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Scaling-up Ecosystem- based Debt-for-Climate Swaps: From the Millions to the Billions

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Scaling-up Ecosystem-based Debt-for-Climate Swaps: From the Millions to the Billions

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Contents

| | |
|--|----|
| Abbreviations | 3 |
| Executive Summary | 5 |
| Introduction | 7 |
| Climate and Biodiversity Finance Is Not Enough | 9 |
| Cancelling Debt for Climate through Ecosystem-based Approaches | 10 |
| Challenges Associated with Debt-for-Nature Swaps | 12 |
| Full and effective participation of indigenous peoples and local communities | 12 |
| Governance | 14 |
| Measuring, monitoring, and evaluation | 15 |
| Programme Components Likely to Lead to Success | 17 |
| Leadership of indigenous peoples and under-represented communities | 17 |
| Governance | 19 |
| Participatory monitoring and evaluation | 19 |
| Benefits of Debt-for-Nature Swaps – Social, Environmental, and Economic | 23 |
| Maintaining ecosystems services that underpin livelihoods | 24 |
| Debt-for-Climate Swaps and Debt Sustainability | 26 |
| References | 29 |
| Authors' Bios | 35 |

Abbreviations

| | |
|-------|--|
| CBD | Convention on Biological Diversity |
| CIFOR | Center for International Forestry Research |
| CRF | Caribbean Resilience Fund |
| DRC | Democratic Republic of the Congo |
| EbA | ecosystem-based adaptation |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| EFJ | Environmental Foundation of Jamaica |
| FAO | Food and Agriculture Organization |
| FPIC | free, prior, and informed consent |
| GCF | Green Climate Fund |
| GDP | gross domestic product |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH |
| IMF | International Monetary Fund |
| IPBES | Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services |
| IPCC | Intergovernmental Panel on Climate Change |
| MPA | marine protected area |
| MRV | monitoring, reporting, and verification |
| NAP | National Adaptation Plan |
| NDC | Nationally Determined Contribution |
| OECD | Organisation for Economic Co-operation and Development |

| | |
|---------|--|
| REDD+ | Reducing Emissions from Deforestation and forest Degradation |
| RRI | Rights and Resources Initiative |
| SDG | Sustainable Development Goal |
| SeyCCAT | Seychelles Conservation and Climate Adaptation Trust |
| TNC | The Nature Conservancy |
| UNCTAD | United Nations Conference on Trade and Development |
| UNFCCC | United Nations Framework Convention on Climate Change |

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Executive Summary

It is widely acknowledged that the crises of biodiversity and ecosystem loss and climate change are interlinked. Healthy ecosystems can contribute significantly to climate change adaptation and mitigation, including keeping global warming to 1.5 °C in the coming years. However, climate change impacts are a continuous threat to the integrity of ecosystems, compromising their ability to serve as valuable carbon sinks and provide vital services for human communities. In addition, the continuing debt crisis – exacerbated by the Covid-19 pandemic – currently being faced by developing countries is already constraining their ability to allocate funds to programmes on climate change, human rights, biodiversity, and ecosystems.

This paper discusses how debt-for-climate swaps can be useful «triple-win» instruments to address the climate crisis by ensuring the protection of valuable terrestrial and marine ecosystems, while also contributing to debt sustainability. The paper draws on examples of previous debt-for-nature swaps and identifies lessons for moving forward, particularly around matters concerning the participation of indigenous peoples and local communities, land tenure and rights, governance, and monitoring and evaluation. It also draws from experiences with forest-based climate interventions related to REDD+ (Reducing Emissions from Deforestation and forest Degradation) implementation, which may also prove relevant for the application of safeguards policies, forest governance, and capacity-building.

Given the geographical overlaps of high levels of debt, vulnerability to climate change, high levels of biodiversity, and potentials for climate mitigation, debt-for-climate swaps should be considered as a tool for achieving the triple goals of reducing crippling debt, protecting biodiversity and ecosystems and their services, and climate mitigation and adaptation.

Key points:

- There are clear connections between indebtedness, climate change, and biodiversity loss, and there is an overlap between priority geographies and the solutions that are needed to address all three;
- By supporting the protection of ecosystems on a large scale, debt-for-climate swaps could facilitate a host of social and environmental benefits for communities, including sustained ecosystems services, enhanced resilience, opportunities for climate change mitigation, and avenues to secure local rights and community participation;
- Increased protection for forests, ecosystems, and biodiversity is projected to yield significant economic benefits – especially where indigenous peoples are fully involved in project design and implementation – for comparatively lower costs in terms of investment;

- Developed countries continue to fall far short of taking on their fair share of global responsibility for the climate and biodiversity crises. Climate and biodiversity finance remain inadequate, and there is a need for increased public finance in terms of both direct investment and as a stimulus for the flow of private funds;
- The Green Climate Fund (GCF) has the potential to become an important institution in the promotion of debt-for-climate swaps. Options for how this might work can already be seen in the debt-for-nature swap in the Seychelles with The Nature Conservancy (TNC) and the Caribbean Resilience Fund (CRF) proposal of the Economic Commission for Latin America and the Caribbean (ECLAC);
- Lessons can be learnt from previous debt-for-nature swaps, and from REDD+. To secure a triple win (debt, biodiversity, and climate), debt-for-climate swaps need to:
 1. be significantly increased in scale – from the millions to the billions, with fit-for-purpose independent and transparent governance to match;
 2. ensure the full and effective participation of indigenous peoples and local communities in the design, implementation (including related to tenure), and monitoring of programmes and activities;
 3. be part of an inclusive approach to debt restructuring that involves private creditors, ensuring their preparedness for a debt «haircut»;
 4. extend beyond the North-South scope of conventional international climate and biodiversity finance and debt swaps; and
 5. be country-driven and responsive to priorities, and increase the ambitions of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs).

