Beyond The Gap: Placing Biodiversity Finance in the Global Economy

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BEYOND THE GAP

Placing Biodiversity Finance in the Global Economy

Biodiversity Capital Research Collective

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Beyond the Gap: Placing Biodiversity Finance in the Global Economy

Biodiversity Capital Research Collective[1]

[1] Contributors include, alphabetically, Patrick Bigger, Jens Christiansen, Jessica Dempsey, Adriana DiSilvestro, Audrey Irvine-Broque, Sara Nelson, Fernanda Rojas-Marchini, Andrew Schuldt, and Elizabeth Shapiro-Garza.

About the authors

Patrick Bigger is a lecturer in economic geography at Lancaster University (UK). His work focuses on the political economy of investment mechanisms for landscape conservation, climate change mitigation, and urban resilience.

Jessica Dempsey is an Associate Professor at the University of British Columbia in the Department of Geography. She studies the underlying drivers of biodiversity loss and extinction, and is the current lead of the "Tracing Biodiversity Capital" research project.

Fernanda Rojas-Marchini is a PhD candidate in Human Geography at the University of British Columbia. Her research focuses on the emergence of new environmental institutions oriented towards market-based biodiversity conservation in Chile and Latin America.

Jens Christiansen is a PhD Candidate in Geography at Lancaster University (UK). His research focuses on the political economy of finance, development and conservation. In particular, his research explores the role of conservation finance for marine protection.

Audrey Irvine-Broque is an MA student in Geography at the University of British Columbia studying the political economy of biodiversity loss. Her research focuses on market-based biodiversity conservation in coastal ecosystems.

Sara Holiday Nelson is a Simons Postdoctoral Fellow in the Liu Institute for Global Issues at the University of British Columbia. Her research focuses on the political economy of environmental conservation and the history and politics of environmental valuation.

Adriana DiSilvestro is an MA student in Geography at the University of British Columbia studying the political economy of biodiversity loss. Her current research focuses on ecological management practices in environments of state-sponsored extraction.

Andrew Schuldt is a PhD Candidate in Geography at the University of British Columbia. His research on the political economy of forests examines the role of expertise in valuation and sustainability discourse.

Elizabeth Shapiro-Garza is an Associate Professor of the Practice in the Nicholas School of the Environment at Duke University. Her research focuses on the ways in which market-based conservation approaches are adopted and adapted by policy makers, practitioners and rural communities in Latin America.

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Acronyms

ABS	Access and Benefit-sharing
CBD	Convention on Biological Diversity
CBDR	Common but Differentiated Responsibilities
CSR	Corporate Social Responsibility
DNS	Debt-for-Nature Swaps
FAO	Food and Agriculture Organization
FSC	Forest Stewardship Council
GEF	Global Environment Facility
HIPC	Heavily Indebted Poor Country
IFC	International Finance Corporation
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
GNI	Gross National Income
NBS	"Nature-based Solutions"
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PES	Payments for Ecosystem Services
PMIS	Project Management Information System
REDD+	Reducing emissions from deforestation and forest degradation
RMS	Resource Mobilisation Strategy
ROI	Return on Investment
SDG	Sustainable Development Goal
TNFD	Task Force on Nature-Related Financial Disclosure
TWN	Third World Network
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
UNPRI	United Nations Principles for Responsible Investment
WBG	World Bank Group
WTO	World Trade Organization

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Introduction

Since its inception in 1992, the Convention on Biological Diversity (CBD) has taken thousands of decisions to implement its three objectives related to the conservation and sustainable use of biodiversity, and the equitable sharing of the benefits of biodiversity use. But progress toward these goals is halting, most expressly in Parties' failures to meet the Aichi Biodiversity Targets.[2] Crucial Articles of the CBD, such as 10(c), which states that Parties should integrate conservation and sustainable use into national decision-making, encourage customary use of biological resources, and support local populations to develop and implement restoration of degraded areas, remain woefully underdeveloped. These shortcomings are evident in the accelerating rate of biodiversity loss documented in the 2019 IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) Global Assessment, which demonstrated "good progress" on only four out of 20 of the Aichi targets and estimated that current trends in loss of biodiversity and ecosystem services would undermine progress on 80% of the Sustainable Development Goals.[3] That report also acknowledged the need for "transformative change" in addressing the ongoing biodiversity crisis. Ideally, the post-2020 global biodiversity framework negotiations will conclude with decisions and plans that can address these failures. But doing so means reckoning with what's gone wrong, including with financial resources.

