpose liquidity with the willingness to meaningfully pursue ambitious climate and nature initiatives.	Failure to achieve promised climate and/or nature commitments in the agreed timeframe can have undesirable consequences for the borrowing terms.	Proceeds of bond issuance are for general budget use, with the potential for substantial savings in borrowing terms, but the sovereign commits to ambitious environmental targets, and its progress is audited by an independent party for transparency and legal determination of success.

4.1 Traditional Sustainable Instruments

Green bonds, blue bonds, sustainable development goal (SDG) bonds, and other standard new money environmental, social and governance (ESG) bonds generally fall under the heading of traditional sustainable bonds, also called “use-of-proceeds” (UoP) bonds. As the name would suggest, these instruments are issued with the promise that at least a portion of the proceeds will be spent on a disclosed initiative linked to improving sustainability in some way. In return for this allocation, the expectation is that bondholders will be willing to accept a reduced yield for green instruments. This spread is colloquially referred to as the “greenium”. A recent example of this structure in African sovereign debt is Benin’s SDG bond, issued with the assurance that the proceeds will contribute to Benin’s efforts to achieve the Sustainable Development Goals (see Box 2).

BOX 2:**Benin – SDG Bond**

On July 15 2021, Benin launched its “SDG Bond”, a broadly-scoped UoP bond intended to assist the country with meeting its sustainable development goal targets. The issue follows Benin’s SDG Bond Framework, which targets twelve categories of relevant environmental and social objectives, including access to water, access to energy, agriculture, education, health, housing, biodiversity conservation, and others goals.¹ Overall, the Framework aims to address 15 of the 17 UN SDGs. Each of the twelve categories within the Framework is tracked by specific indicators, which serve to mark the country’s progress towards targeted outputs and outcomes as a way of gauging the impact of the project.

With the goal of raising EUR 500 million, the final yield was 5.25%, securing an estimated “greenium” of about 20 bps.² About 91% of the bond issuance was allocated to ESG investors.³

¹ Merle, C. and Caumes, A. (July 2021). “Republic of Benin’s trailblazing €500m 12,5-Y inaugural issuance under its new SDG Bond Framework”. Natixis. Paris, France. <https://gsh.cib.natixis.com/our-center-of-expertise/articles/republic-of-benin-s-trailblazing-500m-12-5-y-inaugural-issuance-under-its-new-sdg-bond-framework>

² Ibid.

³ Ibid.

Applying this UoP structure to environmental outcomes is a much newer concept than a debt-for-nature swap. The first green bond was issued by the European Investment Bank in 2007, and the World Bank began a long tradition of green bond issuance the following year⁴⁷. It has since become the dominant green instrument in the market. In fact, in 2021, facilitating banks actually earned more in fees from green transactions than from those related to fossil fuels, constituting a stunning USD 1.4 billion increase from 2020⁴⁸.

Despite this apparently thriving market appetite for green debt, UoP bonds are not without their own substantial drawbacks. In the absence of any trigger mechanism within the structure to guarantee the use of proceeds, there is massive uncertainty in the market about whether or not the bond proceeds are genuinely being allocated in such a way that the world will experience a net positive climate and/or nature outcome. In the case of sovereigns, nationally-controlled legal and regulatory frameworks make discretionary proceed use possible without any elaborate greenwashing techniques. Combined with the increasing saturation of the market with these debt instruments, fears of greenwashing amongst creditors have been increasingly driving down greeniums for UoP bonds.

⁴⁷ Bajpal, P. (July, 2021). “Green Bonds on the Rise”. Nasdaq. New York, NY. <https://www.nasdaq.com/articles/green-bonds-on-the-rise-2021-07-02>

⁴⁸ Quinson, T. (January, 2022). “Bank Fees for Green Debt Surpass Fossil-Fuel Financing”. Bloomberg. New York, NY. <https://www.bloomberg.com/news/articles/2022-01-05/bank-fees-for-green-debt-surpass-fossil-fuel-financing-green-insight>

From the issuer's perspective, the most apparent drawback to this model is the budget restriction itself. This is particularly an issue for sovereign issues, as governments naturally have a vast development agenda and a long list of expenses beyond their environmental considerations. In this current era of increased health and social expenditure needs, it is reasonable to say that it may not be prudent for many governments to take on new debt with inherent limits on how the proceeds may be spent. UoP bonds may still be useful for market access countries that need funding for a specific green project, but debt-burdened governments in need of a way to improve their long-term debt sustainability may be better off seeking other financing methods, such as sustainability-linked instruments (see Table 2)⁴⁹.

4.2 Sustainability-Linked Instruments

An even more recent innovation than green bonds, SLBs were first introduced into the corporate bond market shortly before the pandemic. This structure also allows the borrower to issue a bond at below the market yield, but rather than restricting the use of proceeds, the SLB is linked to one or more sustainability milestones, known as key performance indicators (KPIs). The issuer's ability to meet these KPIs by a certain date would then have implications for the financial structure of the bond. A set of voluntary guidelines for corporate SLB issuance has been published by the International Capital Market Association, and issuers generally adhere to them as accepted standards for best practices⁵⁰.

From the borrower's side, the primary advantage to issuing an SLB rather than a UoP bond is the freedom to allocate the proceeds flexibly at their own discretion. This is particularly advantageous for sovereign borrowers, who can use the proceeds of an SLB to close budget gaps and refinance existing debt, without having to earmark anything for a specific purpose.

From the creditor side, the structure offers a great deal more transparency than a UoP bond would, assuaging greenwashing concerns through the involvement of second-party experts who are required by the bond documentation to evaluate the issuer's progress towards the KPIs. While this framework is inherently lacking in the UoP bond model, it is a critical component of the SLB model. As a contingent debt instrument, the financial parameters of the instrument may be altered, depending on the second-party's analysis on the KPI reference date.

In corporate SLB structures, this alteration often comes in the form of various incentives such as a coupon "step-up", meaning that the issuer will be required to start paying a higher interest rate post-trigger point if it fails to meet the KPIs. Other existing structures include: an extra premium payment at amortization as a result of a failed KPI; a coupon "step-down" in the event of success; and even a weighted KPI system, wherein the coupon may step up or down by incremental amounts based upon the predetermined weighted importance of a variety of KPIs. The result of this system

⁴⁹*Ibid.*

⁵⁰International Capital Market Association. (June 2020). Zurich, Switzerland. <https://www.group.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf>

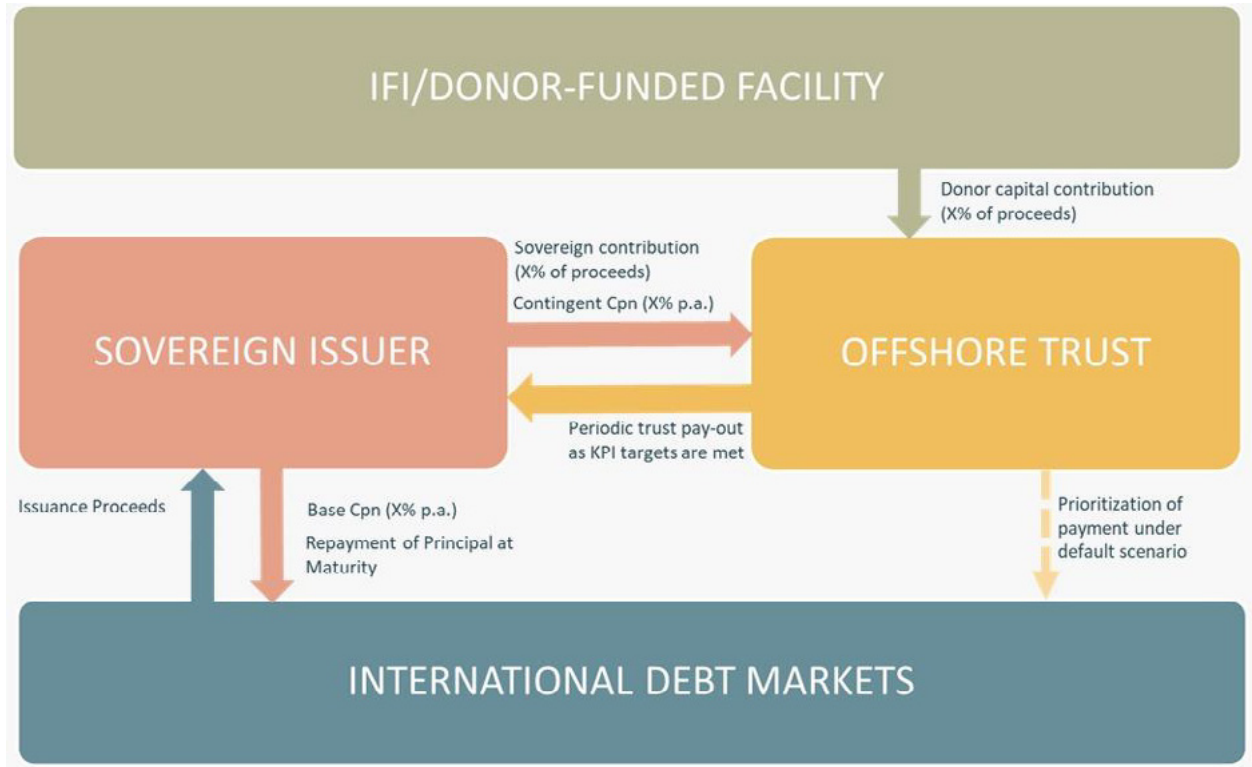
is a much greater degree of transparency surrounding the environmental benefits of the instrument, which should prevent greenium deterioration and ensure the desired climate/nature results.

To date, no sovereign has yet issued a bond with this sort of contingent structure, but the green recovery movement has led the international community to begin speculating on what this structure would look like as a sovereign instrument. The successful implementation of a sovereign SLB would greatly assist in the effort to holistically address the climate, nature, and debt crises. Such an instrument would naturally look very different from the corporate structure, however. The consequences of a failed KPI must be carefully considered in terms of its impact on debt sustainability, given a sovereign's inability to go bankrupt. Sovereignty in itself would demand a careful policy and legal framework surrounding second-party analysis and auditing. Furthermore, the incentives for meeting KPIs must be sufficiently strong to encourage a government to succeed, particularly in the case of a new administration. In that sense, a simple coupon adjustment may be increasingly insufficient. With these considerations in mind, Potomac Group has been working with the World Bank to design a viable sovereign SLB model (see Figure 3).

Structurally speaking, the core concept is similar. The creditor would receive a coupon payment at well below the market rate. The difference, however, rather than being retained by the sovereign, would be paid into an offshore trust, which would be additionally subsidized with donor money. In the event of a failed KPI, the creditor would then receive the sovereign's paid portion of that trust, essentially receiving a market yield for what will turn out to be a vanilla (or basic) bond. A successful KPI, however, would trigger a cash payout to the sovereign from the trust, including both the yield difference and the additional funds. Liquidity is key here, and so this lump sum payment should, in theory, be enough to incentivize the government to achieve the KPIs, effectively mobilizing private sector finance for environmental purposes at a concessional rate.

FIGURE 3:

Proposed Structure for a Sovereign Sustainability-Linked Bond



CHAPTER 5

Opportunities for Africa and the African Development Bank

Pursuing a strategy to link sovereign debt to climate and nature outcomes, whether that strategy involves DFN swaps, new money instruments, or a hybrid thereof, could have numerous benefits for African countries. Many countries on the continent rank among the most ecologically vulnerable⁵¹, and Africa alone houses over 2.6 million square kilometers of globally important key biodiversity areas⁵², many of which remain unprotected (see below on Economic Indicators). At the same time, the continent faces a staggering financing gap of around USD 484.6 billion over the next three years to enable it to make a sustainable recovery from the COVID-19 pandemic⁵³. Given the multilayered needs of African countries, environmentally-linked financial instruments could be an extremely effective way of addressing multiple issues at once, and as the continent's major development bank, the African Development Bank (AfDB) has a number of opportunities for participating in these processes, such as:

- 1 Capacity building,
- 2 Process facilitation,
- 3 Credit enhancement for sustainable instruments,
- 4 Bilateral DFN swap active participation,
- 5 Acting as intermediary/donor for a multi-party DFN swap.

As the trusted regional development bank for the African continent, the Bank can play a key role in advising on these initiatives, providing capacity building to RMCs as they evaluate the potential benefits of a transaction and conduct market research to gauge feasibility. The Bank could also act as a first point of contact for its RMCs, assessing their individual situations and connecting them with other partners to participate in executing the transaction. In general, pursuing any sustainable debt transaction is a complex procedure for a government, involving an immense amount of analysis and coordination between ministries across seven core steps (see Box 3)⁵⁴.

⁵¹ND Gain Country Index. (July, 2021). University of Notre Dame. Notre Dame, Indiana, US. <https://gain.nd.edu/our-work/country-index/>

⁵²KBA Data. (2022). Key Biodiversity Areas. <https://www.keybiodiversityareas.org/kba-data>

⁵³African Development Bank. (December, 2021). "2021 AEC: Africa must manage resources better, strengthen human capital to build back better after COVID-19 – panelists". 2021 African Economic Conference. Cabo Verde. <https://www.afdb.org/en/news-and-events/2021-aec-africa-must-manage-resources-better-strengthen-human-capital-build-back-after-covid-19-panelists-47249>

⁵⁴IIED, Potomac Group LLC, UNECA, UNESCWA, UNDP. (2021). "Linking sovereign debt to climate and nature outcomes. A guide for debt managers and environmental decision makers". IIED, London <https://pubs.iied.org/20651iied>

Eventually, the Bank could establish formal channels for initiating this process, particularly over time and as the list of successful, impactful transactions begins to grow.

Aside from providing advice and capacity building, there are several potential pivotal opportunities for the AfDB to actively participate in a climate- and/or nature-linked transaction. In the case of new money instruments, a partial guarantee from the AfDB, which consistently carries a 'AAA' rating from Fitch⁵⁵, could serve as a substantial credit enabler, allowing RMCs to achieve a higher 'greenium' for their conservation efforts than would otherwise be possible. If the instrument is a sovereign SLB, there could also be an important requirement for donor money to help incentivize governments to achieve their environmental KPIs (see Sustainability-linked instruments). If the AfDB decides that this is a worthwhile pursuit, a dedicated facility for funding such instruments could go a long way towards attracting other sovereign issuers to the concept and thereby mobilizing large amounts of conservation funding into African countries.

BOX 3:

Pursuing a Climate- or Nature-Linked Debt Transaction in Seven Steps

Deciding to pursue such a transaction should be a carefully calculated procedure, involving all relevant government agencies across a seven-step process:

1. Create an inter-ministerial taskforce and agree on national objectives.
2. Access capacity building and advice.
3. Choose type of sovereign debt transaction: debt conversion and/or new instrument.
4. Structure climate and nature key performance indicators (KPIs) or other relevant performance criteria.
5. Design the financing aspects of the transaction.
6. Engage with market participants, including creditors, credit rating agencies and investors.
7. Execute debt transaction.

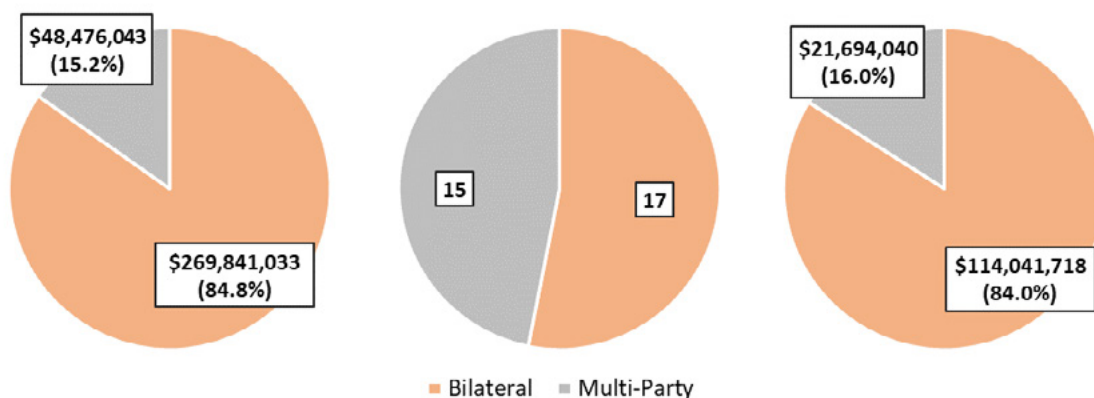
In the case of DFN swaps, there are two potential roles that the Bank could potentially fill. The first would be as a bilateral partner in a two-party swap agreement. This would require the Bank to be willing to forgive portions of debt owed by its RMC governments in exchange for allocating a share of the savings into a local conservation fund (see Mechanics of a Debt Swap). Historically, bilateral DFN swaps have garnered substantially more debt relief and conservation funding than multi-party swaps (see Figure 4). Unlike commercial creditors, official creditors have the capacity to unilaterally offer substantial debt forgiveness and are not impeded by a fiduciary responsibility to private investors. The AfDB has regularly forgiven large amounts of RMC debt in the past, often as part of the Multilateral Debt Relief Initiative (MDRI). Doing so in the context of a bilateral DFN swap, however, would allow the Bank to achieve environmental results of its choosing, and also give it some control to guide the financial aspects of the transaction to ensure maximum benefits to the RMC.