Introduction

Developing countries are facing a public debt crisis, together with a climate crisis and a biodiversity crisis. These combined crises existed even before the Covid-19 pandemic. Essentially, all three of these crises are being driven by a financial market-based system that is dependent on debt, which now runs the risk of causing the collapse of both natural and economic systems (Gonzalez-Redin et al., 2018). Growth fuelled by debt requires faster growth rates to ensure the repayment of the increasing debt (Daly, 2011). The production and sale of goods and services is required to ensure the needed gross domestic product (GDP) growth, resulting in increasing levels of exploitation of natural resources, often in unregulated or poorly regulated territories. Debt is an enabling factor in the overexploitation of natural resources for individual benefit and short-term gain. The profit-seeking behaviour of actors (companies and individuals) drives the use of debt, which leads to negative implications for sustainable development and the increased generation of greenhouse gas emissions (Gonzalez-Redin et al., 2018; Huber and Robertson, 2000).

With Covid-19 now plunging the global economy into recession, the debt distress risk has become a harsh reality affecting two-thirds of the world's population (UNCTAD, 2020a). Developing countries face repayments of up to US\$3.4 trillion in external public debt in the 2020–2021 period (UNCTAD, 2020b). The difficulties for developing countries are compounded by the fact that around half of this debt is owed to private creditors, who often find it advantageous to block debt restructuring and relief in the hope of benefiting from a debt crisis (Stiglitz and Rashid, 2020).

The direct impacts of the coronavirus are magnified by the inequalities of the global economy, namely through the effects of huge capital outflows, currency depreciations, and lost export earnings (UNCTAD, 2020b). The potential consequences are devastating and could push up to 100 million people into extreme poverty, cause massive instability, and wipe out the ability of indebted countries to address climate change, protect biodiversity, and/or meet the Sustainable Development Goals (SDGs) (Elliot, 2020; Stiglitz and Rashid, 2020: 1). A 2018 report for UN Environment found that climate vulnerable countries (known as the Vulnerable 20, or V20) alone faced an additional US\$62 billion in interest payments (US\$40 billion related to government debt) in the past decade as a result of climate change, and that this amount could grow to US\$168 billion in the coming decade (Buhr et al., 2018).

The United Nations Conference on Trade and Development (UNCTAD) has suggested the need for a US\$2.5 trillion rescue package, including US\$1 trillion in debt cancellation, although these figures were based on projections of the economic impact of the coronavirus crisis that are «now widely regarded as an underestimate» (UNCTAD, 2020a; Wheatley, 2020). Several G20 countries and the International Monetary Fund (IMF) have suspended debt servicing for the year of 2020, which is an important first step that is nevertheless

inadequate, unless it is followed by significant debt cancellation. Debt-for-climate swaps are, at best, complementary to this core requirement for significant debt relief.

Sauraha, Chitwan District, Nepal



Climate and Biodiversity Finance Is Not Enough

2020 is a landmark year for global climate finance, as North-South financial flows are supposed to reach US\$100 billion per year in compliance with the Paris Agreement. But if the mitigation and adaptation needs of developing countries or the fair shares of greenhouse gas emissions targets are taken as the starting point, the climate finance figure should be several multiples higher than US\$100 billion.

International climate finance, moreover, is only a small part of the overall shift in investment that will be needed to put the world on track to restrict climate change to a 1.5 °C temperature increase. The Intergovernmental Panel on Climate Change (IPCC) calculates that global investment of US\$2.38 trillion is needed between 2016 and 2035 in global energy generation and distribution systems alone to meet even a 2 °C target (IPCC, 2018). Although this sounds like a vast sum, it represents only around 2.5 per cent of global GDP, and the costs of inaction are potentially higher (IPCC, 2018; Sanderson and O'Neill, 2020). The Standing Committee on Finance of the United Nations Framework Convention on Climate Change (UNFCCC) calculates that total «climate-related primary investment» currently amounts to between US\$456 and US\$681 billion per year (UNFCCC, 2018).

A similar story can be told of global biodiversity finance flows – estimated to be between US\$78 and US\$91 billion per year, of which US\$67.8 billion is «public domestic expenditure» (OECD, 2020),^[1] while total global ecosystem services in 2011 were estimated to be valued at around US\$125 trillion per year^[2] (Costanza et al., 2014).^[3]

The Organisation for Economic Co-operation and Development (OECD) also reports that government spending «that is potentially harmful to biodiversity» amounts to more than US\$500 billion per year. This serves as an important reminder that priority should be given to redirecting finance away from the drivers of environmental destruction – such as fossil fuel and deforestation subsidies, grazing, logging, pollution, and overharvesting – rather than simply raising money for «green-economy» purposes.

1 OECD figures are based on a 2015–2017 average. It is not clear to what extent biodiversity and climate finance flows overlap.

2 In 2007 US dollars.

3 Such valuations are contentious and should be taken with caution, but they call attention to the importance of ecosystem services to humankind.