In explaining the lack of progress, reports on biodiversity finance from states, bankers, and conservation organisations often point to a large funding gap. That is, they explain ongoing biodiversity loss by gesturing to the disjuncture between the current financial resources and the resources needed to implement CBD objectives and decisions. These gaps exist, but are almost always presented without context, as though the problem will be resolved through increased funds alone. In this report, we explicitly go beyond the simplistic call for increased finance, foregrounding the need for political and economic restructuring capable of addressing underlying drivers of biodiversity loss: dramatic changes in trade and investment rules, a concerted effort to understand and address the role of debt and austerity, and policy options that recognise inequality across racialised, gender, class, caste and colonial lines as not only an outcome of, but also a driver of, extractivism, and thus also an underlying driver of ongoing biodiversity loss.

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2 Buchanan et al., 2020.

3 United Nations, 2019b.

There is no doubt that more financial resources are necessary. And there is no doubt that rich governments have failed to live up to commitments made in Rio to "common but differentiated responsibilities" (CBDR). Not only do bi- and multilateral flows of biodiversity finance fall short of Article 20 of the CBD on financial resources, but there is the large, growing and unpaid, often unrecognised, ecological debt of both wealthy states and individuals – a debt accrued through hundreds of years of extractive economic development whose costs too often fall upon racialised people, Indigenous Peoples, smallholder farmers, fisherpeople and women. The term used to describe this kind of development is extractivism, which refers to "the industries, actors and financial flows, as well as the economic, material and social processes and outputs, associated with the globalized extraction of natural resources", including all of the industries most implicated in global biodiversity declines – mineral and fossil fuel extraction, monocultural large-scale agricultural, forestry, and fisheries operations.[4] As scholars of global political economy describe, extractivism is a kind of development that disproportionately benefits nations, transnational corporations, and consumers in the developed countries[5], or the wealthy in the developing countries.[6] The relations of extractivism, we suggest, extend also to inequitable sharing of the benefits arising from the utilisation of genetic resources, also known as biopiracy. Part 1 of this report reviews these growing ecological debts, failures to live up to obligations on CBDR, and outlines some challenges of the primary financial mechanism of the CBD – the Global Environment Facility (GEF).

Financial shortfall – the gap between the financial support required and what is available – is not the only limit to CBD implementation, however. Being able to both assess and remedy this lack of resources requires understanding the broader political and economic forces that drive biodiversity loss and shape decision-making by Parties. In light of global climate change, biodiversity loss, and the wealth/health inequalities brought into greater focus by COVID-19, we are living in a moment of a great "re-think" about international and national political economic structures and norms. This document synthesises a wide array of research and analysis that we hope will contribute to this reconsideration of the pervasive assumptions and narratives about finance and biodiversity in an era of ongoing extractivism. This demands that we focus not only on how we can funnel private or public investment into conservation and sustainable use, but also on re-formatting flows of biodiversity-degrading capital and broader political economic norms and ideologies. Achieving those changes requires addressing inequalities that inhibit policy change. We review this research in Part 2 of this report.

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4 Tendayi Achiume, 2019, p. 2.

5 While we prefer the terminology Global South and Global North, this briefing uses the terminology of "developed countries" and "developing countries" as these are the terms used in the CBD and have legal implications for rights and obligations.