⁵⁵Fitch Ratings. (November, 2021). "Fitch Affirms African Development Bank at 'AAA'; Outlook Stable". Fitch Ratings. New York, NY. Retrieved from: <https://www.afdb.org/en/documents/fitch-rating-press-release-16-july-2021>

The other potential opportunity for active AfDB participation in a DFN swap would be as a purchaser or donor institution in a multi-party swap agreement. Although bilateral swaps have historically been much more impactful in Africa, the recent success of the Belize multi-party swap has shown that a DFN swap of commercial debt can feasibly be scaled up to achieve similar results. This structure requires a donor institution that is willing to purchase the debt at a discount from the current creditors, allowing them to close out a risky or distressed position for an immediate cash payment (see Mechanics of a Debt Swap). In May 2021, President Akinwumi Adesina of the AfDB suggested using IMF facilities to buy out large swathes of privately-held African debt.⁵⁶ Although this could go a long way towards restoring debt sustainability, a similar concept could also be possible on a smaller scale and case-by-case basis. The AfDB could potentially use ADF funding to buy out commercial debt and reloan it on highly concessional terms in exchange for strategic climate and nature outcomes, thereby relieving heavy debt burdens in its RMCs and paving the way for a green recovery. In the case of Belize, TNC purchased commercial debt at 55 cents on the dollar, but was able to secure a long list of conservation commitments from the government in exchange for the more favourable loan arrangement (see Box 1). If the AfDB were to act as the donor in a multi-party swap arrangement, it could secure similar results for RMCs in Africa whose once comfortable market access has been placed under increased stress as a result of the pandemic. These situations tend to be structurally complex, and private creditors will likely attempt to achieve the highest net present value out of the transaction as they can. However, there ought to be ample opportunity for both the ANRC and the African Legal Support Facility (ALSF) to assist from the standpoint of legal and technical advice and capacity building.

FIGURE 4:

Relative Impact of Bilateral vs. Multi-Party Debt Swaps



Sources: WWF; Congressional Research Service⁵⁷; USAID; Kamel and Tooma⁵⁸; TNC

⁵⁶ Horobin, W. (May, 2021). "Buy Out African Bondholders With IMF Tool, AfDB Chief Says". Bloomberg. New York, NY. <https://www.bloomberg.com/news/articles/2021-05-18/buy-out-african-bondholders-with-imf-resources-afdb-chief-says>

⁵⁷ Kamel, S. and Tooma, E. (May, 2005). "Exchanging Debt for Development: Lessons from the Egyptian Debt-for-Development Swap Experience". Economic Research Forum. Cairo, Egypt. https://www.researchgate.net/publication/263735645_Exchanging_Debt_for_Development_Lessons_from_the_Egyptian_Debt-for-Development_Swap_Experience

⁵⁸ Sheikh, P. (July, 2018). "Debt-for-Nature Initiatives and the Tropical Forest Conservation Act (TFCA): Status and Implementation". Congressional Research Service. Washington, DC. <https://sgp.fas.org/crs/misc/RL31286.pdf>

Finally, it seems reasonable that, as a core component of the 'green recovery' movement for a sustainable recovery from the pandemic, AfDB financial support for environmentally-linked debt instruments could potentially be incorporated into its Crisis Response Budget Support operations. A 2021 Independent Development Evaluation (IDEV) of the AfDB's Crisis Response Budget Support praised the Bank's ability to coordinate with donors and other development partners in a leadership role.⁵⁹ This existing framework of effective coordination could be instrumental to rally donor and transaction support for these potential initiatives, particularly those in which donor funding is required.

Importantly, it could be useful for sovereigns to have access to useful data that can help them make a case for the process, giving them a starting point from which to evaluate the potential usefulness of various different instruments. To this end, Potomac Group has developed a methodology for identifying countries that are well-positioned to pursue such efforts. Although a thorough qualitative analysis of a country's situation will still be required case-by-case, this study should serve to provide that initial starting point through a quantitative look at countries' relevant fiscal and environmental attributes (see Methodology).

The recommendations from this study can be used by the Bank and other stakeholders to make an informed decision about potential partner countries' suitability to pursue one of these transaction models. Additionally, African governments are able to use the underlying data to see where they stand and assess their own potential for benefitting from an environmentally-linked debt transaction.

5.1 Methodology

There are likely many countries across the African continent that could benefit both financially and ecologically from a debt-for-nature swap or some other sort of debt transaction linked to climate and nature. For this report, we have attempted to develop a general system for identifying countries that are optimally placed to pursue such a transaction, and have then selected a few of them to examine as pilot countries in terms of the specific opportunities available, as well as considering the role of the AfDB in that transaction. The process of determining which countries to examine as case studies were based on two key factors.

The first is the status of its sovereign debt. A country's debt profile and the affordability of its debt obligations impact not only its capacity to explore potential transactions, but also the type of transaction that the country ought to consider.

The second factor is the state of a country's natural environment. This is, of course, a rather broad qualifier, and there are countless ways to measure different aspects of environmental health

⁵⁹IDEV. (June 2021). "Findings and Lessons from AfDB Crisis Response Budget Support Operations". African Development Bank Independent Development Evaluation. Abidjan, Côte d'Ivoire. <https://www.afdb.org/en/documents/findings-and-lessons-afdb-crisis-response-budget-support-operations>

and stability. We have therefore selected two key indicators for specifically assessing relevant opportunities for linking environmental policy to financial incentives. Through the first indicator, examined in Figure 5, we seek to analyse potential opportunities for regionally impactful biodiversity conservation via public policy. The second, examined in Figure 6, serves to identify countries that are ecologically vulnerable and may therefore require financing to mitigate ecosystem damage.

Depending on a country's score in each category when compared to the affordability of its sovereign debt, these indicators could present an opportunity matrix for linking debt to environmental outcomes.

Debt Metrics

As previously mentioned, mobilizing the finance necessary for environmental projects within a country can be done in a number of different ways. Debt-for-nature swaps have a long history of successful conservation outcomes, but there may also be other new money alternatives that could prove to be more effective in certain situations. In order to determine which type of climate- and nature-linked transaction is best suited to address a country's specific needs, it is first necessary to assess both the structure and affordability of its debt burden.

Debt Affordability

The IMF/World Bank debt sustainability framework (DSF) allows for a very detailed and complex evaluation of countries' overall debt sustainability, but the framework is only in place for IDA-eligible countries. Although many African countries have published debt sustainability analyses (DSAs), there are many that do not. Additionally, while a DSA is able to provide an informed risk assessment of a country's potential for debt distress, it may not be the best indicator to determine which sort of green debt transaction a country ought to consider. For example, a country may have a generally high risk of debt distress due to certain externalities, such as dependence on a given commodity, but this is not necessarily indicative of its capacity to refinance, rather than restructure.

Existing metrics for assessing a country's debt burden, such as the risk of debt distress devised through the DSA, are neither temporally consistent nor inclusive across all African countries. This is partly due to staggered analyses and IDA-eligibility, but also due to uneven data availability across the continent. In other words, there is no single perfect comparable metric for assessing debt burdens across Africa. Therefore, for the purpose of this study, it was necessary to devise a simpler, standardized, and more inclusive metric for measuring the near-term affordability of countries' debt burdens. We refer to this metric simply as "debt affordability".

This measurement, on a scale of 0-200, is calculated using several different macroeconomic indicators. The core components of the metric are: the debt-to-GDP ratio, the interest-to-revenue

ratio, and the interest rate-growth differential ($r-g$). As the latter two components are measurements of debt flows, as opposed to the debt-to-GDP ratio, which is a measurement of debt stock relative to the size of the economy, they have been adjusted accordingly so as not to give too much weight to one aspect over the other. Additionally, $r-g$ in each case is multiplied by the mean of $r-g$ across all samples in order to account for the disparity between economy sizes. Likewise, the interest-to-revenue ratio is multiplied by the population mean of debt-to-GDP over interest-to-revenue across all samples.

It is worth noting that, while some of these weights have been specifically assigned according to a certain line of reasoning, others are more simply designed to make each variable comparable given the scale at which they are reported. Although there may be room to refine this methodology in the future, it should still serve as a general barometer to assess the practical burden of external debt in African countries, particularly given the lack of available alternatives.

The final formula for a country's debt affordability is therefore:

$$.5 \left(\frac{Debt}{GDP} \right) + (\mu_{|r-g|} (.25(r-g))) + \left(\mu_{\frac{Debt/GDP}{Interest/Revenue}} (.25 \left(\frac{Interest}{Revenue} \right)) \right)$$

Or

(half of debt-to-GDP) + (population mean of the absolute value of $r-g$ * one quarter of $r-g$) + (population mean of debt-to-GDP over interest-to-revenue * one quarter of interest-to-revenue)

This indicator is the key metric that we compare against each of the two environmental indicators in order to identify those countries that may best benefit from linking their debt to conservation, and furthermore, which general transaction model may be optimally suited to their situation.

Debt Stock and Debt Profile

Finally, the size of countries' external debt stock and the type of creditor holding the largest percentage of that debt are both included as qualitative elements of the study.

The size of the debt stock, expressed in USD, is useful for assessing the potential impact on a country's overall balance sheet. For instance, a country with a relatively small external debt stock, even if it weighs heavily on the budget for a small economy, could be well-positioned to pursue a scaled-up debt swap and improve its long-term debt sustainability. Larger economies with higher debt levels may find a smaller swap more advantageous to reallocate debt service payments to conservation programmes, or even issuing a new sustainability-linked instrument.

Likewise, the dominant creditor within a country's debt profile may also affect the country's capacity for certain transaction types. For example, if a country owes primarily commercial debt, this could

indicate its ability to issue new instruments, or it may suggest a need for donor involvement in a swap arrangement. Conversely, countries owing primarily bilateral debt would have to adopt a completely different strategy were they to approach their creditors with a swap proposal. Due to the inconsistent availability of country-level data, this measurement is broken down into three general categories only: multilateral, bilateral, and commercial debt.

Naturally, as countries are selected for deeper analysis, a thorough qualitative and quantitative assessment of the country's individual context will be necessary before proceeding with any sort of transaction design.

Environmental Indicators

As mentioned above, this study examines countries' potential opportunities for an environmentally-linked debt transaction from two different angles. One perspective presents opportunities based on a country's capacity to have positive ecological impact via conservation policies, and the other represents a country's need to mitigate and adapt to vulnerabilities in its own environment. These two indicators are not blended in any way, but rather evaluated independently against countries' debt affordability. Such individual and transparent comparisons should yield unique opportunities for a potential transaction

Protected Key Biodiversity Areas

The first indicator measures the percentage of the key biodiversity areas (KBAs) within a country that the government has already taken meaningful steps to protect. KBAs, conceptualized by the International Union for Conservation of Nature and Natural Resources (IUCN), are spatially defined areas across the globe that contribute to the stability of the overall biosphere through the diversity of species that they critically support. From a mitigation standpoint, this metric is therefore a reliable measurement of ecological priorities that is comparable across countries, making it a preferable variable to more country-specific conservation needs.

The methodology for identifying these areas was developed by a Joint Task Force on Biodiversity and Protected Areas, formed by the IUCN Species Survival Commission, an international network of thousands of experts on specific species, and the IUCN World Commission on Protected Areas, which provides policy advice for the protection of natural ecosystems, in response to Resolution 3.013 of the 2004 World Conservation Congress in Bangkok (Res 3.013).⁶⁰ Using this methodology, the resulting global standard for the identification of key biodiversity areas (KBA standard) identifies critical habitats for land, marine, avian, insect, plant, protist and fungus species,⁶¹ with a total of 16,343 KBAs across 21,409,508 km² currently recognized worldwide (1,997 KBAs across 2,925,480 km² in Africa alone).⁶²

⁶⁰IUCN. (March, 2016). "A Global Standard for the Identification of Key Biodiversity Areas". v1.0. International Union for Conservation of Nature and Natural Resources. Gland, Switzerland and Cambridge, UK. <https://portals.iucn.org/library/sites/library/files/documents/2016-048.pdf>

⁶¹ *Ibid.*

⁶²KBA Data. (2022). Key Biodiversity Areas. <https://www.keybiodiversityareas.org/kba-data>

This study does not focus on the total area of KBAs within a country's borders, but rather on the percentage of those KBAs that currently reside within protected areas. The reason for this is that, although we cannot be certain that protected KBAs are meaningfully conserved, those lying outside protected areas can be viewed as definitive targets for improvement. This indicator, published by the Biodiversity Indicators Partnership (BIP), which is governed by the UN Environment World Conservation Monitoring Centre (UNEP-WCMC), is expressed as a percentage.

If a country has a relatively low score on this metric, it can be interpreted as an opportunity for improved conservation. If the required financing is made available, then the country should be able to enact policies to protect the land within its borders that has already been identified as containing critical ecosystems for global biodiversity, but still lacks adequate protection. In so doing, the country would be contributing to the sustainability of the biosphere, thereby benefitting not only itself, but the international community as a whole.

Ecosystem Vulnerability

The second indicator examined in this study is intended to represent a country's individual need to safeguard its natural assets from ecological disasters, specifically those that are fundamental to its economy and society. This variable was retrieved from the Notre Dame Global Adaptation Initiative, which compiles a comprehensive index (ND-GAIN) for measuring a country's vulnerability and resilience to the effects of climate change based upon a vast selection of both natural and socio-economic factors.⁶³ In total, the index factors in 45 core indicators, calculated from 74 variables across 192 countries (182 for vulnerability and 184 for resilience) from 1995 to present.⁶⁴

The final ND-GAIN can be broken down into two smaller indices: "vulnerability" and "resilience", which in turn are composed of a number of smaller indexed metrics: health, food, ecosystems, habitat, water, and infrastructure determine the vulnerability index; while social, economic, and governance determine the resilience index.⁶⁵ This study utilizes the "ecosystems" component of the vulnerability index, which is calculated based upon six indicators that measure the exposure, sensitivity, and adaptive capacity of each country.⁶⁶

A high score on the ecosystem vulnerability index indicates that the country is exceptionally vulnerable to the effects of climate change, even taking into account its current adaptive capacity. In terms of this study, it can be interpreted as a need for liquidity. Based upon the country's debt situation, there could be an opportunity for the government to finance its adaptation efforts, either by issuing a new green debt instrument, or by swapping some of its existing debt to create the necessary fiscal space.

⁶³Chen, C., Noble, I., Hellman, J., Coffee, J., Murillo, M., Chawla, N. (November, 2015). *University of Notre Dame Global Adaptation Index: Country Index Technical Report*. University of Notre Dame. Notre Dame, Indiana, US. https://gain.nd.edu/assets/254377/nd_gain_technical_document_2015.pdf

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

5.2 Results and Analysis

The respective relationships between the environmental indicators and the debt affordability of each country are illustrated in Figures 5 and 6. In both charts, the environmental indicator is on the Y-axis, while debt affordability is on the X-axis. The relative size of each bubble represents the size of its external debt stock in current USD, while the colour indicates the type of creditor holding the largest percentage of each country's debt.

Green bubbles denote countries whose debt is primarily held by commercial creditors. Among these, countries with current market access may consider issuing a new debt instrument linked to climate and nature to benefit from the related greenium and thereby refinance existing debt. Countries that have lost market access or are in danger of doing so, may consider a multi-party DFN swap to retire some of their old commercial debt, replacing it with more favourable terms and using the savings to fund conservation initiatives.

Yellow bubbles represent countries that owe most of their debt to official bilateral creditors. These countries have the potential to negotiate substantial savings in exchange for conservation via a bilateral swap agreement (see Mechanics of a Debt Swap). Although the Paris Club creditors still hold a reasonable amount of African debt, including non-official development assistance (non-ODA) debt, large portions of bilateral sovereign debt in Africa are held by Chinese lenders, or are structured as Islamic financial instruments. This debt may pose special challenges. China, for instance, has never before executed a DFN swap, but its recent commitments and public statements following COP26 may constitute an opportunity to approach this creditor with such a proposal. Islamic financial instruments, meanwhile, are inherently difficult to restructure due to the underlying principles by which they operate. Concessions are not completely impossible, however, as was made evident by The Gambia's experience in 2019⁶⁷.