Cancelling Debt for Climate through Ecosystem-based Approaches

Ecosystem decline is not only linked with debt, but also directly linked to climate change. Enhanced efforts using innovative approaches are required to protect natural assets that will enable carbon removal, protect high-carbon ecosystems, especially those containing «irrecoverable carbon» (Anderson et al., 2019; Goldstein et al., 2020), and increase adaptive capacity (Cinner et al., 2018). Degraded ecosystems are unable to provide the many services, such as carbon sequestration and coastal protection, that help mitigate both the causes and consequences of climate change (IPCC, 2018, 2019a, 2019b; IPBES 2019). In addition, climate change is a major driver of ecosystem loss and is particularly damaging to unique, highly biodiverse systems, such as rainforests, mountains, and coral reefs (IPCC, 2019a). Climate change and ecosystem decline are mutually reinforcing, and the protection of nature is paramount to preserving ecosystem services that are critical to human survival and key to keeping global warming to well below 2 °C or 1.5 °C (IPCC, 2019a).

All of the above make ecosystem-based debt-for-climate swap approaches attractive. Many countries with forests and ecosystems that have high levels of carbon and biodiversity already include forests and ecosystems in their NDCs (see Table 1), which provide a supportive policy framework upon which to build. For example, the NDC of the Democratic Republic of the Congo (DRC) is 100 per cent conditional and estimated at a cost of around US\$9 billion (DRC, 2015: 1). The DRC contains ecosystems with some of the highest levels of carbon and biodiversity on Earth, with a potential area of more than 700,000 km² of unprotected lands (Dinerstein et al., 2020), which, if protected, would make a very important contribution to climate mitigation and adaptation. The DRC is currently carrying more than US\$5 billion in debt. Furthermore, Papua New Guinea holds some of the most carbon-dense, untouched rainforests on Earth, with more than 365,000 km² of land that is currently unprotected (Dinerstein et al., 2020). The country carries a debt of around US\$9 billion with a debt-to-GDP ratio of around 38 per cent. Papua New Guinea also includes forests in its NDC and is mostly conditional on international support. The following table provides insights about those countries with the highest potential contributions for ecosystem-based approaches to address climate change – all of which could be regarded as potential priority countries for debt-for-climate swaps.

Table 1: List of countries with the highest potential contributions for ecosystem-based approaches to climate change, and their current levels of debt

| Country | Forests in NDC? | Ecosystems in NDC? | 2019 gross government debt (US\$ billions) | 2019 gross government debt to GDP | Potential contribution of unprotected lands (km ²) | Overlap with mapped Indigenous lands (km ²) |
|-------------------------|-----------------|--------------------|--|-----------------------------------|--|---|
| DRC | Yes | Yes | 5,69 | 12,00% | 726.843 | 188.665 |
| Brazil | Yes | Yes | 1.175,23 | 63,87% | 1.651.794 | 54.218 |
| Bolivia | Yes | No | 24,19 | 59,12% | 229.561 | 63.642 |
| Peru | Yes | Yes | 25,8 | 11,37% | 449.408 | 169.896 |
| Colombia | Yes | Yes | 142,07 | 43,97% | 542.762 | 257.344 |
| Indonesia | Yes | Yes | 326,4 | 29,16% | 978.627 | 606.463 |
| Papua New Guinea | Yes | No | 9,59 | 38,40% | 365.732 | 91.577 |
| Turkey | N/A | N/A | 171,64 | 22,75% | 154.675 | N/A |
| Philippines | N/A | N/A | 152,3 | 40,41% | 107.095 | 19.008 |
| Kazakhstan | Forest | Yes | 31,82 | 17,66% | 104.034 | N/A |
| Guyana | Yes | Yes | 2,27 | 53% | 154.616 | 21.539 |
| Algeria | Yes | Yes | 73,28 | 43% | 715.269 | 260.128 |
| Libya | N/A | N/A | N/A | N/A | 660.683 | 87.753 |
| Argentina | Yes | Yes | 286,39 | 63,68% | 688.510 | 161.410 |

Sources: IMF (2019), UNFCCC (n.d.), and Dinerstein et al. (2020)

Andean region



Challenges Associated with Debt-for-Nature Swaps

Based on existing debt-swap arrangements, significant scaling-up is required – and challenges associated with implementation must be addressed – if debt-for-climate swaps are to make any significant dent in developing-country indebtedness and a meaningful contribution to climate mitigation and adaptation. Few debt-for-climate swaps have taken place so far, although there is a longer record of debt-for-development and debt-for-nature swaps. The most complete survey of debt-for-development swaps found that these amounted to just over US\$6 billion between 1988 and 2008 (Serrani and Filmus, 2009: 52). A 2007 OECD estimate found that US\$1.1 billion in debt-for-nature swaps had been arranged between 1991 and 2003, half of which were accounted for by one debt swap involving Poland (OECD, 2007: 58f). Most debt-for-nature swaps have been small-scale (single digit millions), with little impact on overall debt sustainability (Warland and Michaelowa, 2015: 6).

Experiences with debt-for-nature swaps provide a number of lessons that can be drawn upon and applied going forward, in particular on matters concerning the participation of indigenous peoples and local communities, which is crucial to successful implementation. The lessons can also be applied to the formidable challenges associated with governance as well as the capacity challenges related to monitoring and evaluation. Lessons learnt from forest-based interventions related to REDD+, which has also fallen short of expectations, can also inform the way forward as regards the application of safeguards policies, community land tenure and participation, forest governance systems, and capacity-building.

Full and effective participation of indigenous peoples and local communities

The exclusion of stakeholders, especially indigenous peoples and local communities, has been a lasting legacy of many debt-for-nature swaps and is perhaps the most important implementation challenge. Early debt-for-nature projects did not bring Indigenous voices into discussions and largely ignored Indigenous rights and concerns (Knicley, 2012). Outcomes from these swaps have included restricting access to traditionally owned natural resources and land uses and the dispossession of indigenous peoples from their lands. This has largely resulted from the creation of protected areas designed in such a way as to exclude indigenous peoples from utilising their lands. This is illustrated by the very first debt-for-nature swap in Bolivia, which restricted the Tsimané Indians' traditional practice of foraging for food and fuel. In addition, they were prevented from securing formal tenure for their land (Hassoun, 2012).