6 Ibid.; Brand et al., 2016; Svampa, 2015.

Part 3 considers the limitations and opportunities of existing financial mechanisms and strategies, with a focus on approaches such as payment for ecosystem services (PES) and Reducing emissions from deforestation and forest degradation (REDD+), as well as private and blended finance schemes. It also examines voluntary and market-based efforts to create sustainable supply chains and to manifest more sustainable financial flows. Given the conditions of debt and austerity, there is often enormous hype about new mechanisms, particularly the possibility of attracting new, private finance into biodiversity and "nature-based solutions" (NBS) to climate change, but also market-like structures to advance CBD objectives. We consider the degree to which these efforts have worked, on their own terms and those of the CBD. Are they generating positive impacts for biodiversity? Is private finance moving to advance CBD decisions? The answers suggest that the effort to encourage financial markets to move from biodiversity-eroding activities to SDG- and CBD-aligned objectives has failed, and that we need to instead regulate finance to achieve needed outcomes.

Across all three parts of this report, our primary research questions are:

(1) What are the overarching political economic conditions under which resources have been – and are being – mobilised for the implementation of the CBD?
(2) To what extent have private, innovative/market-based, and voluntary financial/economic initiatives advanced the implementation of the CBD? What are the primary challenges?

Our team is composed of social scientists from the University of British Columbia in Canada (Jessica Dempsey, Adriana DiSilvestro, Audrey Irvine-Broque, Fernanda Rojas-Marchini, Sara Nelson, Andrew Schuldt), Lancaster University in the UK (Patrick Bigger, Jens Christiansen), and Duke University in the US (Elizabeth Shapiro-Garza). The emphasis in this report stems from our particular areas of expertise: political ecology, political economy of nature, multi-scalar environmental governance and environmental change, and the uneven distribution of environmental damage and biodiversity loss.

Summary

Part 1. Ecological debts mount alongside ongoing inequalities and biodiversity loss

Article 20 of the Convention on Biological Diversity (CBD) points to countries' common but differentiated responsibilities (CBDR) in fulfilling the commitments to halt biodiversity loss – developed countries' governments have an obligation to provide new and additional financial resources to enable governments in developing countries to effectively implement their commitments. We ask: Have governments lived up to obligations in line with CBDR? What has been the role of the GEF in relation to CBDR? In the third section of Part 1, we ask a related question: Who is responsible for biodiversity loss? Can this responsibility or debt be calculated?

1.1 Wealthy states have not lived up to CBDR and commitments made under Article 20

Twenty-eight years after the CBD was ratified in 1992, countries around the world not only have failed to halt biodiversity loss, but they have also neglected a fundamental principle of this Convention: that despite all countries' responsibility for the loss of biodiversity, rich industrialised nations have a greater share of responsibility and must, consequently, contribute with more resources to stop this crisis. Neither the GEF itself – established as the CBD's financial mechanism in 1994 – nor the private finance mechanisms it promotes have met these obligations.

1.2 Investments through the Global Environment Facility have been insufficient

Approximately 30 years on from the GEF's launch, it is clear that the fund and its approach have been insufficient to "implement the CBD", one of its key objectives. The amounts committed to the GEF are inadequate, with the most recent GEF-7 seeing a nominal decline in new pledged amounts as well as total funding. The GEF's emphasis on leveraging co-financing from governments, development finance institutions, non-governmental organisations, and commercial actors is symptomatic of an approach that assumes that public funding, not the natural environment and its diversity, is the main resource that is scarce. Some research suggests that current funding strategies are not just insufficient, but can further long-term international power inequalities where countries with the most financial resources dictate the terms and conditions under which capital will flow towards biodiversity-rich countries, consolidating geopolitical power relations rather than working towards full CBD implementation. The emphasis on co-financing, and

increasingly the use of market-led funding for NBS, can be seen as a result of these power inequalities. The GEF's inability to effectively implement the three objectives of the CBD, combined with the geopolitics in the background of negotiations, suggests the need to reform this multilateral financial mechanism.

1.3 Wealthy countries and the affluent have mounting ecological debts

In this section, we draw on research attempting to quantify historical ecological and climate debts that rich industrialised countries have accrued over the last 500 years through their overuse of the world's resources and waste sinks. We describe concepts such as "material footprint" and "national responsibility for climate breakdown", together with statistics indicating the over-consumption of developed countries and affluent elites in developing countries to flesh out historical patterns that demonstrate who benefited from ecological damage, and who has borne the costs of these changes. This uneven distribution of ecological degradation continues to this day, with one study concluding the US is responsible for 40% of climate change and the EU 29%. Other studies point to how current trade regimes further inequality through conditions described as "ecologically unequal exchange", where high-income countries appropriate resources and generate higher levels of economic value. Through these processes, the ecological and climate debts of developed countries to developing countries continue to accrue.