Finally, the blue bubbles denote countries whose debt is largely owed to multilateral creditors. In some cases, this may be indicative of concessional development financing or an IMF programme, which would be inherently unavailable for a swap arrangement. If, however, the AfDB owns a substantial portion, it could potentially design a specific environmentally-oriented framework for forgiving a portion of these loans in exchange for conservation commitments.

Before examining the idiosyncrasies of a given country, it is useful to examine each of these charts by quadrants.

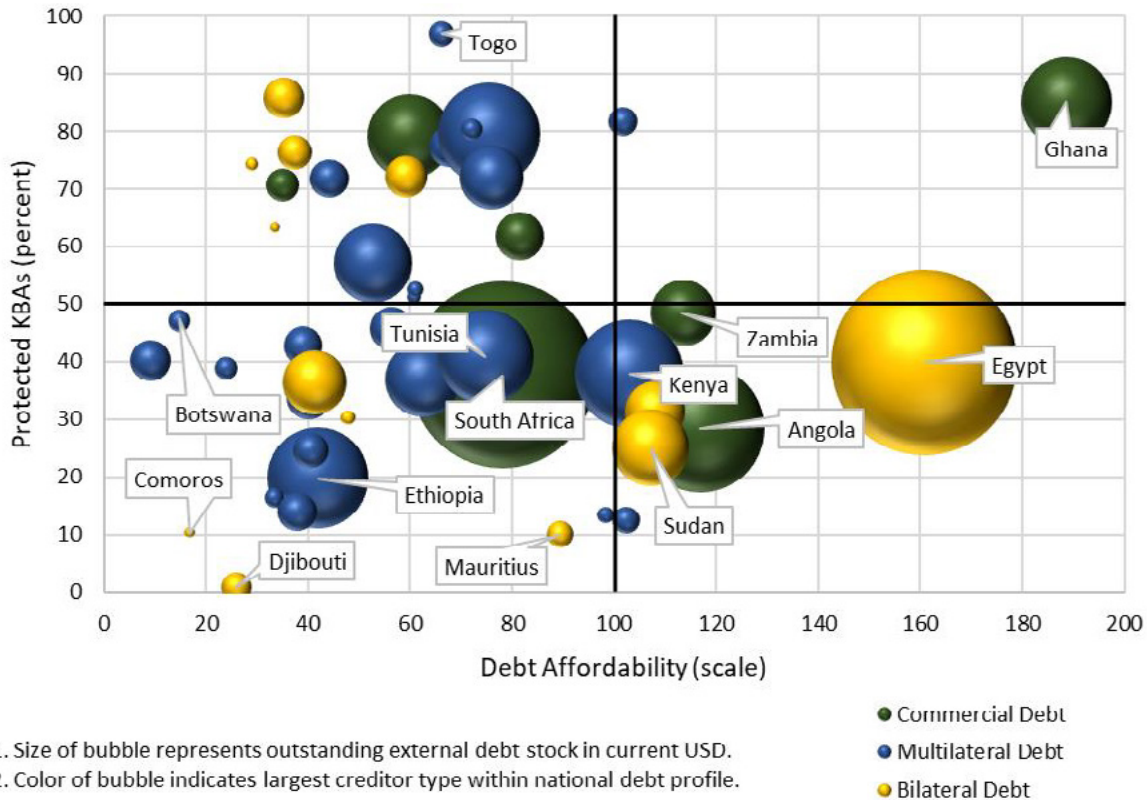
In Figure 5, debt affordability is compared against the percentage of KBAs that the government has legally and actively placed under protection (see Methodology). Therefore, the countries whose bubbles appear near the bottom of the chart offer the greatest wealth of opportunities, in that they

⁶⁷Potomac Group acted as financial advisors to The Gambia throughout their external debt restructuring negotiations.

are currently protecting a relatively small percentage of their KBAs. Conversely, countries with a higher score on the X-axis have a much more burdensome debt profile, and could be very much in need of a solution.

FIGURE 5:

Country Debt and Percentage of Protected Key Biodiversity Areas



Sources: IMF WEO, World Bank IDS, BIP, IUCN, UNEP-WCMC, BirdLife International

Given these metrics, countries that fall within the bottom right corner of Figure 5 present the greatest opportunity. Zambia, for instance, has a reasonably uncomfortable debt burden stifling its budget, but has only conserved less than half of its critically important areas for supporting important biodiversity. As a country with substantial commercial debt, it could have several options available. One option could be to issue an SLB that would reward the government with additional liquidity for meeting KPIs linked to the number of additional square kilometers that the country takes genuine measures to protect. Assuming successful implementation of these protection policies, the substantially lower interest rate of an SLB could allow Zambia to refinance its existing debt at a much more favourable rate. Another option would be to seek donor support for a multi-party DFN swap, which could reduce the level of commercial debt in exchange for similar conservation commitments. Some countries may be wary of the swap option due to the implications it has for credit ratings, but as Zambia has already applied for the Common Framework, it may have less to lose and therefore be keener to pursue this option.

Countries in the bottom left of this chart, meanwhile, have more affordable debt, but still significant unprotected KBAs within their territory. Countries in this quadrant with mostly bilateral debt may consider pursuing a two-party DFN swap, saving money on debt service payments to official creditors that could then be allocated to conservation. As KBAs are important to the biosphere overall, it would also be in the interest of bilateral creditors to pay for this conservation through an instrument such as a DFN swap, thereby simultaneously fulfilling some of their own commitments to mobilize financing for this cause. Some countries in this quadrant may even consider becoming debut sovereign bond issuers, entering the market for the first time with an SLB. This would provide them with immediate affordable financing and the successful achievement of KPIs would raise their governance score in the eyes of international ratings agencies.

Countries residing in the top right quadrant of Figure 5 have a difficult debt burden, but have already protected a comparably large percentage of their KBAs. If they are willing to consider a swap arrangement, they could reduce this burden in exchange for protecting the remaining KBAs, which could entail a number of impactful conservation measures. On the other hand, if their balance sheet allows new debt to be issued, they could possibly obtain a reasonably large greenium, as their progress so far in protecting KBAs lends substantial credibility to their ability to fulfill new environmental obligations.

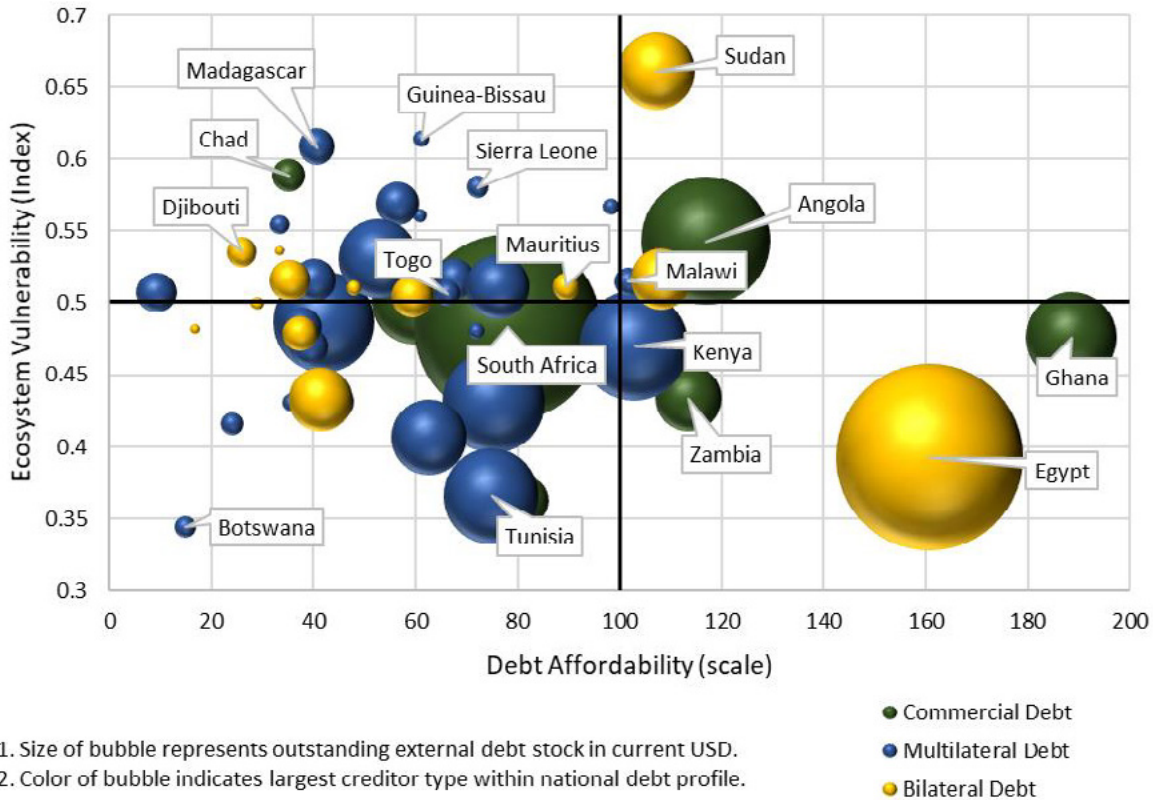
Overall, Figure 5 illustrates opportunities for protecting key habitats in what can be seen as a positive initiative for the whole planet. Figure 6, in contrast, illustrates the needs of each country in terms of adaptation and mitigation. The higher a country's score on the ecosystem vulnerability index, the more vulnerable its environment currently is to the effects of climate change (see Methodology).

Countries in the top right quadrant of this chart are very much in need of development financing to help them adapt to the effects of climate change and protect the vital ecosystems that supply their economy. These countries are prime contenders for intervention from the African Development Bank, as the natural resources that support the foundation of their society are being threatened, and the government's debt burden is at the same time too high to effectively manage those resources. Debt swaps and additional grant money or concessional financing could help to bring these debt burdens in check, while ensuring that at least a portion of the savings are devoted to developing a more durable system of managing the country's natural assets.

While the countries in the top left of this chart are also quite vulnerable, their debt burden is not quite as much of an imposition on the budget. Still, with a multitude of other budgetary concerns, including a pandemic to contend with, it seems reasonable that they lack the fiscal space to fund an adequate adaptation programme. With capacity building from the ANRC or other development partners, and perhaps a guarantee or donor money from the ADF, these countries could be well-positioned to consider issuing an SLB. This would allow them an immediate influx of cash to make progress in protecting their natural assets, with the prospect of an extremely favourable rate to be secured by their success.

FIGURE 6:

Sovereign Debt and Ecosystem Vulnerability



Sources: IMF WEO, World Bank IDS, ND-GAIN

Caveats

One clear problem with the methodology of this study is that the calculation of debt affordability takes the effective interest rate of each country into account. The reason for this is, of course, to assess the burden of a country’s debt service on its near-term balance sheet. The issue, however, is that this may cause some countries that are known to be in debt distress or arrears to appear relatively low on the debt affordability scale. When examined qualitatively, we know that their debt is not comfortably affordable, but if they are not actively paying interest, as is the case with countries in arrears, then the burden of their interest payments will not factor accurately into the calculation. We must therefore supplement the data with qualitative knowledge of a country’s situation to provide a more accurate picture.

One additional point worth noting is that, although a country may appear in one colour on the charts, this does not preclude other creditor types from also holding a sizeable amount of debt. For instance, Senegal appears blue in Figures 5 and 6 because multilateral creditors own the largest share of its debt. This share, however, is only about 36 percent, with the other nearly two-thirds

divided almost equally between bilateral and commercial creditors (see Appendix A). This means only that, while opportunities may seem limited based upon the dominant creditor type, there may, in fact, be a wider array of options available. That said, for some other countries, one type of creditor indeed holds a considerable majority of the debt, but it may still be worth examining the entire range of options before deciding upon the optimal course of action in any given scenario. The colour of the bubbles in Figures 5 and 6 can therefore be viewed as a starting point for exploring transaction possibilities, rather than as a restrictive factor.

5.3 Case Studies

Using the methodology described above, we have selected three countries that could potentially act as pilot cases for the AfDB's green finance initiatives. Here we present a case study for each, describing the current state of affairs, recent developments, outline the potential participation of the Bank, and make important qualitative observations that may contribute to each country's capacity to pursue an environmentally-linked debt transaction, as well as the benefits they may stand to gain.

Angola

Despite being one of the UN's Least Developed Countries, Angola is not eligible for IDA concessional financing and is mostly reliant on market and bilateral financing. With external debt at 90% of GDP, it is one of the most indebted countries in sub-Saharan Africa (SSA) and is highly vulnerable to climate change and ecosystem loss. Angola scores high (0.5432 out of 1) for ecosystem vulnerability on the Notre Dame Global Adaptation Initiative (ND-GAIN). Additionally, less than 30% of its key biodiversity areas are currently protected. Clearly, there is a lot of room for improvement. This, in addition to the country's high external debt stock, could make it a good candidate for either a debt-for-nature swap or a sustainability-linked bond. However, lack of representation by traditional Paris Club creditors in its debt stock complicates things, as the predominant creditors—commercial and Chinese lenders—are not familiar with debt-for-nature instruments. Thus, while a debt-for-nature swap could be considered, issuing a sustainability-linked bond could be more feasible in the short term.

Economic Background and Recent Developments

In March 2020 after four consecutive years of recession, the COVID-19 pandemic, plummeting oil prices, and large depreciation in the exchange rate led to increased doubts around Angola's ability to service its significant external debt. The country's credit ratings took a hit and plans for a Eurobond issuance were scrapped as the country effectively lost market access. Events took

a further turn in September 2020, when Angola secured debt reprofiling agreements with several Chinese creditors for a cumulative debt flow relief of USD 6.7 billion and a three-year deferment in debt service. This paved the way for the IMF approval of the third review of Angola's Extended Fund Facility (EFF) programme, and disbursement of USD 1 billion. Angola's EFF programme was first approved in December 2018, and the country has collected USD 4.5 billion under the arrangement as of December 2021.

Angola has benefited from debt service suspension through the G20 DSSI, deferring USD 571.5 million and USD 2.9 billion in debt service in 2020 and 2021, respectively. Participation in G20 DSSI helped lower its interest expenses in 2020-2021. It also improved its fiscal balance from -1.9% in 2020 to a fiscal surplus of 2.2% of GDP in 2021. This, in addition to the partial debt reprofiling in 2020 reduced its gross financing needs from 17% in 2020 to 9% of GDP in 2021.

Angola's economy is highly dependent on oil, which represents over 90% of its total merchandise exports, over 50% of its fiscal revenues and 34% of the total real GDP.⁶⁸ The country's debt dynamics have been closely tied to the movements in oil prices. The oil price crash in 2014 and subsequent currency depreciations have triggered a steady rise in public debt levels, which increased from 41% of GDP in 2014 to 135% in 2020. The bulk of the public debt is owed to external creditors, peaking in 2020 at over 100% of GDP and is projected to drop to 90% in 2021 and 86% in 2022.

After contracting almost 5% in 2020, Angola resumed positive economic growth in 2021 at 3% of GDP. However, fallout from COVID-19 continues to weigh on its economic prospects. While recovery in oil prices has boosted revenues, production remains weak due to disruptions caused by shutdowns. Public debt dynamics are highly vulnerable to exogenous shocks—including falls in oil prices, drops in oil production, exchange rate depreciation and weakening fiscal policy. The country is working on diversifying its economy and has made amendments to the Private Investment Law with hopes of attracting more investment into developing its agriculture and renewable energy sectors.⁶⁹ The African Development Bank has provided USD 165 million to support Angola's economic diversification efforts.⁷⁰

Debt Composition

Angola owes over 50% of its external debt to commercial creditors, while another 41% is owed to bilateral creditors, in particular China. Angola has been one of the top recipients of loans from Chinese financial entities, some of which lend on a commercial basis. Angola owes more than USD 20 billion to a number of Chinese lenders, including USD 14.5 billion to the China Development Bank and nearly USD 5 billion to the Export-Import Bank of China, as well as an undisclosed amount to

⁶⁸ IMF (January 2022) *Angola Selected Issues*.