Communities have also experienced human rights violations due to debt-for-nature swaps for similar reasons. For example, in the swap that created the Corcovado National Park in Costa Rica, many farmers were displaced from their lands, and the lands of those who refused to sell were expropriated (Knupfer, 1991). This dispossession plunged many into poverty, which led to them removing wood from the protected area to sell (Kull, 1996), resulting in their criminalisation. So, not only did the creation of the park transgress human rights, but it also resulted in conditions that placed greater pressure on the resource it sought to protect.

There is also concern about the types of projects that are funded as part of the debt-for-nature swaps and how these activities benefit local communities and indigenous peoples. For example, under the US Tropical Forest Conservation Act, projects promoting research into medicinal uses of biodiversity were designated as eligible for funding. Such projects have a long history of exclusion and inequality (Shiva, 2007), and their promotion in debt-for-nature swaps has been problematic. Without guidance as to how Indigenous and local intellectual property rights should be treated, their inclusion effectively allows «a type of extractive industry that, while leaving indigenous lands unscathed, may rob indigenous communities of their local knowledge without access to just compensation» (Knicley, 2012). This experience may be compared with rights to carbon in REDD+ projects and programmes. The establishment of such rights and benefit-sharing arrangements has progressed slowly; in some circumstances, these «carbon rights» have become vested with the state, and it is not yet clear how these will be developed moving forward (RRI, 2018b: 4, 13).

Box 1: Case study of the Seychelles (2016)

- The debt-for-nature swap in the Seychelles involved the US conservation group The Nature Conservancy buying the debt of US\$21.6 million, in exchange for a commitment to create 13 new marine protected areas (MPAs).
- Seychelles has now protected 30 per cent of its national waters (TNC, 2020) – in line with likely future Convention on Biological Diversity (CBD) commitments, and exceeding existing commitments under both the CBD and the SDGs of 10 per cent protection by 2020.
- TNC bought the debt at a discount and then raised a further US\$5 million from philanthropic donors to lower the interest rate on the outstanding loan. This is the first debt-for-nature swap to use loan capital to help finance the swap.
- The government repays the TNC loan by putting the amount into an independent trust, the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), which uses these funds for marine conservation and climate adaptation programmes, such as a project that pays women from low-income communities to clear seaweed off beaches and convert it to compost for home gardens.

- An important component of this deal was the extensive ocean-mapping that was done, which was some of the most extensive in the world. This was used to identify areas high in biodiversity that were in need of protection, while minimising impact to industries.
- Broad consultation with more than 200 stakeholders was conducted to develop the marine spatial plan that accompanied the swap. However, offshore oil development is still occurring in ocean areas adjacent to the established MPAs (Ernesta, 2018).
- Based on the success of the Seychelles deal, TNC has created Blue Bonds for Conservation, a programme to allow island and coastal nations to reinvest in their marine resources by refinancing their national debt. The countries commit to protecting at least 30 per cent of their ocean areas, and TNC then leverages public grants and commercial capital to restructure the nation's sovereign debt. A portion of the savings from this restructuring are channelled into funding the development of new MPAs and various conservation activities. Along with each debt-swap deal, a plan is developed for conserving critical ocean areas and the policies and regulations (TNC, 2019).
- TNC estimates that there are 85 countries that could benefit from their Blue Bonds programme and, in the process, develop more resilient economies through marine conservation. They expect to replicate the programme in Grenada for a US\$60 million debt swap in the coming years.

Governance

Poor governance – particularly in relation to high-level support, continuity, and enabling environments – can lead to disruptions and the discontinuation of a debt-for-nature swap and its projects. High-level political support and whole-of-government buy-in from both the debtor and creditor countries is imperative. Without this it is difficult to build trust in the programme and can lead to the discontinuation or stalling of negotiations or programme implementation. For example, a deal between Antigua and Barbuda and Brazil for a debt-for-climate swap for adaptation with coastal zone management fell through in 2012 due to delays within the Brazilian Parliament (Fuller et al., n.d.).

The lack of enabling environments can increase the likelihood of the inefficient use of funds. This can be addressed through the creation of a separate fund that is legally independent from the government's core budget. This allows for greater transparency and accountability – facilitating greater trust and participation on behalf of the donor country – and has been implemented with SeyCCAT in the Seychelles and the Environmental Foundation of Jamaica (EFJ). Although this can increase transaction costs, anchoring plans in existing frameworks and governance architecture can increase buy-in and trust in the programme. For example, plans can be integrated into NAPs and NDCs as well as commitments under the SDGs and the CBD. This can also help in defining a long-term vision and

implementation plan, which are imperative for a shared understanding of the programme and its desired outcomes.

Although governance issues have also hampered the progress of REDD+ implementation, lessons can be drawn from the development of national strategies, forest monitoring systems, reference levels, and safeguards. Coordination across several government offices at both the national and sub-national levels, as well as with numerous stakeholders on the ground has been identified as critical to success, as major challenges have arisen from the competing priorities and vested (sometimes corrupt) interests of powerful actors (Corbera and Schroeder, 2011; Larson et al., 2018: 85, citing Korhonen-Kurki et al., 2015; Nepstad et al., 2013).