Part 2. Understanding the global political economy of biodiversity loss

What is hampering the adequate resourcing of CBD implementation? Across Part 2, we ask: What are the overarching political economic conditions constraining CBD implementation? We centre the political economic drivers that fuel extractivism, drivers that render the relatively much smaller funding for conservation inadequate to address the three objectives of the CBD. This section travels some distance from what is usually considered in discussions of biodiversity policy and finance, but we argue that many of the changes required to reshape structural drivers will have to occur through a range of institutions that shape the global economy.

2.1 The ability of countries to implement the objectives of the CBD is hampered by the debt-austerity nexus

Austerity and debt put a straightjacket on national governments across the globe, but in particular in developing countries. Austerity – policies that aim to reduce government spending and deficits – means inadequate levels of official development assistance (ODA), multilateral contributions, or domestic funding for environmental ends. Austerity emerges from ideological preferences found in institutions, but it is also concretely caused by a "race to the bottom" in corporate tax rates, tax havens, and high levels of international

debt, particularly in developing countries. If governments are focused – or made to focus – on repaying debt, they are not investing in public goods; they lack resources to implement biodiversity policies that advance sustainable use, conservation and equitable benefit-sharing of biodiversity use. Adding fuel to the fire, high levels of debt repayment also force governments to double down on the resource extraction for export that is at the root of much biodiversity loss. With many developing countries facing soaring debt levels in the face of the COVID-19 pandemic, the International Monetary Fund (IMF) has once again stepped in to demand fiscal consolidation, despite clear linkages between austerity, debt, and biodiversity loss. Such austerity measures will once again structurally limit government spending in developing countries, with all the attendant impacts on public health, both human and ecosystemic.

2.2 Inequity-reinforcing policies, corporate-focused trade rules, and investment policies further entrench drivers of biodiversity loss

The rules that govern international trade contribute, directly and indirectly, to biodiversity loss. The free movement of goods and finance that has been at the heart of global trade policy over the last 45 years has not only exacerbated wealth inequality in much of the world, but has also pushed the biodiversity loss embodied in that trade to unprecedented levels. Unmitigated financial flows and the operations of footloose extractive firms have opened new, fragile, biodiversity-rich spaces for commodity production, widening the gap between those who live with the environmental consequences of extraction and those who benefit from consuming the goods those commodities comprise. The rules that govern international capital flows do little to restrict detrimental, large-scale movements of money in and out of countries, producing fiscal vulnerability that, perversely, incentivises countries to increase raw material exports. Furthermore, extractivism not only leaves highly differentiated costs and benefits in its wake, but existing inequalities along racial, gender and wealth lines can provide a legitimation or even fuel for extractivist developments. Overall, the last few decades of hyperglobalisation and free-floating finance have led to further concentrations of wealth and power that impede both policy change and functioning multilateralism.

2.3 Biodiversity finance is outpaced by harmful subsidies that are challenging to identify and reform

Parties to the CBD recognise the need to “eliminate, phase-out or reform” incentives that are harmful to biodiversity as a primary strategy for halting biodiversity loss. Yet institutional commitments to action on this matter remain largely unfulfilled; reforming harmful incentives is one of the worst-performing of the 20 Aichi Biodiversity Targets. Public spending on harmful incentives and subsidies continues to eclipse domestic and international spending on

biodiversity initiatives while undercutting biodiversity finance's goals. Harmful subsidies have been on the CBD agenda since at least 1995, but roadblocks to reform have won out: lack of transparency, entrenched political interests, and proportionally marginal but still significant impacts on community livelihoods that, in turn, generate political capital. While harmful subsidies tend to disproportionately benefit the wealthy and powerful, they also represent a wider range of interests enmeshed in state politics, making them challenging to write off altogether. Targeted research and reporting into the political functions and environmental and social outcomes of these subsidies is required in order to create accountability and enact reform against this driver of biodiversity loss.