⁶⁹ Oliveira, J. M. and de Sousa Penelas, A. (2021). "Angola: Changes in oil and gas sector accelerate economic diversification". *International Financial Law Review*. <https://www.iflr.com/article/b1sb6bdf4vm2wz/angola-changes-in-oil-and-gas-sector-accelerate-economic-diversification>

⁷⁰ African Development Bank. (October, 2019). "Angola: African Development Bank approves \$165 million for economic diversification." Abidjan, Côte d'Ivoire. <https://www.afdb.org/en/news-and-events/press-releases/angola-african-development-bank-approves-165-million-economic-diversification-32276>

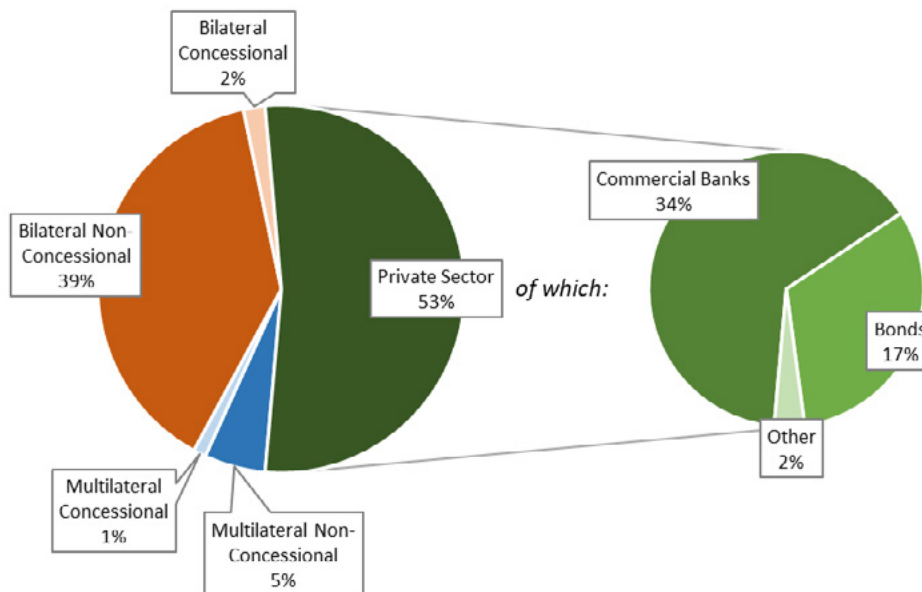
Chinese commercial banks. It has been reported that up to 40% of Angola's external debt is in the form of oil-backed loans, though the country has pledged to phase out this form of financing for the duration of the EFF programme.⁷¹

While Chinese lenders have not participated in debt-for-nature/climate swaps before, China has lately shown interest in making its Belt and Road investments greener and aligning its lending with the global sustainable development goals.⁷² Therefore, opening a dialogue with the country authorities and Chinese lenders around debt-for-nature swaps could be one proactive approach. As mentioned earlier, Angola received debt relief from at least two Chinese lending agencies in September 2020. Additionally, Angola benefited from participation in the G20 DSSI, deferring up to USD 2.9 billion (3% of GDP) in debt service in 2021.

Angola has around \$9.5 billion of Eurobonds outstanding and the first maturity payment is due in 2025. The country has not had market access for the last few years. However, assuming the current economic recovery continues, the IMF predicts that Angola could resume issuance in international bond markets by 2023.

FIGURE 7:

Angola – External Debt Profile



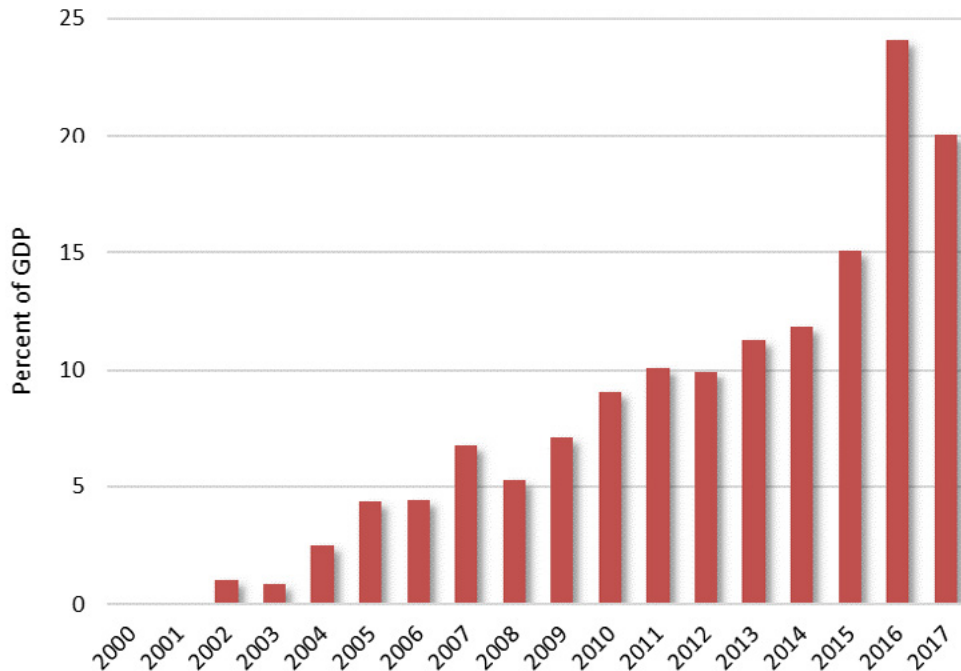
Source: World Bank IDS

⁷¹ de Carvalho, P., Kopyński, D., Taylor, I. (October, 2021). "A Marriage of Convenience on the Rocks? Revisiting the Sino-Angolan Relationship". <https://journals.sagepub.com/doi/full/10.1177/00020397211042384>

⁷² China Council for International Cooperation on Environment and Development (2019). *Green Belt and Road Initiative and 2030 SDGs*. <http://www.cciced.net/cciceden/POLICY/rpr/2019/201908/P020190830114510806593.pdf>

FIGURE 8:

Angola – External Debt Profile China's Debt in Angola



Source: Horn, Reinhart, and Trebesch, 2019

Nature-linked Debt Transaction Opportunities

Host to thousands of different species of plant and animal life, including many endemic ones, Angola can be considered one of the most biodiversity-rich countries in Africa. Following a prolonged period of civil war, however, and the subsequent years of immense corruption alleged in the official sector, illegal poaching still presents a dire threat to the wildlife population, despite the Angolan government's efforts to stem this practice.⁷³ Aside from a lack of adequate enforcement, the regulations themselves are not always up to date, suggesting the need for a fresh assessment of which species should be protected from hunting.⁷⁴

There are a number of measures that could be implemented to mitigate this crisis. Increasing the supply and broad availability of affordable, farmed meat could reduce the local demand for hunted bushmeat. Designating new national parks around critical areas of biodiverse wilderness, such as Lisima Lwa Mwono at the headwater of the Okavango in Cuando Cubango, could also be a critical step based in modern environmental assessments.⁷⁵ As mentioned, less than thirty percent of Angola's key biodiversity areas fall within protected space (see Figure 9). However, in order for that

⁷³ Gonçalves FMP, Luis JC, Tchamba JJ, Cachissapa MJ, Chisingui AV (2019) A rapid assessment of hunting and bushmeat trade along the roadside between five Angolan major towns. *Nature Conservation* 37: 151-160. <https://doi.org/10.3897/natureconservation.37.37590>

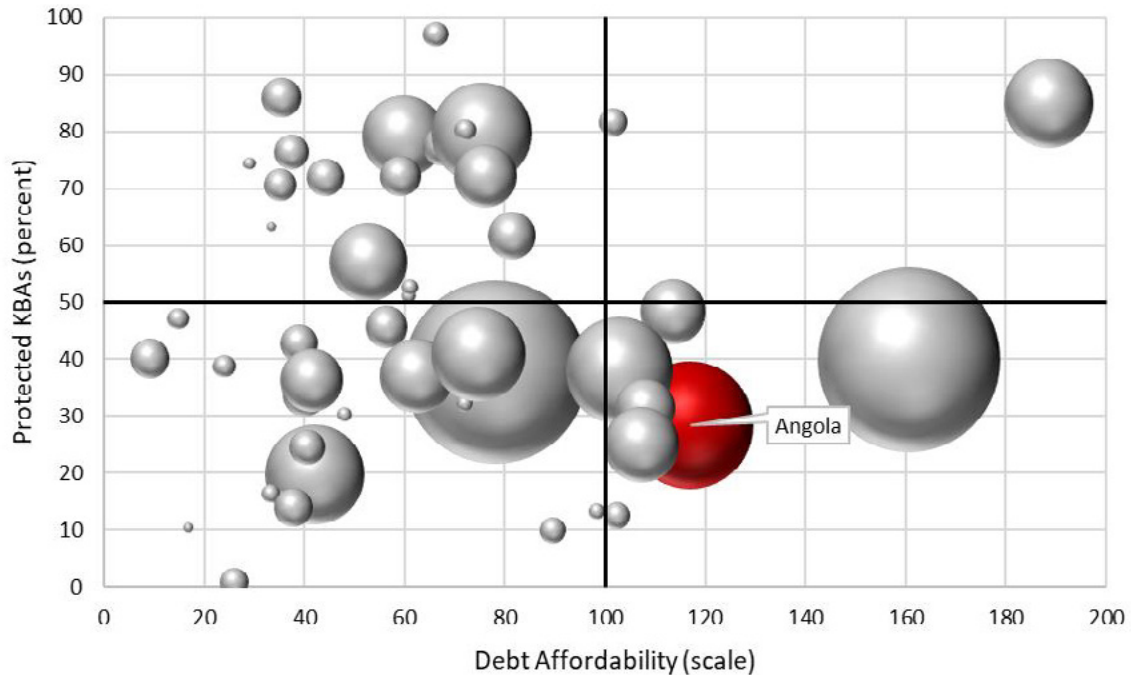
⁷⁴ *Ibid.*

⁷⁵ Nosowitz, D. (January, 2019). "In Angola, Conservationists Make the Case for a Massive New National Park". *Atlas Obscura*. <https://www.atlasobscura.com/articles/angola-new-national-park>

protection to be meaningful, conservation areas must be meaningful: governed by clear regulation, adequately enforced on the ground and sit within a dedicated institutional framework.

FIGURE 9:

Angola – External Debt Profile China's Debt in Angola



*Size of bubble represents outstanding external debt stock in current USD.

Source: Horn, Reinhart, and Trebesch, 2019

Any of these initiatives would require substantial financing, which the government of Angola will not have the immediate fiscal space to provide without a special transaction. The country's debt burden may be reasonably large, but its position in the top-right quadrant of the debt-and-environmental-vulnerability grid suggests that this is certainly an initiative worth funding if possible (see Figure 10). For this purpose, Angola has a number of options available, but the optimal choice is likely a sustainability-linked bond. This would allow the country to fund these initiatives while simultaneously refinancing its existing debt burden, which may not be as easy using a traditional green bond structure, where the use of proceeds would be restricted.

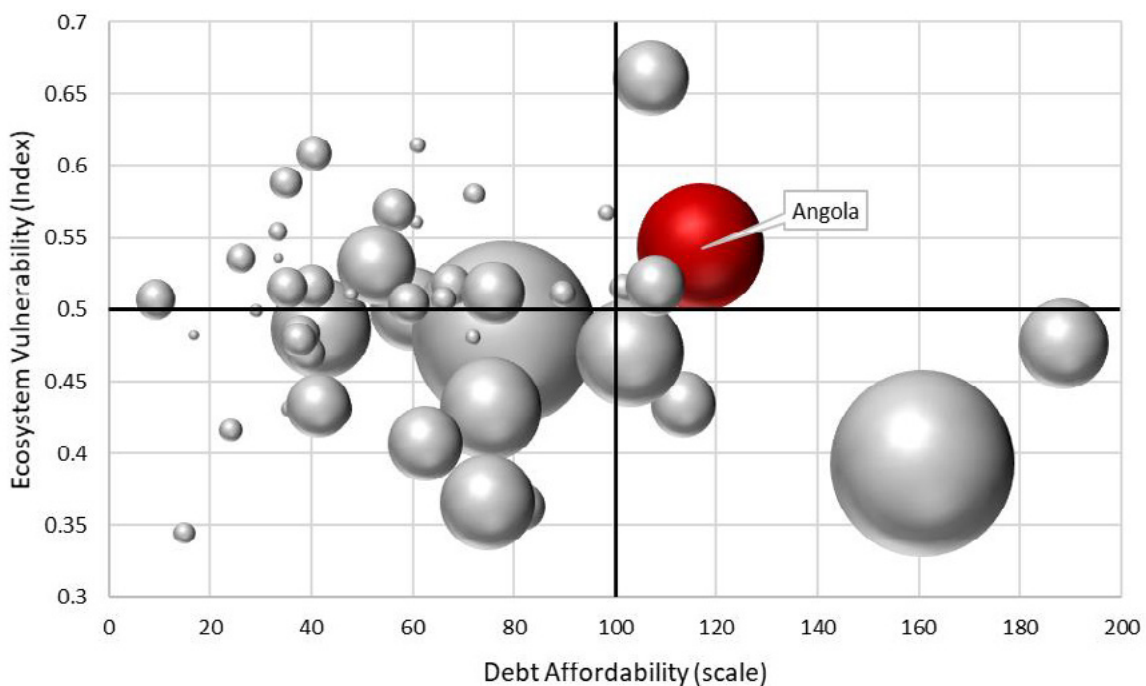
As a market-access country with a solid B- rating,⁷⁶ Angola is well-positioned to issue an experimental instrument such as an SLB. Were it to use the performance trust structure, the government could effectively receive disbursements of donor money for meeting meaningful conservation milestones (see Figure 3). The specifics would need to be agreed with the collaboration of an experienced international environmental NGO such as WWF, TNC, or possibly the National Geographic Society, which is already working in Cuando Cubango. This not only guarantees the effective implementation

⁷⁶ Fitch Ratings. (January, 2022). "Rating Action Commentary: Fitch Upgrades Angola to 'B-'; Outlook Stable". <https://www.fitchratings.com/research/sovereigns/fitch-upgrades-angola-to-b-outlook-stable-21-01-2022>

of the conservation initiatives on the ground, but also adds transparency and credibility to the bond issuance itself. With that in place, the discounted borrowing rate inherent in an SLB, as well as the additional donor money characteristic of the performance trust structure, could actually improve Angola's debt sustainability as it refinances the government's Eurobond debt at a much more affordable rate. Upon the completion of this self-designed programme, Angola should not only be able to benefit fiscally, but also significantly reduce the existing vulnerability of its natural ecosystems.

FIGURE 10:

Angola – Debt Affordability and Ecosystem Vulnerability



*Size of bubble represents outstanding external debt stock in current USD.

Sources: IMF WEO, World Bank IDS, ND-GAIN

Democratic Republic of the Congo

Democratic Republic of Congo (DRC) has one of the lowest levels of GDP per capita in the world, but also some of the most abundant natural resources and biodiversity in the world. The recently discovered peatlands in Cuvette Centrale alone are one of the largest global stores of carbon, whose disturbance would push the global warming reduction goal under the Paris Agreement entirely out of reach. Yet their protection is far from guaranteed as they face threats from existing logging, oil, and gas concessions. DRC is a highly fragile country with persistent health and security challenges, high macroeconomic volatility, and weak institutions. While public debt levels are moderate (23% of GDP), fiscal space is limited and institutional capacity for carrying debt is very low. In addition

to COVID-19, the country has also been affected by outbreaks of ebola, cholera, and measles in recent years. Regional violence has created millions of refugees and internally displaced people and the eastern provinces of North Kivu and Ituri have been under a state of siege since May 6 2021. The existing physical and social infrastructure is inadequate and there is a major need for institutional reform. The country had its first peaceful presidential transition since its independence in January 2019 and the new government has enacted free primary education and taken its first steps towards achieving universal health coverage. With such vast development and infrastructure needs, domestic resources for conservation and environmental protection are scarce.