Measuring, monitoring, and evaluation

Conservation outcomes are not always clear from debt-for-nature swaps. This is in part due to ineffective measuring, monitoring, and evaluation, or to inappropriate indicators (Gockel and Gray, 2011). It is important that these programmes can show both improvements in peoples' lives, biodiversity benefits, and real and permanent emissions reductions.

Measuring carbon is often relevant where countries seek to measure mitigation outcomes in terms of emissions reductions that they can then apply against NDCs or use to participate in carbon-trading schemes. In this context, storing carbon in ecosystems for offsetting is no substitute for reducing fossil fuel emissions (Steffen, 2016). Carbon in the atmosphere and carbon in ecosystems are part of the «active» land–atmosphere–ocean carbon cycle, whereas burning fossil fuels, which are otherwise permanently locked away, adds carbon to this natural cycle. Once added, this new additional carbon cannot be removed from the carbon cycle in time-scales relevant to climate change. Continuing to burn fossil fuels – while assuming that these emissions are being offset by increasing the amount of land carbon – will lead to increased warming over the century. Furthermore, offset approaches have major challenges associated with them: double counting of emissions reductions (whether through double issuance, double claiming, double use, or otherwise); the use of different metrics for mitigation targets (which can ultimately increase global greenhouse gas emissions if not appropriately converted) (Schneider and La Hoz Theuer, 2019); and the trading of land-based «offsets» can also result in temporary, rather than permanent, emissions reductions due to the high risk of reversals, for example through fire.

REDD+ provides a number of lessons related to the monitoring, reporting, and verification (MRV) of carbon. The potential for double counting and «gaming» or setting high inflated baselines for forest reference levels has been identified as a major challenge. Indonesia, in particular, was publicly criticised by members of the GCF Board in August 2020, which cited these very concerns when seeking REDD+ results-based payments (Lang, 2020). In Vietnam, inconsistencies in data and policy have hampered the development of an MRV

system, as three national ministries have each developed separate mitigation policies with different sets of targets for emissions reductions (Pham et al. 2018: 9.51). Likewise, in Peru, the complex and highly technical nature of MRV was a barrier to sustaining the interest and participation of local communities and sub-national governments in the development of the system (De Sy et al., 2018: 64).

The monitoring and evaluation of non-carbon related outcomes have also proven challenging in debt-for-nature swaps, particularly as regards the development of measures for demonstrating impact and tracking progress. A study of selected projects under Peru's Tropical Forest Conservation Act highlights the difficulties of monitoring large-scale programmes with multiple objectives and activities implemented across a variety of ecosystems. In these cases, it was observed that monitoring and evaluation tends to privilege fiscal evaluations of protected areas over the direct outcomes of conservation measures (Kilbane Gockel and Gray, 2011: 2), as «the amount of money awarded [was] the only indicator that evaluators and program officers [could] use for across-the-board comparisons» (Kilbane Gockel and Gray, 2011: 11).

Developing countries have also struggled to develop capacities to build systems to collect data on the social and environmental impacts of REDD+. In Indonesia, local-level piloting of their REDD+ Safeguards Information System identified key elements needing additional attention, including the technical capacities of staff, adequate infrastructure, and clear procedures for information and monitoring from internal and external sources (Directorate General of Climate Change, Ministry of Environment and Forestry, 2015: 32). Although Indonesia was eventually able to develop a system following a five-year process, the country anticipated further challenges with «making and keeping the system operational» at the national and sub-national levels (Directorate General of Climate Change, Ministry of Environment and Forestry, 2015: 34).

Programme Components Likely to Lead to Success

Addressing the challenges associated with the climate, biodiversity and debt crises will involve transformative solutions and a significant departure from business as usual. Humanity has, thus far, been unable to adequately address the climate crisis – we can see that the current efforts of governments, through their NDCs, place the world on a clear pathway towards a 3–4°C degree rise in the average global temperature. The recent *Global Biodiversity Outlook Report*, released by the CBD, confirms that all biodiversity protection targets agreed by the international community over the last 10 years have not been met. New research is emerging to show that increased leadership by indigenous peoples and local communities, enhanced participation, and improved governance can support the huge challenges associated with the implementation of projects and programmes intended to achieve positive climate and biodiversity outcomes.

Leadership of indigenous peoples and under-represented communities

A sample of 52 tropical and sub-tropical countries has shown that 22 per cent of forest carbon can be found in areas under community stewardship, much of which is not covered by formal tenure arrangements (RRI, 2018a). These areas are in high forest and biodiversity areas, such as the Amazon, the Congo Basin, Indonesia, and Papua New Guinea. Significant mapping has been done to identify land areas, carbon sequestration potential, and the mapping of Indigenous territories (see Table 1 above). New science – together with experience in implementation, which has shown success – has the potential to shift the existing paradigm and give rise to a higher likelihood of success.

The full and effective participation of indigenous peoples and local communities has been identified as being vital to the successful implementation of any project or programme that seeks to protect, restore, or sustainably manage ecosystems. This is particularly important in the decision-making around the designation of the areas to be protected, free, prior, and informed consent (FPIC) processes, land rights, and tenure considerations. Indigenous peoples and local communities can also apply their traditional knowledge to identify the types of activities that should occur within the protected areas, such as artisanal fishing, small-scale harvesting, foraging for food, and fuel.