Part 3. Understanding biodiversity-related financial flows

Working within the framework of global political economic norms – such as austerity and the consistent prioritisation of trade and investment interests over public goods – governments, parts of civil society, and international institutions have promoted voluntary measures and innovative financial mechanisms, including payments for ecosystem services (PES), private finance and blended finance. To what extent have these private, market-based, and voluntary financial initiatives advanced the implementation of the CBD? What are their primary challenges? To what degree can these approaches support the broader transformative change called for by IPBES in 2019 and by Indigenous, environmental justice, and social movements for many decades previous?

3.1 Market-oriented approaches, such as PES and REDD+, offer insufficient finance and mixed results for biodiversity

PES programmes have been increasingly promoted in the past few decades, including within the CBD, as a way of generating new sources of revenue for conservation and for compensating individuals and communities for the livelihood impacts of conservation, with over 550 programmes worldwide. We define PES as direct payments or in-kind transfers to individual or collective landholders that aim to incentivise, compensate, or reward land uses beneficial for the production of pre-defined ecosystem services. We include programmes such as water funds and some REDD+ projects that may not self-define as PES, but share these same characteristics. Four main lessons are evident in the literature with regard to the role of PES in supporting biodiversity conservation: 1) PES do not represent a major new source of private conservation finance; 2) there are few biodiversity-focused PES, and those that exist tend to prioritise habitat for a single species; 3) there are research gaps regarding biodiversity outcomes for PES, but existing studies show mixed results; and 4) programmes that have been most successful at addressing

land use change linked with biodiversity loss have been integrated with local traditions and institutions with strong representation of local values and knowledge and equitable benefit-sharing of biodiversity use. Many PES schemes, particularly those that are also meant to deliver climate benefits (like REDD+), are now being promoted as NBS that can minimise the costs and domestic actions that rich countries must undertake to stabilise rates of environmental change, with often dubious social and environmental outcomes in the countries in which they are deployed.

3.2 Private investment in biodiversity-enhancing projects is small, geographically constrained, and in a perpetual state of "proof of concept"

The state of play regarding the scale and scope of "private investment" – return-generating, profit-oriented biodiversity conservation finance – depicts an emerging but halting, precarious, and still largely promissory global economic sector concentrated in developed countries. Such evidence is at odds with how this sector is commonly portrayed in international policy and within conservation literature, which often looks to the sector as a primary solution to their funding issues. Based on the last 30 years of efforts – from bioprospecting to forest-based carbon offsets – it is difficult to make biodiversity conservation into a profitable enterprise, raising questions about the role of private finance in future implementation of the CBD objectives, particularly through NBS. However, it is crucial to note that even these relatively small amounts of financial investment can have negative social impacts and further entrench social inequalities. They can also serve as narrative "bandaids" that, through constant promotion as the primary solution to biodiversity loss, pose barriers to achieving the more difficult but needed transformative change. We argue that, rather than using public capital to catalyse private sector investment, the efforts of governments and multilateral organisations should be focused on modifying global political economic relations – such as tax regimes, trade agreements, and regulations – to prevent negative impacts on biodiversity.

3.3 Blended finance is unlikely to deliver a sustainable future

The notion of blended finance has gained traction within development policy circles since the advent of the Sustainable Development Goals and has recently been hailed as a tool for mobilising private investments in CBD implementation. While there is still confusion and debate about its definition, blended finance is often defined as any use of public, philanthropic or supranational funding to "leverage", "unlock" or "catalyse" private investments. This concessional or grant capital is said to be necessary to drive private capital into areas like biodiversity conservation or sustainable use that are seen by investors as too risky or offering too little return. We argue that blended finance should be

seen in the longer history of development finance, which has been used to facilitate private investment. Blended finance is better understood as a continuation of public-private-partnership-style approaches that come with reduced transparency and risks of private gain/public loss, and that fail to benefit countries with the lowest incomes. Further, it is important to complicate this need to attract private capital into CBD implementation, as it is symptomatic of broader political economic trends like austerity and inadequate financial sector regulation. The literature also raises questions about the efficiency of blended finance. For example, between 2008 and 2015, multilateral development banks (MDBs), states and supranationals disbursed EUR17.2 billion through various channels to directly support the development of REDD+ programmes across the world. This public investment has netted all of EUR162 million in direct private investment for REDD+ projects and, while "indirect" private investment is higher, it is unclear how much of that investment is "additional" to what might have happened otherwise. Additional biodiversity benefits are also unclear.