Economic Background and Recent Developments

The COVID-19 pandemic caused at least 40,254 confirmed cases and 916 deaths as of late June 2021. While the pandemic containment measures severely affected the services sector, resilience in the mining sector and the rebound in copper and cobalt prices supported positive growth in GDP of about 1.7% in 2020.⁷⁷ Despite the drop in remittances inflows, strong mining exports and lower imports of capital goods supported an improvement in the current account balance from -3.2% in 2019 to -2.2% of GDP in 2020. However, weak tax revenues and increased expenditures associated with a new education initiative in addition to pandemic-related spending, created a fiscal deficit of 1.1% of GDP, which was partially financed with borrowing from the central bank. This monetary financing, along with an easing of monetary policy and depreciation in currency contributed to an acceleration of inflation from 4.6% in 2019 to 15.7% year-on-year in August 2020.⁷⁸

Strong performance in mining production and a rebound in the non-mining sector has supported an overall recovery in growth to 5.4% in 2021. With ongoing significant development needs, the fiscal deficit increased to 1.8% of GDP in 2021 and is projected to run at 1.9% and 2.0% in 2022 and 2023 respectively.⁷⁹ Strong mining exports have supported a narrowing of the current account deficit to 1% of GDP. Additionally in August 2021, a special allocation of SDR of USD 724 million (1.2% of GDP) helped boost international reserves from two weeks of imports in early 2021 to about seven weeks of imports by end-2021. The Ministry of Finance acquired 50% of the SDR allocation to use for budget support and public investments in health, education, hydroelectric energy, infrastructure, transport, and rural development. Inflation stabilized at 5.3% at the end of 2021, but the recent uptick in the global food and energy prices due to the Ukraine conflict poses risks for inflation and growth. In particular, higher oil prices could “generate significant budgetary pressures due to untargeted fuel subsidies, reducing fiscal space for needed social and infrastructure spending.”⁸⁰

In July 2021, the IMF Executive Board approved a three-year Extended Credit Facility (ECF) for the DRC equivalent to about USD 1.52 billion. The ECF arrangement will support DRC’s medium-

⁷⁷ IMF (July 28, 2021) *Democratic Republic of Congo: Request for a Three-year Arrangement Under the Extended Credit Facility; Review of Performance Under the Staff-Monitored Program-Press Release; Staff Report; and Statement by the Executive Director for the Democratic Republic of Congo.*

⁷⁸ IMF (July 28, 2021)

⁷⁹ IMF (January 2022) *First Review Under the Extended Credit Facility Arrangement, Request for Modification of Performance Criteria, and Financing Assurances Review—Press Release; Staff Report; And Statement by the Executive Director of the Democratic Republic of Congo.*

⁸⁰ IMF (March 7, 2022). “IMF Staff Concludes Visit to the Democratic Republic of Congo.” Press Release.

term reform programme aimed at maintaining macroeconomic stability, increasing fiscal space, and promoting private sector-led economic growth. Approval of the ECF arrangement enabled immediate disbursement of about USD 216.9 million to reinforce international reserves. Another USD 212.3 million was disbursed after the first review in December 2021. Additionally, the IMF provided emergency budget support to DRC under the Rapid Credit Facility⁸¹ in December 2019, and April 2020 for a total of USD 731.7 million. DRC participated in the G20 DSSI and received USD 13.5 million and USD 275.5 million in debt service deferral in 2020 and 2021, respectively.⁸²

DRC is bound by a ceiling on new external non-concessional debt for the duration of the ECF. In 2021, the ceiling was set at \$300 million (later revised to USD 320 million) and included two loans: \$50 million loan from the Arab Bank for Economic Development in Africa for Kinshasa road infrastructure, and a \$270 million loan from EXIM India for an unknown purpose. The 2022 ceiling for new external non-concessional debt is set at USD 359 million.

Debt Composition

While the external debt levels are relatively low (15% of GDP), DRC is rated at “moderate” risk of debt distress by the IMF/WB DSA due to low fiscal revenue and volatile exports receipts. Domestic revenue generation has been a persistent problem in DRC. While revenues are projected to increase from 10% of GDP in 2019 to almost 14% in 2024, this falls short of the 20% of GDP average in sub-Saharan Africa.⁸³ Commodities, especially copper and cobalt, account for about 97 percent of DRC’s exports of goods and services, leaving DRC highly vulnerable to swings in the international prices of commodities.

DRC has about USD 7.4 billion in external debt, with about 33% owed to multilateral lenders and another 51% owed to bilateral lenders. Most of the bilateral debt is on non-concessional terms and owed to non-Paris Club creditors, primarily the China Ex-im Bank. It also owes about USD 1.1 billion in commercial debt.

DRC has USD 287 million (0.6% of GDP) in external arrears, including USD 48 million in arrears to four non-Paris Club creditors and USD 239 million in arrears to commercial creditors. These claims are undergoing renegotiation or under a reconciliation process. The authorities sent correspondence to Angola, and draft correspondence has been prepared for Rwanda and Namibia. The remaining external arrears are claims by commercial creditors, including a large part owed to a creditor under US sanctions.

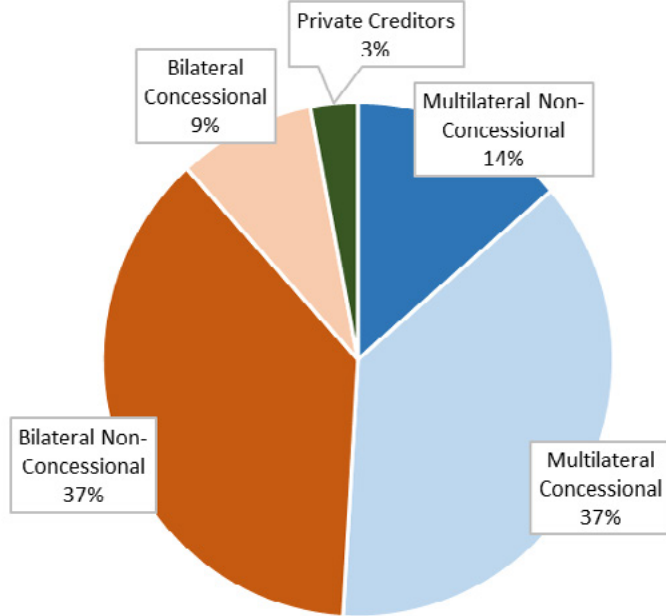
⁸¹ The Rapid Credit Facility (RCF) provides rapid concessional financial assistance to low-income countries (LICs) facing an urgent balance of payments (BoP) need with no ex post conditionality where a full-fledged economic program is neither necessary nor feasible. The RCF was created under the Poverty Reduction and Growth Trust (PRGT) as part of a broader reform to make the Fund’s financial support more flexible and better tailored to the diverse needs of LICs, including in times of crisis. There are three windows under RCF: (i) a “regular window” for urgent BoP needs caused by wide range of sources including domestic instability, emergencies and fragility; (ii) an “exogenous shock window” for urgent BoP needs caused by a sudden, exogenous shock; and (iii) a “large natural disaster window” for urgent BoP needs arising from natural disasters where damage is assessed to be equivalent to or exceed 20 percent of the member’s GDP. Access under the RCF is subject to annual and cumulative limits, with higher access limits applying for the large natural disaster window. For higher income countries that are non-PRGT eligible, a similar Rapid Financing Instrument (RFI) is available.

⁸² World Bank (February 28, 2022) Covid-19 Debt Service Suspension Initiative. <https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative>

⁸³ IMF. (January 2022). “First Review Under the Extended Credit Facility Arrangement, Request for Modification of Performance Criteria, and Financing Assurances Review—Press Release; Staff Report; And Statement by the Executive Director of the Democratic Republic of Congo”.

FIGURE 11:

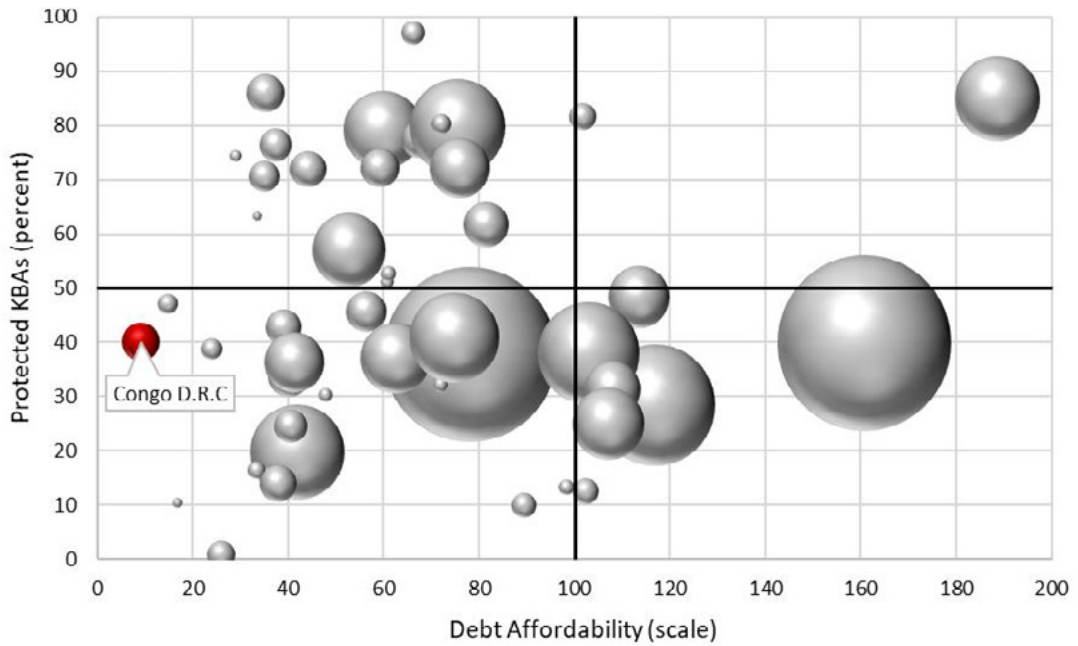
Democratic Republic of the Congo – External Debt Profile



Source: World Bank IDS

FIGURE 12:

Democratic Republic of the Congo – Debt Affordability and Protected KBAs



*Size of bubble represents outstanding external debt stock in current USD.

Sources: IMF WEO, World Bank IDS, BIP, IUCN, UNEP-WCMC, BirdLife International

Nature-linked Debt Transaction Opportunities

Containing around sixty percent of the forested area within the entire, biodiversity-rich, Congo Basin,⁸⁴ which sequesters about 0.66 tons of carbon per hectare per year,⁸⁵ the DRC has a critical need to retain and replenish its forests. Most of this sequestered carbon is stored within the peatlands of the DRC's Cuvette Centrale.⁸⁶ Nearly half a million hectares of primary forest within the DRC, however, were eradicated in 2020 alone,⁸⁷ and less than half of the country's key biodiversity areas are officially protected (see Figure 12). The two primary causes of this degradation are "shifting cultivation" practices and wood harvesting for the local charcoal industry.

Efforts to reduce agricultural deforestation by promoting sustainable land use are already underway, and the political will to conserve nature and forge a sustainable future is certainly present in the DRC. President Felix Tshisekedi describes it as a "solution country" to the global climate crisis.⁸⁸ A signatory of the 30 by 30 initiative, as well as the Bonn Challenge, the DRC announced at COP26 an ambitious plan to support these commitments, reduce deforestation, and establish stronger institutional frameworks for sustainable land use.⁸⁹ These endeavours will be supported by USD 500 million of donor money over five years, facilitated through the Central African Forest Initiative (CAFI).⁹⁰

Charcoal, meanwhile, known locally as 'makala', is a fundamental staple of the local economy in the DRC. At least ninety percent of the population relies on charcoal as their primary source of energy for cooking, both domestically and commercially.⁹¹ Furthermore, the wood fuel industry itself provides income for over 300,000 people across the country.⁹²

There could, however, be economically viable alternatives to this practice. In Kisangani, for example, the Association des femmes valorisatrices des déchets de scierie, with support from the Center for International Forestry Research (CIFOR), is producing and marketing charcoal made from 'waste wood', the excess pieces of lumber from the local sawmill.⁹³

Even more sustainably, a company in Goma called Brisol is manufacturing charcoal briquettes using

⁸⁴ WWF. (2020). "Forest Programme". https://www.wwf-congobasin.org/where_we_work/democratic_republic_of_congo/forest_programme/

⁸⁵ Hubau, W., Lewis, S.L., Phillips, O.L. et al. (March, 2020). "Asynchronous carbon sink saturation in African and Amazonian tropical forests. *Nature* 579, 80–87". <https://doi.org/10.1038/s41586-020-2035-0>

⁸⁶ Cannon, J.C. (December, 2021). "Layers of carbon: The Congo Basin peatlands and oil". *Mongabay*. <https://news.mongabay.com/2021/12/layers-of-carbon-the-congo-basin-peatlands-and-oil/>

⁸⁷ Cibemba, A. (June, 2021). "How the Charcoal Industry Threatens DRC's Forests". *World Resources Institute*. <https://www.wri.org/insights/how-charcoal-industry-threatens-drcs-forests>

⁸⁸ CAFI. (November, 2021). "COP26: Landmark \$500 million agreement launched to protect the DR Congo's forest". *Africa Renewal*. <https://www.un.org/africarenewal/magazine/december-2021/cop26-landmark-500-million-agreement-launched-protect-dr-congo%E2%80%99s-forest>

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*

⁹¹ Cibemba, A. (June, 2021). "How the Charcoal Industry Threatens DRC's Forests". *World Resources Institute*. <https://www.wri.org/insights/how-charcoal-industry-threatens-drcs-forests>

⁹² *Ibid.*

⁹³ Gonzales, A. (May, 2021). "Women entrepreneurs in DRC recover waste wood to produce clean cooking fuel". *CIFOR*. <https://forestsnews.cifor.org/72712/drc-women-entrepreneurs-recover-waste-wood-to-produce-clean-cooking-fuel?fnl=en>

a homogenized mixture of household and agricultural waste.⁹⁴ Aside from the obvious advantage of these briquettes – that they provide efficient cooking fuel from recycled material without the need for fresh-cut rainforest timber – they are also purportedly cheaper than regular charcoal for consumers to buy.⁹⁵ Considering the massive impact of the charcoal industry on deforestation in the DRC, innovations such as this could be pivotal. Today, however, the operation is still small-scale, employing around 40 people.⁹⁶ Of course, one of the most effective methods of helping a fledgling industry to thrive is subsidized growth and expansion.

This goal could therefore provide a very targeted and impactful cause for a potential conservation-based debt transaction. If the sustainable, waste-based charcoal industry could be expanded to provide a cheap, alternative source of cooking fuel to a much wider consumer base, it could theoretically divert a sizeable market share away from traditional charcoal, thereby helping to mitigate the rapid deforestation of the Congo rainforest. In so doing, it would also create a source of employment to compensate for the reduction in jobs linked to the traditional charcoal industry. Given the reduced input cost, and thereby the lower retail price, it seems reasonable to expect that the sustainable method should naturally be able to supersede the traditional method so long as supply can meet demand.

The startup capital required to stimulate this growth could be provided by conservation grants funded through a sustainable debt transaction. As always, the structure of that transaction is dependent upon the country's current debt profile. Unlike Angola and Zambia, the DRC is not a market access country and has a very limited relationship with private creditors (see Figure 11). The largest share of the DRC's debt is, in fact, owed to multilateral creditors, not least of all the AfDB (see Figure 13). If such a transaction was considered institutionally viable, then the AfDB would be well-positioned to execute a bilateral debt swap. Essentially, the Bank would agree to forgive a certain quantity of the debt owed to it by the DRC with the expectation that a sizeable portion of those forgiven debt repayments would be reallocated towards subsidizing the novel sustainable charcoal industry. In mitigating local deforestation in the DRC, this initiative could potentially have an even greater global impact through the preservation of the Congo basin as a carbon sink.