It is critical that land tenure be made a high priority and that rules around benefit-sharing be established. This will ensure greater levels of trust and a sense of ownership in the process among the local people and their longer-term sustainable commitment to its



continuity. For example, in a debt-for-nature swap between Peru and the United States, local communities were employed as rangers, helping to garner their support for the creation of a protected area and their commitment to ensuring its viability (Gockel and Gray, 2011). It has also been shown that engaging with a broad range of stakeholders – including local conservation organisations, Indigenous groups, and government departments that would not necessarily be involved in negotiating the swap – is important for facilitating the agreement and its implementation (Egolf, 2001).

Governance

Good governance and enabling environments are imperative for building trust in the debt-for-nature process and ensuring effective implementation and management. One model that has gained popularity is the three-party or tripartite model, in which a third party (such as an NGO or multilateral development bank) purchases the debt below market value from the creditor country and then restructures or forgives part or all of the debt in exchange for environmental commitments from the debtor country. Funds that were previously used to pay back the debt are now earmarked for conservation activities and projects. A further measure to ensure transparency and legitimacy is the creation of a separate, legally independent fund or trust to manage funds separate from the general operating budget of the debtor government (Knicley, 2012). An example of this is a deal between Jamaica and the United States, established as the EFJ (Jamaica Information Service, 2004), which is now the largest environmental grant-maker in the country.

In addition to the creation of an independent fund or trust, establishing local oversight or management bodies has become a method for ensuring representation of all parties involved and increasing buy-in, especially from the donor country, and this can allow the debtor country to align activities with their national strategies (Knicley, 2012). For example, during the Fast Start Finance period, Indonesia and the United States engaged in a debt-for-nature swap, in which a local oversight body was established in Kalimantan, where conservation activities were to take place. Representatives from each of the parties – the Indonesian government, the United States Agency for International Development, TNC, WWF Indonesia, and a local NGO, Pelangi – each maintained a seat in the body (Cassimon et al., 2011). The formation of such bodies, however, should be considered carefully to ensure country ownership as well as the participation of indigenous peoples and local communities.

Participatory monitoring and evaluation

To reiterate, it is difficult to quantify the conservation benefits arising from debt-for-nature swaps without long-term monitoring and evaluation. Provision should thus be made for

monitoring and evaluation that actively looks into the indicators for conservation outcomes and impacts on wildlife and biodiversity (Gockel and Gray, 2011).

Furthermore, in addition to the implications for their land and intellectual property rights, the participation of indigenous peoples and local communities living in and around the areas to be protected is critical for the implementation of adaptation activities. Without their consent and support being secured through proper mechanisms, such as FPIC processes, debt-for-climate swaps are less likely to be successful. The inclusion and participation of local groups throughout the design and implementation of the programme are likely to contribute to its success and sustainability.

Studies have clearly demonstrated the value of participatory monitoring in environmental initiatives, not only to ensure that the programme objectives are adequately met, but also to create and sustain enabling environments for long-term conservation and rights-based governance. For example, a study conducted with several predominantly Indigenous communities in Nicaragua found that participatory monitoring activities «created a forum to define good governance and to express opinions about leadership issues, governance of forest resources, and the exclusion of women in participation and decision-making. [...] The monitoring process created a space for communities to unpack information in a constructive way, as well as identify areas where more work was needed» (Evans et al., 2019: 183).

In addition to its benefits for securing local buy-in and contributing towards community empowerment, participatory and community-based monitoring methods are often much more cost-efficient to set up and execute. Although their long-term sustainability is a concern that must be addressed, it is believed that «their chances of surviving are better than many professional schemes, particularly when they are institutionalized within existing management structures, and linked to the delivery of ecosystem goods or services to local communities» (Danielsen et al., 2005: 2507).

Participatory monitoring and evaluation can be tapped for several aspects of debt-for-nature initiatives. For example, it is imperative that rigorous surveying be done during the design of a debt-for-nature swap, as this will help to identify areas high in biodiversity and those that are in greatest need of protection. By ensuring that these surveys are inclusive and locally led, they can better map out the areas that are highly utilised, identify where potential conflicts may arise, and potentially avoid these through the designation process and participatory and transparent decision-making.

BOX 2: What role could the Green Climate Fund play in debt-for-climate swaps?

The GCF, a financial mechanism of the UNFCCC, is the largest multilateral source of climate finance, and it has the potential to become an important institution in the promotion of debt-for-climate swaps.

Debt-swap arrangements have not yet been formally proposed as GCF activities, but there have been various discussions as to how this might work. The GCF's Private Sector Advisory Group highlighted the Seychelles debt swap for marine conservation (see Box 1 above) as an example that could be followed for the GCF to create local currency lending facilities that could support private climate finance investments (GCF, 2018: 3).

The GCF could also be used to anchor the ECLAC Caribbean Resilience Fund proposal. This initiative has evolved over time, but a core part of the proposal remains a debt-for-climate swap, involving the write-down of external debt in return for payments into a local currency facility to finance activities that build climate resilience (McLean et al., 2020). The direct relevance of a debt swap is not difficult to establish, since the accumulation of unsustainable debt in the Caribbean is due to the repeated destruction of infrastructure and productive capacity caused by extreme weather events, which have become more frequent and severe as a result of climate change (McLean et al., 2020: 10–11).

In the latest version of the proposal, the CRF would draw on six different funding lines, two of which would involve debt write-downs in exchange for payments into a fund held in the local currency that would support climate-resilience projects (McLean et al., 2020: 12). Additional funding for the CRF would be provided through concessional or market rate loans, risk guarantees, and traditional (non-climate) debt swaps. The GCF would offer bond guarantees, helping to reduce the cost of new or re-financed debt (McLean et al., 2020: 12).

In earlier versions of the ECLAC proposal, the GCF's role could be to directly purchase multilateral or bilateral debt owed by Caribbean countries at a negotiated discount, which it would then write down in exchange for local currency payments into the CRF (ECLAC, 2018).