3.4 Voluntary certification and disclosure schemes may have some impact, but rarely on the scale necessary to halt biodiversity loss

Since the 1992 Rio Earth Summit, where global corporate elites and developed countries pushed aside a regulatory approach to harmful environmental activities, voluntary approaches, such as certification and disclosure schemes, have proliferated. The commonality between these approaches is that compliance – and thus authority – is predominantly rooted not in the state, but in the market, which has little incentive, authority or ability to enforce binding actions. In this section we examine the outcomes of various voluntary strategies in the decades since Rio, and consider the significance of their role in halting global biodiversity loss. Measuring the real impacts of these schemes is difficult not only due to lack of controls and baselines, but also because many are private and thus difficult to scrutinise. Despite this, there is a growing body of research pointing to their limitations. Overall, the nature of voluntary mechanisms – that is, the lack of enforcement or accountability – leaves us with a great deal of publicity surrounding these alternatives to strong state-driven policies, but, ultimately, very marginal impacts. We question the continued rollout of new voluntary efforts such as the Task Force for Nature-related Disclosure (TFND), when there is little evidence that such efforts will be able to provide change on the scale or within the time frame needed to meaningfully halt biodiversity loss.

Part 1
Ecological debts mount alongside ongoing inequalities and biodiversity loss

Article 20 of the CBD points to countries' CBDR in fulfilling the commitments to halt biodiversity loss. It states that wealthier ("developed") countries should pay for the actions of less-wealthy ("developing") countries towards the conservation and sustainable use of biodiversity.[7] Controversially, the GEF – located in Washington D.C. and with the World Bank as its Trustee – was created as the financial mechanism for implementing the globally significant actions taken to conserve, sustainably use, and share the benefits of biodiversity. In the first two sections, we ask: have governments lived up to commitments to CBDR? What has been the role of the GEF in relation to CBDR?

While negotiations under the CBD often focus on obligations under Article 20, and reports on finance often focus on calculating the gap in actual vs. required finance, there is a growing body of research that aims to calculate responsibility for historical and ongoing biodiversity loss and climate damage. This research is often conducted through methodologies of ecological and climate debts, and by calculating the material footprints of international trade. In the third section of Part 1, we ask: who is responsible for biodiversity loss? Can this responsibility or debt be calculated? We present and define three mechanisms to measure the ecological and climate debts rich countries have accrued, while addressing recent research elaborating on material footprints and global trade impacts as other ways of framing CBDR.

Key points

1.1 Wealthy states have not lived up to CBDR & commitments made under Article 20

1.2 Investments through the GEF have been insufficient for addressing Article 20

1.3 Wealthy countries and affluent citizens/people are more responsible for climate change and biodiversity loss

[7] Convention on Biological Diversity, 1992, p.13.

1.1 Wealthy states have not lived up to CBDR & commitments made under Article 20

Wealthy states have failed to live up to their obligations on CBDR. On a macro scale, financing for biodiversity conservation and development in so-called "developing" countries "falls well short of amounts promised in Rio by wealthy nations".[8] Miller et al. identified an increase of aid funds for biodiversity since 1992 (amounting to USD 1.1 billion annually), which corresponds to the creation of the GEF in 1991.[9] However, the amounts registered are far from the primary agreements made in Rio under Agenda 21, where countries committed about USD 18 billion annually for global environmental issues, of which USD 2 billion were directly designated for biodiversity protection. In fact, no donor nation has met its commitment "in any year since making this promise in 1992. Total funding is 58% of the Rio promise," Miller et al. observe.[10] The authors also warn that previous sources that estimate financial aid toward biodiversity protection tend to be overstated because the underlying data is sourced from donor-reported numbers obtained by intergovernmental institutions like the Organisation for Economic Co-operation and Development (OECD) Creditor Reporting System.