One very obvious obstacle to this exchange is the unfortunate weakness of the country's institutional frameworks, hence its position in the top-left corner of the vulnerability grid (see Figure 14) see Results and Analysis). Unfortunately, the DRC consistently ranks within the bottom decile for government effectiveness according to the World Bank's Worldwide Governance Indicators.^{97, 98} Additionally, domestic security concerns, especially in the North Kivu and Ituri provinces, have tempered DRC's growth prospects and should be factored into any conservation plans, especially

⁹⁴ Mpoyo, G. (January, 2020). "DRC: Coal briquettes made from waste". *Africa News*. <https://www.africanews.com/2022/01/07/drc-coal-briquettes-made-from-waste/>

⁹⁵ *Ibid.*

⁹⁶ *Ibid.*

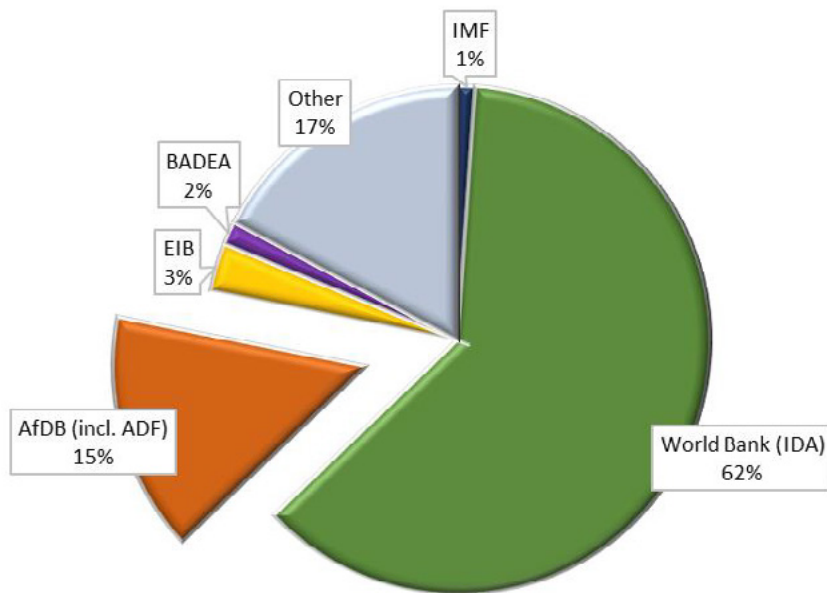
⁹⁷ World Bank. (September, 2021). *The Worldwide Governance Indicators, 2021 Update*. www.govindicators.org

⁹⁸ Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi (2010). "The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues". *World Bank Policy Research Working Paper No. 5430* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1682130

in the period leading to the 2023 presidential elections. These factors could present serious challenges for both implementation and the effective allocation of conservation funds, despite the well-intentioned political will.

FIGURE 13:

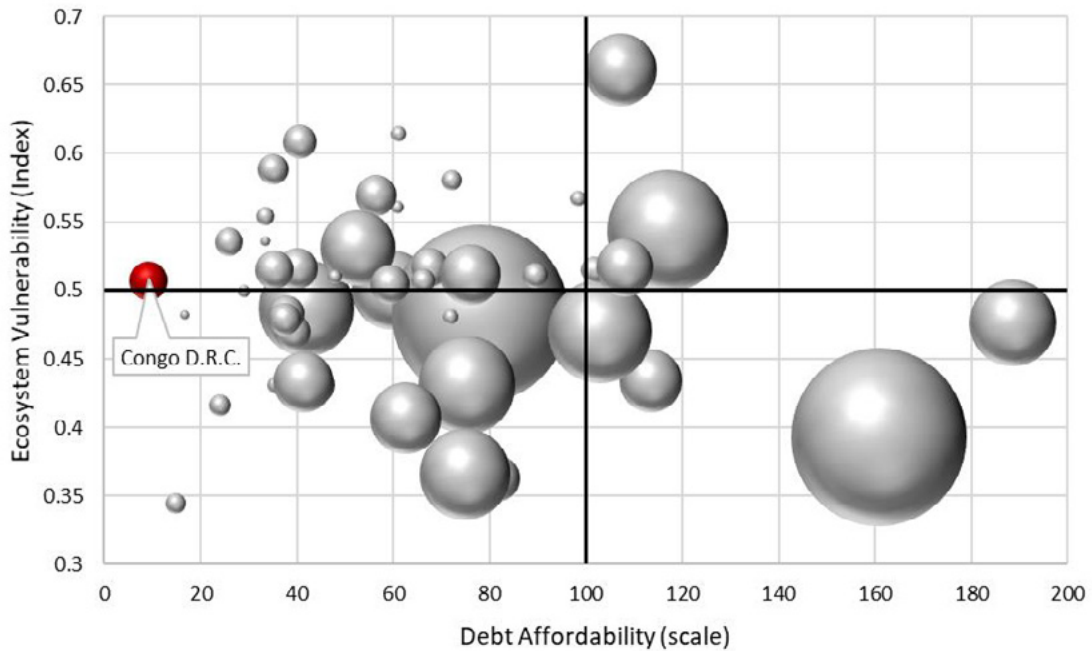
Democratic Republic of the Congo – Multilateral Debt Breakdown



Source: IMF

One possible solution, however, would be to ensure that the agreed savings are transferred instead to an independently managed fund for discretionary dispersal. Although it remains somewhat narrow in scope, the Okapi Fund, as the first conservation trust fund in the DRC, is a completely independent and private entity with an established framework for channeling conservation funding into protected areas.⁹⁹ This could provide the best available option for facilitating such an endeavour and is worthy of further exploration.

⁹⁹ *Fonds Okapi*. (2019). <https://fonds-okapi-rdc.org/>

FIGURE 14:**Democratic Republic of the Congo – Debt Affordability and Ecosystem Vulnerability**

*Size of bubble represents outstanding external debt stock in current USD.

Sources: IMF WEO, World Bank IDS, ND-GAIN

Zambia

Zambia's public debt has been on an unsustainable path for a number of years, and since November 2017, the IMF has judged the country to be at high risk of debt distress. Zambia has applied for debt restructuring under the G20 Common Framework and negotiations with the creditors are expected to start in 2022.

Economic Background and Recent Developments

The COVID-19 pandemic triggered a recession in Zambia with GDP contracting by 3% in 2020 and only modestly recovering to 1% in 2021, as the shutdowns and supply chain disruptions hammered every key economic sector. With shrinking revenues and surging COVID-19 related expenditures, the fiscal deficit increased from 6.5% of GDP in 2019 to 13.2% and 8.6% in 2020 and 2021, respectively. In early 2020, a drastic drop (25%) in copper prices—Zambia's dominant export—exacerbated previous external financing pressures and dwindling FX reserves. After depreciating by 18% in 2019, Zambia's Kwacha depreciated by another 50% in 2020 before appreciating by about 21% since the last quarter of 2021. Recovery in global copper prices in the second half of 2020 pushed Zambia's current account into a surplus of 12% and 15.7% in 2020 and 2021 respectively. Inflation increased from 15.7% in 2020 to 22.8% in 2021, driven by high food prices. It is expected to decelerate to 16.7% in 2022 but remains above the target range of 6%-8%.

In 2021 Zambia benefitted from USD 1.33 billion in a special allocation of IMF Special Drawing Rights which took its international reserves from 2.4 months of import cover in 2020 to 5.5 months in 2021. Zambia participated in the G20 Debt Service Suspension Initiative and received debt service forbearance from Paris Club Creditors and Chinese official lenders. It is estimated that USD 170.6 million and 529.2 million in debt service were deferred in 2020 and 2021, respectively.¹⁰⁰ The government's request for a comparable debt service deferment from the international bondholders was, however, declined. Eurobond's creditor committee issued a press statement raising concerns about lack of transparency by the Zambian authorities to ensure inter-creditor equity. In November 2020, Zambia officially defaulted on the USD 42.5 million Eurobond coupon payment and in January 2021 it defaulted on a second USD 56.1 million Eurobond coupon payment.

In December 2021, Zambia and the IMF reached a staff-level agreement on a three-year programme supported by an Extended Credit Facility (ECF) of USD 1.4 billion. The staff-level agreement is contingent on the approval by the IMF Executive Board, and "sufficient progress" being made on the debt restructuring through the G20 Common Framework, including receipt of the necessary financing assurances from donors and creditors. The programme will assist Zambia to regain fiscal sustainability with an expected "large, upfront fiscal adjustment" and shift away from "inefficient public investment and poorly targeted subsidies, towards greater investment in health and education and the delivery of more social benefits."¹⁰¹ This will be augmented with improvements in public financial management, debt management and debt transparency. It has been reported that Zambia will form an official creditor committee in the first quarter of 2022 with the goal of restructuring its official bilateral debts under the aegis of the G20 Common Framework. The official creditor committee is expected to use the IMF/World Bank Debt Sustainability Assessment (DSA) to assess the need for debt treatment. An agreement on the key parameters of the restructuring will be set out in a memorandum of understanding which is also expected to serve as the basis for negotiations with the bondholders.

Debt Composition

Zambia's public debt has increased rapidly from USD 6.6 billion (61.4% of GDP) in 2015 to USD 18.5 billion (104% of GDP) in September 2020.¹⁰² Similarly, the external public debt jumped to USD 11.97 billion (77.3% of GDP) from USD 7 billion (43.1%), as the government stepped up its external borrowing to finance public infrastructure investments. However, the external debt interest payments have grown from 16% of public revenues in 2015 to 30% by September 2020.¹⁰³

About one third of the external debt is held by official bilateral creditors, in particular China. About 1% of the total debt is held by the Paris Club creditors with a further 46% of the public external

¹⁰⁰World Bank (February 28, 2022) *Covid-19 Debt Service Suspension Initiative*. <https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative>

¹⁰¹ IMF. (December 6, 2021). "Updated: IMF Staff Reaches Staff-Level Agreement on an Extended Credit Facility Arrangement with Zambia." Press Release.

¹⁰² African Development Bank. (February 2022). "Briefing note—Zambia." AFDB-ECVP-ECCE Moody's Meeting.

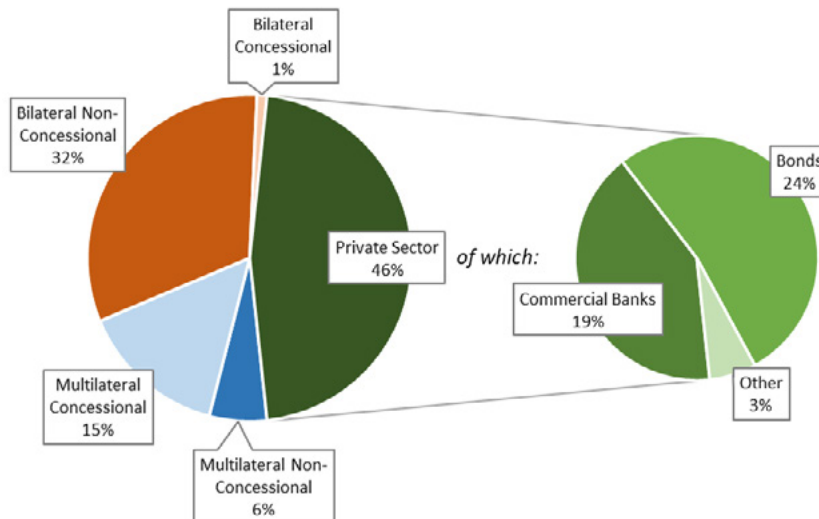
¹⁰³ *Ibid*

debt owed to commercial creditors, including USD 3 billion to Eurobond holders. It is believed the bulk of the non-bonded commercial debt is owed to various Chinese entities.

FIGURE 15:

Zambia – External Debt Profile

Figure 15. Zambia – External Debt Profile



Source: World Bank IDS

Nature-linked Debt Transaction Opportunities

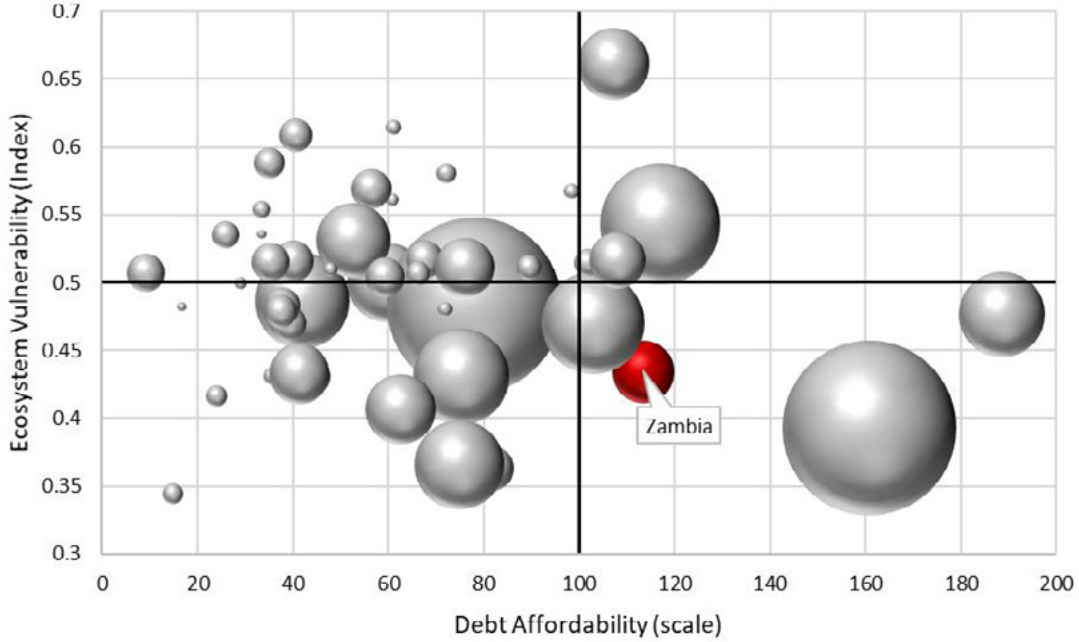
Zambia currently benefits from a relatively sophisticated network of conservation initiatives. Aside from the on-the-ground presence of large international NGOs such as TNC and WWF, the country's wildlife is additionally supported by a number of local conservation programmes, including Game Rangers International,¹⁰⁴ Conservation South Luangwa and a handful of others with different regional or species foci. This developed institutional framework for combatting threats to the natural environment likely accounts for Zambia's relatively low level of ecosystem vulnerability (see Figure 16).

While certain regions, species, and national parks may be reasonably well-protected, however, more than half of the country's total key biodiversity areas remain in need of enhanced conservation efforts (see Figure 17). In addition to the government's unsustainable external debt level, this places Zambia in the bottom-right quadrant of the KBA grid, thereby suggesting its suitability for a nature-linked debt transaction.

¹⁰⁴ GRI. (June, 2021). "Game Rangers International: 2020 Impact Report". https://issuu.com/shonaghmassie/docs/gri_impact_report_2020

FIGURE 16:

Zambia – Debt Affordability and Ecosystem Vulnerability

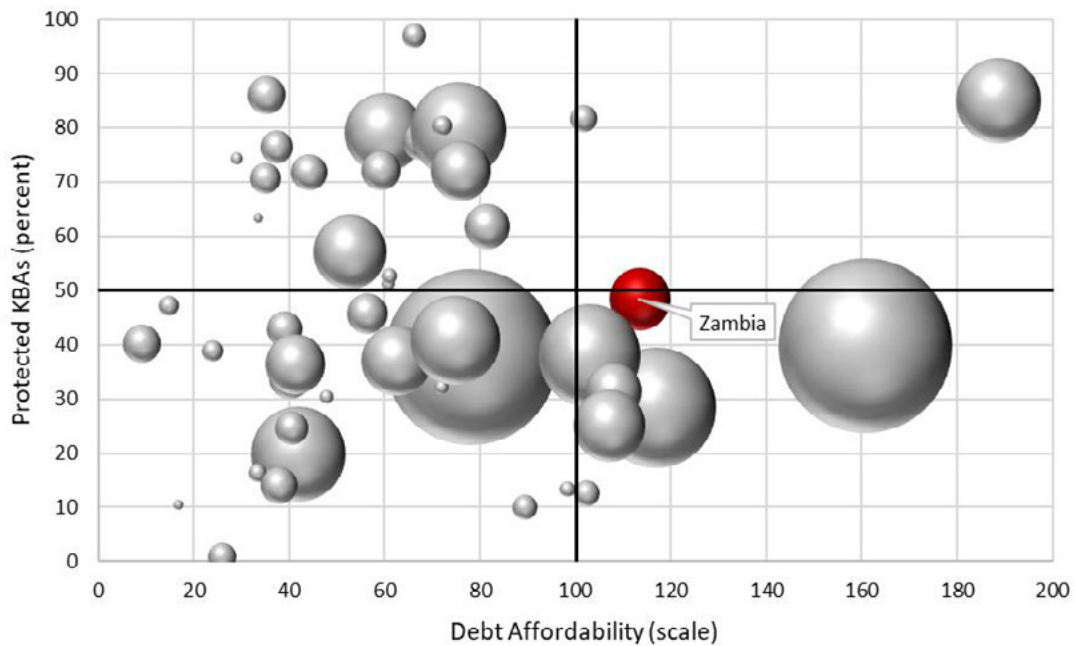


*Size of bubble represents outstanding external debt stock in current USD.