The CRF would be housed at a «credible sub-regional financial institution», with the Caribbean Development Bank as the leading candidate to play this role (McLean et al., 2020: 12). It is one of 97 Accredited Entities, which are partner institutions responsible for the oversight, management, and monitoring of GCF-funded activities.

Any GCF project proposal would likely be divided into phases, with Antigua and Barbuda, Saint Lucia and Saint Vincent, and the Grenadines involved in the initial pilot phase (McClean et al., 2020: 11). Achieving debt sustainability in each of these countries would, at minimum, involve debt reductions in the range of US\$100 to US\$250 million to achieve a 20 per cent debt «haircut», which is within the range that might feasibly be supported by the GCF, alongside other co-financing (McLean et al., 2020: 17–18).

The Caribbean pilot phase countries have small economies in global terms, so the replicability of this model as a means to achieve debt sustainability on a national scale is limited. However, the basic mechanism for debt-for-climate swaps involving the GCF (or other international financial institutes) in providing risk guarantees for bond issuance could be replicated as part of a broader package of measures (including other forms of debt restructuring and cancellations) aimed at achieving debt sustainability.

Bihar, India



Benefits of Debt-for-Nature Swaps – Social, Environmental, and Economic

Collectively, terrestrial and marine sinks can sequester an estimated 60 per cent of global anthropogenic emissions (IPBES, 2019: 10). Of this total, the IPCC estimates that reducing emissions from deforestation and forest degradation can potentially sequester 0.4 to 5.8 GtCO₂ per year (IPCC, 2019a: 23). Blue carbon ecosystems, such as mangroves, tidal marshes, and seagrass meadows, can also store an estimated 0.5 per cent of current annual global emissions (IPCC, 2019b: 30). Currently, terrestrial protected areas cover only 15 per cent of the global land surface.

According to recent projections, extending protection to an additional 41,049,630 km² of currently insecure land globally (developed and developing countries) would contribute to maintaining species diversity and preventing extinctions by keeping habitats intact. In addition, conserving a further 29,247,979 km² of carbon-dense terrestrial ecosystems is essential to hold the global temperature rise to well below 1.5 °C, with the potential to store more than 1 million megatons of carbon (Dinerstein et al., 2020: 2–3).

When looking specifically at those high-carbon, high-biodiversity areas identified by Dinerstein in the top-ranking developing countries (see Table 1), it can be seen that protection of around 7.7 million km² would provide very significant climate mitigation and adaptation outcomes. Most of these countries contain the most carbon-dense rainforests with the highest levels of biodiversity on Earth. Many of these unprotected high-biodiversity areas are also high-carbon areas – 92 per cent of the area required for increased carbon storage overlaps with the lands that could be covered by new biodiversity conservation measures. Indigenous peoples' land tenure is also a critical consideration in this regard – as 74 per cent of all mapped Indigenous lands store approximately 931,000 megatons of carbon biomass (Dinerstein et al., 2020: 3–4). The total area of mapped Indigenous territories identified in the table above amounts to around 2 million km². The science is clear in terms of knowing the locations that should be prioritised for protection, many of which are in countries suffering from significant debt.

A recent economic assessment supporting the call for a global target to extend protected areas and area-based conservation measures to over 30 per cent of the world's terrestrial and marine ecosystems by 2030 shows that meeting this target could generate economic gains of US\$250 billion per year on average, with an additional US\$350 billion in non-monetised benefits, and for comparatively much less in terms of costs. Protecting more land and ocean ecosystems is estimated to require an average annual investment of US\$140 billion, which will be offset by financial, social, and economic benefits in the long term (Waldron et al., 2020: 2).

Sustainable natural resource management could also raise the value of the debt instruments issued by countries. Sovereign bonds in particular are often grounded in the capacity of ecosystems to sustain key sectors such as agriculture and trade, especially in developing countries that rely heavily on natural resources as capital. Moving forward, a recent study proposes an ideal «high road scenario», wherein «countries actively protect and enhance the benefits of natural capital and reinforce the environmental fundamentals of sovereign bonds» by strengthening policies and institutions and issuing «green sovereign bonds» as options for investors (Pinzón and Robins, 2020: 4, 40).

Maintaining ecosystems services that underpin livelihoods

Ecosystems services cover a range of material and non-material components that are essential for human well-being. These essential «services» include security from natural disasters, access to clean air and water, basic needs such as food, shelter, and livelihoods, and as sources of culture and creativity (Millennium Ecosystem Assessment 2005). Human assets such as knowledge, technology, and infrastructure will never be able to fully replace some ecosystems functions (IPBES, 2019: 10), making them of such outstanding value that it would be ethically questionable to put a monetary price on them.

Debt-for-nature swaps that support measures to increase protection for ecosystems and biodiversity can help to maintain these ecosystem services and the human activities that rely on them. For example, the establishment of MPAs can improve and sustain fish stocks over time, thereby supporting the livelihoods of local communities. In addition, MPAs are expected to create new economic opportunities from nature-based tourism and coastal protection (Waldron et al., 2020).

Ecosystem services are especially vital for climate change adaptation and disaster resilience. Through ecosystem-based adaptation (EbA) or strategies that «incorporate biodiversity and ecosystem services into an overall strategy to help people to adapt to the adverse effects of climate change» (CBD Secretariat 2009), ecosystems are better able to «reduce physical exposure to hazards» and «reduce socioeconomic vulnerability to hazard impacts» (Lo, 2016: 21).