More generally, in the wake of the 2008 financial crisis, budgets for Official Development Assistance (ODA) have been mostly flat in real terms and falling relatively. Only five countries met the OECD target of 0.7% of Gross National Income (GNI) for ODA in 2018. Without neglecting the important historical critique that some ODA has been used to promote donor countries' economic interests, the paucity of financial transfers through ODA has serious ramifications not only for the achievement of CBD objectives, but in ethical registers as well. Legacies of colonialism and ongoing unequal exchange have transferred and continue to transfer wealth from developing countries to developed countries.[11] The lack of commitment on the part of developed countries to share the financial burden indicates a failure to take threats stemming from biodiversity loss seriously and undermines the international solidarity and coordination that is critical to ameliorating biodiversity loss.

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8 Miller et al., 2013, p. 17.

9 According to Miller et al., 2013, the GEF's overall *commitment* to biodiversity aid funding has been of USD 5,110,000,000, corresponding to 28% of total financial flows categorised as "aid" (and placing the GEF in second place after the World Bank).

10 Miller et al., 2013, p. 16.

11 See for example Bracking, 2009.

1.2 Investments through the Global Environment Facility have been insufficient

When the Global Environment Facility (GEF) was first agreed as a pilot facility in 1990, there was no guarantee that it would become a central institution for funding CBD-defined global biodiversity objectives. Created out of the 1992 Rio Earth Summit – also known as the United Nations Conference on Environment and Development (UNCED) – the GEF subsequently became a critical node in the effort to fulfil the aims of Article 20 of the CBD through its different implementing agencies. Its role was further consolidated in 1994 with the first replenishment of funding. Thirty years on from the GEF's launch, it is clear that the fund and its approach have been insufficient to "implement the CBD", one of its key objectives.

Geopolitics and neocolonialism in the GEF

From the outset, the GEF has been shaped by geopolitical struggles, which are evident to this day in the ideas that govern its operations. As highlighted by Sjöberg in her examination of early discussions on structuring the GEF, developing countries emphasised notions of transparency, participation and democratic decision-making while the industrialised North tended to emphasise economic efficiency. The latter furthermore argued that decision-making processes should be differentiated according to financial contributions, which aligned with the tradition of the Bretton Woods institutions where dollars equal voting rights rather than the "one country, one vote" ethos of the United Nations system.[12] The distinction is currently being replayed in some powerful developed countries' promotion of NBS to offset or displace, rather than absolutely reduce, environmental impacts of their consumption.[13]

For critics of the GEF, the institution's linkages with its Trustee, the World Bank, were always difficult to ignore. Non-governmental organisations (NGOs) critiqued the Bank's dubious environmental records while governments of developing countries tended to perceive its approach as technocratic, if not outright colonial.[14] Large donors to the GEF, like the United States, have been able to shape its priorities with their contributions, even though they are not signatories to the agreements the GEF is largely meant to fund. These influences have been sources of conflict. For example, in the negotiations for the fourth GEF replenishment, China and the G77 countries expressed concern that the US governance standards would

12 Sjöberg, 1999, p. 3.
13 Subramanian, 2020.
14 Young, 2002.

be incorporated into the GEF resource allocation framework (RAF), biasing fund disbursement towards countries with free market-enabling conditions.[15] Despite concerns that the RAF was largely driven by ideology, the RAF was adopted by the GEF Council. This was, in large part, a means of ensuring US engagement in GEF-4 since the US had threatened to cut funding and that would pose a significant risk to the GEF.[16] Under the current governance structure of the GEF, efforts to increase flows of funds may perversely further neocolonial relationships where countries with the most financial resources dictate the terms and conditions under which capital will flow towards biodiversity-rich countries, consolidating uneven geopolitical relations, rather than primarily working toward CBD implementation. Rather than being an institution for promoting geopolitical interests and market-based environmental governance, whose insufficient outcomes we examine in Part 3, GEF spending needs to acknowledge and support the ability of Indigenous communities, small-scale peasants and fishers to autonomously safeguard biodiversity.