Sources: IMF WEO, World Bank IDS, ND-GAIN

FIGURE 17:

Zambia – Debt Affordability and Protected KBAs



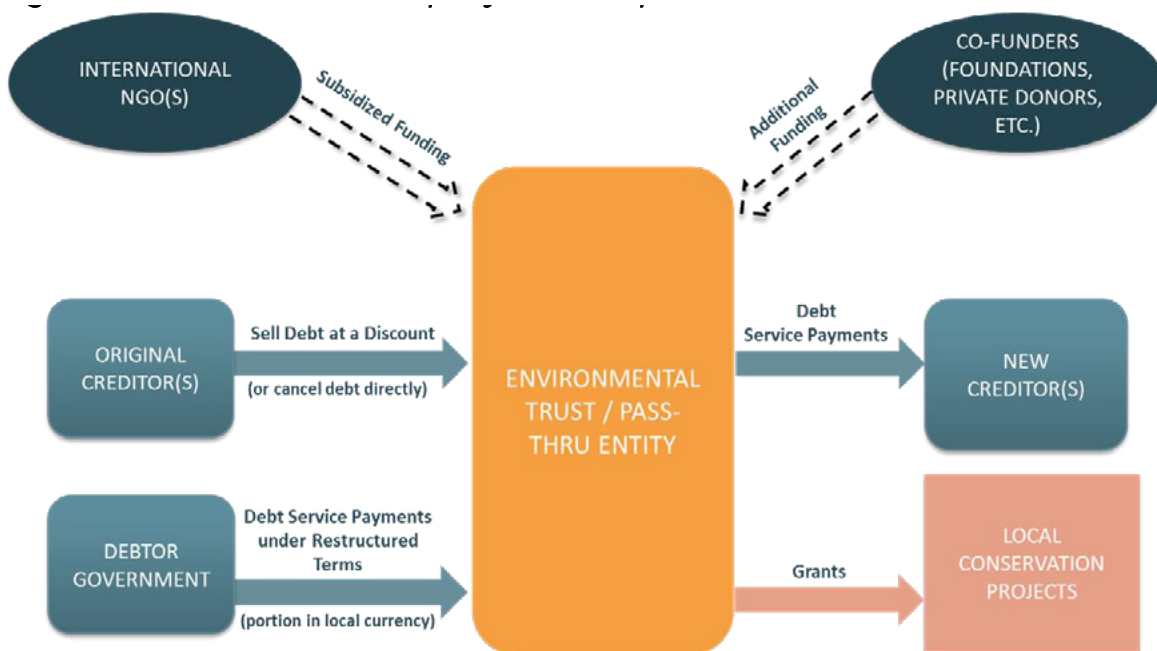
*Size of bubble represents outstanding external debt stock in current USD.

Sources: IMF WEO, World Bank IDS, BIP, IUCN, UNEP-WCMC, BirdLife International

In terms of how such an initiative might unfold, Zambia may even benefit more from a series of consecutive transactions over time. For example, given its current debt situation, Zambia could be a good candidate for a debt-for-nature swap in the context of restructuring its Eurobond. As one of the few applicants to the G20 Common Framework, and having already been forced to default on its sovereign debt since the onset of the pandemic, Zambia is on course to restructure its debt this year.¹⁰⁵ With the green recovery in mind, it could be a prime opportunity to incorporate a multi-party DFN swap (see Figure 18). In this large-scale restructuring of around USD 17 billion,¹⁰⁶ a swap would likely only cover a portion of cancelled debt, but with sufficient donor support, such a portion could still yield substantial funding for Zambia's environmental priorities.

FIGURE 18:

Mechanics of a Multi-party Debt Swap



Once the debt restructuring is complete, and the country eventually regains market access, it could then consider issuing an SLB, subject to the limitations of any relevant debt ceilings to which the government may be subject under the IMF Extended Credit Facility programme. This would thereby be an opportunity for Zambia to permanently green the way it borrows. Given the relative institutional strength of its existing conservation frameworks, Zambia should be able to present a strong, transparent story to support the validity of such debt structures and create confidence among investors. In other words, as long as conservation remains important to Zambia from an ecological and tourism point of view, the government should translate these efforts into affordable financing for its general budget.

¹⁰⁵ Reuters. (December, 2021). "Zambia expects to agree debt restructuring with creditors by mid-2022 – minister". <https://www.reuters.com/world/africa/zambia-expects-agree-debt-restructuring-with-creditors-by-mid-2022-minister-2021-12-23/>

¹⁰⁶ Hill, M. and Mitimngi, T.C. (February, 2022). "Zambia Creditors Must Cancel Two-Thirds of Debt, Groups Say". Bloomberg. <https://www.bloomberg.com/news/articles/2022-02-04/zambia-s-creditors-should-cancel-two-thirds-of-debt-groups-say>

CHAPTER 6

Conclusion

Addressing the triple threat of unsustainable debt, climate risk, and degradation of nature through the African Union's Green Recovery Action Plan 2021-2027 has become a matter of urgency, as the majority of the African Development Bank's regional member countries fall within the group that are likely to witness a weaker post-COVID-19 recovery. These challenges are being further exacerbated by rapidly increasing climate vulnerabilities. The Bank recognizes the magnitude and importance that climate and nature play on the future sustainability of African countries and has taken steps on debt management, including within the context of its Debt Action Plan, sustainable borrowing policy, and other forms of support. In order to meet the joint challenges posed by the post-pandemic era and the climate and nature crisis, Africa must find bold and creative solutions as servicing debt becomes increasingly burdensome and a serious impediment to action on the other pressing priorities. This study is therefore timely and in line with the AfDB's actions on debt management through the Debt Action Plan 2021-2023.

Given the urgency of today's challenges, the 'green recovery' narrative that is currently gaining international momentum presents a host of extremely valuable opportunities for African sovereigns, not just from an ecological standpoint, but from a financial one as well. The global drive for a more sustainable future has led to important innovations for mobilizing external finance into indebted countries at concessional rates. Importantly, this can even include substantial private sector financing under the right circumstances, a necessary element if the world is to succeed in counteracting the unprecedented triple threat.

Identifying such opportunities across Africa can be a complex process, as each country is unique, with its own natural assets and idiosyncratic sovereign balance sheet, which together demand a highly tailored solution to achieve optimal results. The methodology described in this report, however, attempts to provide a starting point for recognizing potential opportunities and ascertaining the most applicable transaction model in broad terms, be it a debt-for-nature swap, SLB, or alternative solution. Once a promising opportunity has been identified though, the process

of deciding upon effective environmental countermeasures and devising a way to finance them will still be an intensive and partially qualitative effort. As a result, each individual transaction, while adhering to a general conceptual model, is likely to be structurally unique and specific to the needs of the country itself.

Additionally, it is important to recognize that pursuing these solutions is very much within the interest of the broader international community, and not just for the benefit of individual African countries. Many other countries have pledged, both officially and rhetorically, to help mobilize finance to confront the issues of climate change and environmental degradation across the world. Aside from the need to fulfil these commitments, the international community should also be driven by the undeniable service that African ecosystems provide to the biosphere as a whole. Carbon sinks such as the Congo Basin are invaluable in the global fight against climate change, rendering environmental conservation in Africa an issue of direct importance to the climate security of other nations, including creditors.

This report also highlights the important role that the African Development Bank can play in supporting these processes, including through advisory services, capacity building, market studies, and linkages with other relevant partners. In addition, the Bank may itself participate directly in a swap arrangement (bilateral or multilateral) or in a new money debt transaction linked to climate and/or nature as a purchasing or donor institution.

The next step following this report should be for the Bank to implement some policy actions to facilitate the linkage of sovereign debt to climate and nature outcomes in Africa. For this to happen, it is seeking collaboration with partners to create a facility for member countries that can provide technical assistance, templates of sovereign SLB and swap structures to lower transaction costs, monitoring and evaluation support or credit enhancements from participating donors for the implementation of debt swaps and other beneficial transaction structures.

The potential impact of debt swaps in Africa is difficult to quantify precisely for a number of technical reasons, however, the total face value of debt treated globally through both two-party and multi-party swaps is only about USD 3.7 billion, of which only about USD 318 million were in Africa. With the ongoing conversation about the USD 200 billion biodiversity finance requirement for implementing the Post-2020 Global Biodiversity Framework, juxtaposed with the USD 242.8 billion African countries are currently expected to have to pay on debt servicing through 2028, Africa can look towards debt-for-nature-climate-swaps to mobilize biodiversity finance for nature-positive projects on a case-by-case basis.

Appendix A: Underlying Country Data

Country	Debt Affordability (2021)	Ecosystem Vulnerability (2019)	Percentage of Total KBAs in Protected Areas (2018)	External Debt Stock - PPG - Current USD (2020)	Multilateral Debt (percent of total external PPG debt)	Bilateral Debt (percent of total external PPG debt)	Commercial Debt (percent of total external PPG debt)
Angola	116.9394828	0.543289997	28.37	47,143,566,385.80	6.51%	40.66%	52.83%
Benin	67.65727543	0.516758565	77.38	4,405,258,837.40	60.54%	11.98%	27.48%
Botswana	14.84278334	0.344306331	47.1	1,278,429,299.90	97.14%	2.86%	0.00%
Burkina Faso	44.19041561	0.430814167	71.83	4,023,131,683.50	88.22%	11.53%	0.26%
Burundi	60.80938498	0.560879702	51.19	493,346,649.20	71.60%	28.40%	0.00%
Cabo Verde	102.3625409	0.452431273	12.51	2,022,446,070.10	50.14%	22.26%	27.60%
Cameroon	41.40479869	0.432830546	36.31	11,459,888,323.60	38.59%	49.47%	11.94%
Central African Republic	29.0086179	0.499574807	74.37	447,466,239.70	39.50%	54.94%	5.57%
Chad	35.09851678	0.588328486	70.63	2,945,250,129.60	23.51%	33.79%	42.70%
Comoros	16.7755511	0.48199562	10.42	258,028,364.60	29.73%	70.27%	0.00%
Democratic Republic of the Congo	9.20998587	0.507193163	40.1	4,495,568,143.80	50.93%	46.06%	3.00%
Republic of Congo	59.27292253	0.504246751	72.12	4,803,021,494.50	20.52%	61.21%	18.28%
Côte d'Ivoire	59.79193864	0.500253098	79.13	19,975,910,807.70	19.88%	19.79%	60.33%
Eritrea	98.34952241	0.567147016	13.34	729,400,216.70	80.58%	14.64%	4.78%
Eswatini	47.90241491	0.51006199	30.27	557,095,896.50	46.98%	51.18%	1.83%
Ethiopia	42.00258206	0.486629438	19.77	29,015,500,508.70	48.33%	29.23%	22.44%
Gabon	81.4755864	0.362712703	61.67	6,477,766,353.30	32.13%	23.29%	44.59%
The Gambia	71.94869704	0.4804511	32.12	646,596,406.10	73.52%	26.48%	0.00%
Ghana	188.5724389	0.476316241	84.96	23,321,768,190.70	25.85%	13.53%	60.62%
Guinea	37.42810952	0.478910921	76.38	3,363,345,465.30	37.70%	55.52%	6.78%
Guinea-Bissau	61.09004399	0.614096482	52.6	708,829,466.80	53.24%	16.78%	29.98%
Kenya	102.8949137	0.470284945	37.91	33,688,483,421.10	44.99%	33.03%	21.98%
Lesotho	35.77437311	0.430861762	15.27	930,780,527.70	81.16%	18.40%	0.44%
Liberia	33.34781301	0.554170925	16.36	966,333,357.20	86.24%	13.76%	0.00%
Madagascar	40.61007555	0.60864771	24.6	3,513,676,051.30	80.09%	15.75%	4.16%

Country	Debt Affordability (2021)	Ecosystem Vulnerability (2019)	Percentage of Total KBAs in Protected Areas (2018)	External Debt Stock - PPG - Current USD (2020)	Multilateral Debt (percent of total external PPG debt)	Bilateral Debt (percent of total external PPG debt)	Commercial Debt (percent of total external PPG debt)
Malawi	101.7222424	0.514875213	81.64	2,236,954,600.30	80.43%	19.57%	0.00%
Mali	40.12448763	0.515761092	33.77	5,317,217,358.60	75.69%	24.31%	0.00%
Mauritius	89.52498746	0.511268594	9.98	1,908,913,790.70	41.40%	57.25%	1.34%
Mozambique	108.0228479	0.516678883	31.31	10,192,235,864.40	46.05%	48.15%	5.80%
Niger	39.06322822	0.469592521	42.75	4,031,228,014.40	76.51%	18.05%	5.44%
Nigeria	75.37058134	0.430802987	79.62	29,749,764,458.00	48.15%	14.30%	37.54%
Rwanda	56.4183692	0.569026173	45.67	5,121,904,267.40	72.97%	12.49%	14.55%
São Tomé and Príncipe	33.43991784	0.535868751	63.25	240,879,318.00	22.01%	73.83%	4.15%
Senegal	62.54633573	0.406668489	37.02	15,857,878,914.70	36.09%	31.18%	32.73%
Sierra Leone	72.13898745	0.58055214	80.32	1,278,433,866.80	66.73%	18.64%	14.63%
South Africa	78.08108926	0.483026726	37.77	99,363,141,645.60	5.90%	4.33%	89.78%
Tanzania	52.73585606	0.530828213	57.03	17,619,055,000.60	63.43%	23.37%	13.20%
Togo	66.2306422	0.506616797	96.98	1,766,858,202.50	46.59%	35.95%	17.46%
Uganda	76.04795909	0.511144406	72.05	11,334,948,326.40	63.65%	31.76%	4.58%
Zambia	113.5074883	0.433835935	48.33	12,245,070,737.10	20.40%	33.01%	46.59%
Zimbabwe	35.34008279	0.515318505	85.88	4,576,942,225.20	27.21%	63.38%	9.41%
Algeria	24.02138771	0.416180518	38.81	1,436,747,454.00	76.21%	23.58%	0.21%
Djibouti	25.98266991	0.535325544	0.81	2,353,517,085.30	28.04%	71.96%	0.00%
Egypt	160.7444988	0.392885221	39.86	98,856,542,574.00	25.85%	37.45%	36.70%
Mauritania	37.84884368	0.482892506	13.93	4,210,583,285.20	58.93%	41.07%	0.00%
Sudan	107.2071134	0.66123133	25	16,584,378,822.40	22.50%	48.39%	29.11%
Tunisia	74.8332872	0.365626914	40.85	25,694,558,460.90	49.68%	21.11%	29.20%

Sources: IMF WEO, World Bank IDS, BIP, IUCN, UNEP-WCMC, BirdLife International

Appendix B: Historical World Swap Data

Region	Country	Year	Type	Purchaser/Donor	Face Value of Treated Debt	Environmental Funds Allocated	Purchase Price	Additional Fund Allocation
LATAM and Caribbean	Bolivia	1987	Multi-Party	CI, Frank Weeden Foundation	\$650,000	\$250,000	\$100,000	
LATAM and Caribbean	Ecuador	1987	Multi-Party	WWF, Frank Weeden Foundation	\$1,000,000	\$1,000,000	\$354,000	
LATAM and Caribbean	Costa Rica	1988	Multi-Party	National Parks Foundation, Association Ecological La Pacifica, CI, J.S. Noyes Foundation, MacArthur Foundation, TNC, Organization for Tropical Studies, Pew Charitable Trusts, Swedish Society for the Conservation of Nature, W. Alton Jones Foundation, WWF	\$5,400,000	\$4,050,000	\$918,000	
LATAM and Caribbean	Costa Rica	1988	Multi-Party	Netherlands	\$33,000,000	\$9,900,000	\$5,000,000	
Asia	Philippines	1988	Multi-Party	WWF	\$390,000	\$390,000	\$195,975	
LATAM and Caribbean	Costa Rica	1989	Multi-Party	TNC	\$5,600,000	\$1,680,000	\$784,000	
LATAM and Caribbean	Costa Rica	1989	Multi-Party	Sweden	\$24,500,000	\$17,150,000	\$3,500,000	
LATAM and Caribbean	Ecuador	1989	Multi-Party	TNC, Missouri Botanical Garden	\$3,600,000	\$3,600,000	\$424,080	
LATAM and Caribbean	Ecuador	1989	Multi-Party	WWF	\$5,389,473	\$5,389,473	\$640,000	
Africa	Madagascar	1989	Multi-Party	WWF, USAID	\$2,111,112	\$2,111,112	\$950,000	
Africa	Zambia	1989	Multi-Party	WWF, Anonymous Swiss donor	\$2,271,112	\$2,044,001	\$454,222	
LATAM and Caribbean	Costa Rica	1990	Multi-Party	Sweden, TNC, WWF	\$10,800,000	\$9,600,000	\$1,900,000	
LATAM and Caribbean	Dominican Republic	1990	Multi-Party	TNC, Puerto Rico Conservation Trust	\$582,000	\$582,000	\$116,000	
Africa	Madagascar	1990	Multi-Party	WWF	\$919,364	\$919,364	\$445,891	
Asia	Philippines	1990	Multi-Party	WWF, USAID	\$900,000	\$900,000	\$438,750	
Europe	Poland	1990	Multi-Party	WWF	\$50,000	\$50,000	\$11,500	
Europe	Poland	1990	Bilateral	Finland	\$17,000,000	\$17,000,000	N/A	
LATAM and Caribbean	Bolivia	1991	Bilateral	USA	\$30,700,000	\$21,800,000	N/A	