EbA strategies provide opportunities to jointly pursue climate change adaptation, mitigation, and social development. Actions such as the conservation and restoration of terrestrial forests, wetlands, mangrove areas, and coral reefs as well as the sustainable management of forests and fisheries have been implemented in many countries. In many cases, these have successfully improved ecosystem services, food and water security, enhanced the productivity of livelihoods, and created new economic opportunities for local communities. In Colombia, for example, EbA approaches have informed measures to

restore natural waterways and conserve mangrove areas in the coastal city of Cartagena. These were implemented with a view to reducing the level of flooding in the city centre, and they allowed for the possibility of future revenues from the collection of fees for the use of ecosystems (GIZ, n.d).

EbA has also been combined with community-based adaptation (CbA) approaches to great effect. Actively incorporating participatory and inclusive decision-making and Indigenous and local knowledge in the design and implementation of programmes and interventions can better ensure that climate adaptation and mitigation objectives contribute towards development outcomes (Roy et al., 2018: 458).

Securing community tenure and rights

Tenure considerations have been identified as key components of other financing mechanisms for natural resource conservation and management. In a survey of National Forest Funds, for example, «well-defined tenure systems and property rights» were seen as critical to the effectiveness of the fund. Specifically, secure land tenure and related property rights were considered valuable incentives for stakeholders to support programmes for forest conservation and sustainable use (Matta, 2015: xi, 42, citing CIFOR, 2013). A world-leading example of success in terms of securing tenure is the Tenure Facility, which has worked directly with indigenous peoples and local communities through collaborative approaches with government to secure the titling of more than 3.5 million hectares of land and forests, advanced collective tenure security for more than 11 million hectares of land and forests, and strengthened protection for more than 2.4 million hectares of forest categorised as a reserve for indigenous peoples living in voluntary isolation (Tenure Facility, n.d.).

The costs associated with supporting the rights and livelihoods of Indigenous communities also compare favourably with the costs of establishing new protected areas and can achieve conservation outcomes equivalent to those of government-funded protected areas, with minimal resources (Tauli-Corpuz et al., 2018). An analysis of indigenous peoples territories in Brazil makes a strong business case for supporting this. Here, projections over a 20-year period showed that the economic benefits of securing community forest tenure outweighed the costs, especially when considering the price of carbon and the estimated value of ecosystem services. More specifically, the costs of policy-making, demarcation of territories, forest monitoring, and lost income from other land uses could be offset by benefits from ecosystem goods and services, including carbon mitigation (Gray et al., 2015).

Debt-for-Climate Swaps and Debt Sustainability

The need to avert a global debt crisis has shed new light on the connections between indebtedness and the climate and biodiversity crises, and the overlap between the solutions that are needed to address all three. The urgency of the debt crisis, combined with the significant increases required for climate and biodiversity finance, provide good reasons for debt-for-climate swaps to be placed high on the agenda. However, a number of important conditions would need to be met.

First is the issue of scale – outside of a handful of small island states, debt-for-climate swaps would need to be massively scaled-up to make a significant impact on the debt sustainability of whole economies and make a meaningful contribution to climate mitigation and adaptation – on the scale of hundreds of millions and into the billions of dollars. The main impediments here are political rather than practical. Although debt-for-nature swaps have tended to proceed a few million dollars at a time, other debt swaps have been far larger. Notably, Nigeria and the Paris Club made a US\$19 billion debt swap for poverty reduction in 2005 (Picolotti et al., 2020). Strong governance principles must also be respected with the scale-up. Establishing legally independent funds to manage the operation of ecosystem programmes can help achieve this goal as long as the oversight of such funds respects the principles of country ownership and actively seeks stakeholder participation, particularly in the monitoring and evaluation of programme implementation.

Secondly, debt-for-nature swaps have shown that it will be difficult to achieve the outcomes for ecosystem conservation and sustainable resource use without the inclusion of the people most likely to be affected, including indigenous peoples and local communities. Ensuring their full and effective participation and leadership in design and implementation – including monitoring – can best ensure that matters such as land tenure and benefit-sharing are addressed as core priorities. Ecosystem protection that builds on the participation of indigenous peoples and local communities can help to ensure that debt-for-climate swaps learn from the shortcomings of past schemes and avoid imposing new forms of donor-driven conditionality.

Thirdly, it is important that private creditors (private banks, pension funds, reinsurers, hedge funds, and vulture funds) be required to take part in debt-relief measures in order to avoid the risk that the benefits of debt relief and Covid-19 recovery funds are diverted towards private lenders rather than serving the needs of the poorest people (Inman, 2020; Stiglitz and Rashid, 2020). This can only be achieved with significant pressure from the IMF and the governments of developed countries, since they currently have the power to force private creditors to take a financial «haircut» to reduce the size of their outstanding loans to countries that are facing debt distress.

Fourthly, debt-for-climate swaps should extend beyond the North-South scope of conventional international climate finance. China is a major holder of foreign debt and might also be expected to participate in such schemes (Degnarain, 2020). The same is true of the Gulf states and Singapore, which do not contribute to international climate finance, despite being some of the richest countries in the world in terms of GDP per capita. Debt-for-climate swaps could also be a way to engage these countries to provide additional financial support for debt-distressed nations.

Lastly, the success of any future debt-for-climate swaps will hinge on how well they are able to work within particular national contexts and circumstances. At the outset, this entails that debt-swap initiatives be tied to funding that achieves objectives laid out in NDCs and NAPs and make a meaningful contribution to the much needed urgent increase in real and permanent emissions reductions.

Coral reef, Red Sea



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