Region	Country	Year	Type	Purchaser/Donor	Face Value of Treated Debt	Environmental Funds Allocated	Purchase Price	Additional Fund Allocation
LATAM and Caribbean	Chile	1991	Bilateral	USA	\$15,900,000	\$1,400,000	N/A	
LATAM and Caribbean	Costa Rica	1991	Multi-Party	TNC, Rainforest Alliance	\$600,000	\$540,000	\$360,000	
LATAM and Caribbean	Guatemala	1991	Multi-Party	TNC	\$100,000	\$90,000	\$75,000	
LATAM and Caribbean	Jamaica	1991	Multi-Party	Puerto Rico Conservation Trust, TNC, USAID	\$437,956	\$437,956	\$300,000	
LATAM and Caribbean	Jamaica	1991	Bilateral	USA	\$216,700,000	\$9,200,000	N/A	
Africa	Madagascar	1991	Multi-Party	CI, UNDP	\$119,000	\$119,000	\$59,000	
LATAM and Caribbean	Mexico	1991	Multi-Party	CI, Sequoia Foundation, MacArthur Foundation	\$250,000	\$250,000	\$183,000	
LATAM and Caribbean	Mexico	1991	Multi-Party	CI	\$250,000	\$250,000	N/A	
Africa	Nigeria	1991	Multi-Party	Nigeria Conservation Foundation	\$149,000	\$93,000	\$65,000	
LATAM and Caribbean	Paraguay	1991	Multi-Party	TNC, USAID, Applied Energy Services	\$9,000,000	\$5,000,000	\$2,000,000	
Europe	Poland	1991	Bilateral	USA	\$370,000,000	\$370,000,000	N/A	
LATAM and Caribbean	Brazil	1992	Multi-Party	TNC, American Express Foundation, Second Nature Software	\$2,192,000	\$2,192,000	\$746,000	
LATAM and Caribbean	Chile	1992	Bilateral	USA	\$14,700,000	\$17,300,000	N/A	
LATAM and Caribbean	Colombia	1992	Bilateral	USA	\$31,000,000	\$41,600,000	N/A	
Africa	Egypt	1992	Bilateral	France	\$0	\$11,600,000	N/A	
LATAM and Caribbean	El Salvador	1992	Bilateral	USA	\$268,400,000	\$25,600,000	N/A	
LATAM and Caribbean	El Salvador	1992	Bilateral	USA	\$195,500,000	\$15,600,000	N/A	
Africa	Ghana	1992	Multi-Party	CI, International Council on Monuments and Sites, Midwest Universities Consortium for International Activities, Smithsonian Institution, USAID	\$1,000,000	\$1,000,000	\$250,000	
LATAM and Caribbean	Guatemala	1992	Multi-Party	CI, USAID	\$1,300,000	\$1,300,000	\$1,200,000	
LATAM and Caribbean	Mexico	1992	Multi-Party	CI, USAID	\$441,000	\$441,000	\$355,000	
Asia	Philippines	1992	Multi-Party	WWF, USAID	\$9,646,606	\$8,815,946	\$5,000,000	
Asia	Philippines	1992	Bilateral	France	\$0	\$4,000,000	N/A	
Africa	Tunisia	1992	Bilateral	Sweden	\$1,342,000	\$1,342,000	N/A	
LATAM and Caribbean	Uruguay	1992	Bilateral	USA	\$400,000	\$90,000	N/A	
LATAM and Caribbean	Uruguay	1992	Bilateral	USA	\$3,300,000	\$6,100,000	N/A	
LATAM and Caribbean	Argentina	1993	Bilateral	USA	\$3,800,000	\$3,100,000	N/A	
LATAM and Caribbean	Bolivia	1993	Bilateral	Belgium	\$13,000,000	\$0	N/A	
LATAM and Caribbean	Bolivia	1993	Multi-Party	TNC, WWF, Morgan Guaranty Trust Co.	\$11,465,795	\$2,816,400	0	
LATAM and Caribbean	Bolivia	1993	Bilateral	Sweden	\$35,400,000	\$3,900,000	N/A	

Region	Country	Year	Type	Purchaser/Donor	Face Value of Treated Debt	Environmental Funds Allocated	Purchase Price	Additional Fund Allocation
LATAM and Caribbean	Bolivia	1993	Bilateral	Switzerland	\$35,400,000	\$1,365,000	N/A	\$2,535,000
LATAM and Caribbean	Colombia	1993	Bilateral	Canada	\$12,000,000	\$12,000,000	N/A	
Africa	Egypt	1993	Bilateral	Norway	\$17,300,000	\$0	N/A	
Africa	Egypt	1993	Bilateral	Norway	\$6,200,000	\$0	N/A	
LATAM and Caribbean	El Salvador	1993	Bilateral	Canada	\$7,500,000	\$6,000,000	N/A	
LLATAM and Caribbean	Honduras	1993	Bilateral	Canada	\$24,900,000	\$12,450,000	N/A	
LATAM and Caribbean	Honduras	1993	Bilateral	Switzerland	\$42,030,000	\$8,430,000	N/A	
LATAM and Caribbean	Jamaica	1993	Bilateral	USA	\$94,100,000	\$12,300,000	N/A	
Africa	Madagascar	1993	Multi-Party	CI, USAID	\$3,200,000	\$3,200,000	\$1,500,000	
Africa	Madagascar	1993	Multi-Party	WWF, USAID	\$3,735,000	\$1,867,500	\$1,818,824	
Africa	Madagascar	1993	Multi-Party	Missouri Botanical Garden	\$725,000	\$725,000	\$362,500	
LATAM and Caribbean	Mexico	1993	Multi-Party	CI	\$252,000	\$252,000	\$208,000	
LATAM and Caribbean	Nicaragua	1993	Bilateral	Canada	\$13,600,000	\$2,700,000	N/A	
Africa	Nigeria	1993	Bilateral	UK	\$7,300,000	\$0	N/A	
Africa	Nigeria	1993	Bilateral	Norway	\$10,200,000	\$0	N/A	
LATAM and Caribbean	Peru	1993	Bilateral	Switzerland	\$131,000,000	\$32,700,000	N/A	
Asia	Philippines	1993	Multi-Party	WWF, USAID	\$19,000,000	\$17,100,000	\$12,973,854	
Europe	Poland	1993	Bilateral	France	\$66,000,000	\$66,000,000	N/A	
Europe	Poland	1993	Bilateral	Switzerland	\$63,000,000	\$63,000,000	N/A	
Africa	Tanzania	1993	Bilateral	UK	\$15,400,000	\$15,400,000	N/A	
Africa	Tanzania	1993	Bilateral	Switzerland	\$25,600,000	\$190,000	N/A	\$3,610,000
Africa	Tunisia	1993	Bilateral	Sweden	\$477,300	\$477,300	N/A	
LATAM and Caribbean	Ecuador	1994	Bilateral	Switzerland	\$46,390,000	\$4,524,000	N/A	\$7,076,000
Africa	Madagascar	1994	Multi-Party	WWF, Deutschebank	\$1,340,469	\$1,072,376	N/A	
Africa	Madagascar	1994	Multi-Party	CI	\$200,000	\$160,000	\$50,000	
LATAM and Caribbean	Mexico	1994	Multi-Party	CI	\$280,000	\$280,000	\$236,000	
LATAM and Caribbean	Mexico	1994	Multi-Party	CI	\$480,000	\$480,000	\$399,390	
LATAM and Caribbean	Mexico	1994	Multi-Party	CI	\$290,000	\$290,000	\$248,395	
Africa	Zambia	1994	Multi-Party	IUCN - World Conservation Union	\$985,986	\$162,687	\$108,458	
Europe	Bulgaria	1995	Bilateral	Switzerland	\$16,700,000	\$16,200,000	N/A	
LATAM and Caribbean	Costa Rica	1995	Bilateral	Canada	\$16,600,000	\$8,300,000	N/A	
Africa	Egypt	1995	Bilateral	Switzerland	\$121,000,000	\$18,000,000	N/A	\$54,000,000
Africa	Guinea-Bissau	1995	Bilateral	Switzerland	\$8,400,000	\$400,000	N/A	
Middle East	Jordan	1995	Bilateral	Germany	\$13,400,000	\$6,700,000	N/A	
Middle East	Jordan	1995	Bilateral	Germany	\$22,700,000	\$11,300,000	N/A	
LATAM and Caribbean	Mexico	1995	Multi-Party	CI, USAID	\$488,000	\$336,500	\$246,000	

Region	Country	Year	Type	Purchaser/Donor	Face Value of Treated Debt	Environmental Funds Allocated	Purchase Price	Additional Fund Allocation
LATAM and Caribbean	Peru	1995	Bilateral	Canada	\$17,036,160	\$354,920	N/A	\$3,695,081
LATAM and Caribbean	Peru	1995	Bilateral	Germany	\$20,150,000	\$6,089,309	N/A	
Asia	Philippines	1995	Bilateral	Switzerland	\$16,100,000	\$16,100,000	N/A	
LATAM and Caribbean	Costa Rica	1996	Bilateral	Netherlands	\$14,100,000	\$14,100,000	N/A	
Africa	Madagascar	1996	Multi-Party	WWF, DGIS (Netherlands Development Cooperation)	\$2,000,000	\$1,500,000	N/A	
LATAM and Caribbean	Mexico	1996	Multi-Party	CI	\$391,000	\$254,000	\$191,607	
LATAM and Caribbean	Mexico	1996	Multi-Party	CI	\$495,674	\$442,622	\$327,393	
LATAM and Caribbean	Mexico	1996	Multi-Party	CI	\$670,889	\$560,752	\$440,360	
LATAM and Caribbean	Peru	1996	Bilateral	Finland	\$24,618,409	\$6,154,516	N/A	\$2,470,980
Asia	Philippines	1996	Bilateral	Germany	\$5,800,000	\$1,800,000	N/A	
Asia	Vietnam	1996	Bilateral	Germany	\$18,200,000	\$5,400,000	N/A	
LATAM and Caribbean	Bolivia	1997	Bilateral	Germany	\$3,700,000	\$1,150,000	N/A	
LATAM and Caribbean	Mexico	1997	Multi-Party	CI	\$265,714	\$243,494	\$186,000	
LATAM and Caribbean	Mexico	1997	Multi-Party	CI	\$310,000	\$299,499	\$237,661	
LATAM and Caribbean	Peru	1997	Bilateral	USA	\$177,000,000	\$22,800,000	N/A	
Europe	Poland	1997	Bilateral	Sweden	\$13,000,000	\$13,000,000	N/A	
LATAM and Caribbean	Mexico	1998	Multi-Party	CI	\$311,000	\$311,000	\$249,000	
Europe	Poland	1998	Bilateral	Italy	\$32,000,000	\$32,000,000	N/A	
LATAM and Caribbean	Costa Rica	1999	Bilateral	Spain	\$5,222,000	\$2,180,000	N/A	
LATAM and Caribbean	Honduras	1999	Bilateral	Germany	\$1,068,000	\$534,000	N/A	
LATAM and Caribbean	Peru	1999	Bilateral	Germany	\$4,968,203	\$1,987,281	N/A	
LATAM and Caribbean	Peru	1999	Bilateral	Germany	\$4,968,203	\$1,987,281	N/A	
Asia	Vietnam	1999	Bilateral	Germany	\$16,400,000	\$5,000,000	N/A	
Asia	Bangladesh	2000	Bilateral	USA	\$10,000,000	\$8,100,000	N/A	
LATAM and Caribbean	Bolivia	2000	Bilateral	Germany	\$15,800,000	\$3,200,000	N/A	
Africa	Ghana	2000	Multi-Party	CI	\$120,000	\$120,000	\$104,000	
Middle East	Jordan	2000	Bilateral	Germany	\$43,600,000	\$21,800,000	N/A	
Europe	Poland	2000	Bilateral	Norway	\$27,000,000	\$27,000,000	N/A	
LATAM and Caribbean	Belize	2001	Bilateral	USA	\$9,700,000	\$9,000,000	N/A	
Africa	Egypt	2001	Bilateral	Italy	\$7,450,000	\$7,450,000	N/A	
LATAM and Caribbean	El Salvador	2001	Bilateral	USA	\$7,700,000	\$14,000,000	N/A	
Middle East	Jordan	2001	Bilateral	Germany	\$11,300,000	\$5,700,000	N/A	
Middle East	Syria	2001	Bilateral	Germany	\$31,700,000	\$15,900,000	N/A	

Region	Country	Year	Type	Purchaser/Donor	Face Value of Treated Debt	Environmental Funds Allocated	Purchase Price	Additional Fund Allocation
Asia	Vietnam	2001	Bilateral	Germany	\$7,000,000	\$0	N/A	
LATAM and Caribbean	Ecuador	2002	Bilateral	Germany	\$9,500,000	\$3,081,000	N/A	
LATAM and Caribbean	Ecuador	2002	Bilateral	Germany	\$10,200,000	\$3,235,000	N/A	
LATAM and Caribbean	Peru	2002	Multi-Party	WWF, CI, TNC, USA	\$28,315,096	\$10,604,003	\$5,500,000	
Asia	Philippines	2002	Bilateral	USA	\$5,500,000	\$8,300,000	N/A	
Africa	Madagascar	2003	Bilateral	Germany	\$25,092,000	\$14,843,000	N/A	
LATAM and Caribbean	Panama	2003	Bilateral	USA	\$10,000,000	\$10,000,000	N/A	
LATAM and Caribbean	Peru	2003	Bilateral	Germany	\$25,000,002	\$7,500,000	N/A	
LATAM and Caribbean	Colombia	2004	Bilateral	USA	\$7,000,000	\$10,000,000	N/A	
LATAM and Caribbean	Jamaica	2004	Bilateral	USA	\$6,500,000	\$16,000,000	N/A	
LATAM and Caribbean	Panama	2004	Bilateral	USA	\$6,500,000	\$10,900,000	N/A	
Africa	Botswana	2006	Bilateral	USA	\$8,300,000	\$10,000,000	N/A	
Africa	Cameroon	2006	Bilateral	France	\$0	\$25,000,000	N/A	
LATAM and Caribbean	Guatemala	2006	Bilateral	USA	\$15,000,000	\$24,000,000	N/A	
Asia	Indonesia	2006	Bilateral	Germany	\$10,915,160	\$5,019,380	N/A	
Asia	Indonesia	2006	Bilateral	Germany	\$10,915,160	\$5,019,380	N/A	
LATAM and Caribbean	Paraguay	2006	Bilateral	USA	\$4,800,000	\$7,400,000	N/A	
LATAM and Caribbean	Costa Rica	2007	Bilateral	USA	\$12,600,000	\$26,100,000	N/A	
LATAM and Caribbean	Peru	2008	Bilateral	USA	\$19,600,000	\$25,000,000	N/A	
Asia	Indonesia	2009	Bilateral	USA	\$29,900,000	\$29,900,000	N/A	
LATAM and Caribbean	Brazil	2010	Bilateral	USA	\$21,000,000	\$21,000,000	N/A	
LATAM and Caribbean	Costa Rica	2010	Bilateral	USA	\$21,000,000	\$27,000,000	N/A	
Asia	Indonesia	2011	Bilateral	USA	\$28,500,000	\$28,500,000	N/A	
Asia	Philippines	2013	Bilateral	USA	\$28,200,000	\$31,800,000	N/A	
Asia	Indonesia	2014	Bilateral	USA	\$11,200,000	\$12,700,000	N/A	
Africa	Mozambique	2014	Bilateral	Germany	\$0	\$7,536,020	N/A	
Africa	Mozambique	2015	Bilateral	France	\$15,779,733	\$1,803,398	N/A	
Africa	Seychelles	2015	Multi-Party	TNC et. al	\$29,600,000	\$6,600,000	\$28,000,000	
LATAM and Caribbean	Belize	2021	Multi-Party	TNC	\$552,900,000	\$23,000,000	\$304,095,000	

Sources: WWF, Congressional Research Service¹⁰⁷, USAID, Kamel and Tooma¹⁰⁸, Cassimon, Essers, and Fauzi¹⁰⁹, PROFONANPE, Egolf¹¹⁰, TNC

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