Co-financing: whose leverage and whose debt?

The GEF's emphasis on leveraging co-financing from governments, development finance institutions, non-governmental organisations, and commercial actors is symptomatic of an approach that assumes that public funding, not the natural environment and its diversity, is the main resource that is scarce.[17] The GEF considers any resources mobilised from GEF partner agencies and non-GEF actors towards GEF projects to be co-financing.[18] This emphasis on co-financing has long been a matter of debate. First, it is questionable whether co-finance is indeed additional funding or just a relabelling of other funding sources.[19] Even if we assume that attracting co-financing is the right approach, this strategy seems to fail on its own terms since biodiversity is one of the GEF focal areas with the lowest amount of co-financing relative to GEF financing.[20] Another sticking point is the question of who provides the co-financing. Government financing is by far the largest share of co-financing in the biodiversity focal area,[21] and it is difficult to give a complete assessment of the GEF's private sector engagement, but the GEF largely sees itself as historically being able to promote an ecosystem for private investments and as

15 Ervine, 2007.

16 Clémençon, 2006, p. 60.

17 Later, we specifically address so-called "blended finance", which is the attempt to leverage *private, for-profit* finance in particular. In contrast to blended finance's attempt to leverage for-profit investments, the GEF's efforts to leverage further monetary resources include public and private financing alike.

18 For an exact definition by the GEF, see Global Environment Facility, 2018b, p. 3.

19 Clémençon suggests that a substantial part of total co-financing is merely relabelling, not necessarily new sources of finance, especially in the forestry and energy sectors. Clémençon, 2006, p. 54.

20 Kotchen & Negi, 2019.

21 Global Environment Facility 2020, p. 2; Miller & Yu, 2012.

being able to play a central role in blended finance and for-profit, private biodiversity finance in the future.[22]

The fiercest critique of the way GEF funding has been mobilised as a means of co-financing was levelled by Zoe Young in the early 2000s, who followed the development of the GEF during its first decade and interviewed experts who were involved in its making. From Young's perspective, the concessional loans or grant funding from the GEF could facilitate a pipeline of projects for World Bank funding for already indebted governments in developing countries. However, in return for these new sources of financing, cash-strapped developing countries risk losing part of their sovereignty as their territory and resources are opened up for international markets.[23] Certainly, for the entire GEF portfolio (not just biodiversity) loans continue to play an important role.[24] In light of such critiques, it remains important to attend to the geopolitical effects of GEF funding: Does this funding merely help governments in developing countries get cheaper financing, does it politically lead to a change in national governments' priorities, or has it led to further indebtedness for developing countries?

How much $?

Even if we assume that more money will always result in better biodiversity outcomes, funding conditions have not always improved during the lifespan of the GEF. From the first replenishment, GEF funding levels (for the entire GEF portfolio) have often been disappointing; whereas the aim of the first replenishment had been to mobilise 2-3 billion Special Drawing Rights (SDR), which at the time of the negotiations were equivalent to USD 2.8-4.2 billion, the final commitment ended at merely USD 2 billion.[25] Although there was a nominal funding increase with GEF-2, funding has declined in real, inflation-adjusted terms between the GEF-1 funding replenishment in 1994 and the GEF-4 replenishment (GEF-4 included). What seems like increases between replenishment periods were mainly due to carry-over of funds from previous replenishments.[26] Since then, the fifth GEF replenishment period did see nominal increases in funding. However, while the sixth replenishment did see an increase in new pledged amounts relative to GEF-5, the increase in total nominal funding would not have happened without carry-over from GEF-5. Finally,

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22 As a GEF evaluation report on private sector engagement (in the entire GEF portfolio) from 2017 notes, the GEF PMIS does not contain information that easily allows one to assess the GEF's private sector engagement. Global Environment Facility Independent Evaluation Office, 2017, pp. 65, 68.

23 Young, 2002.

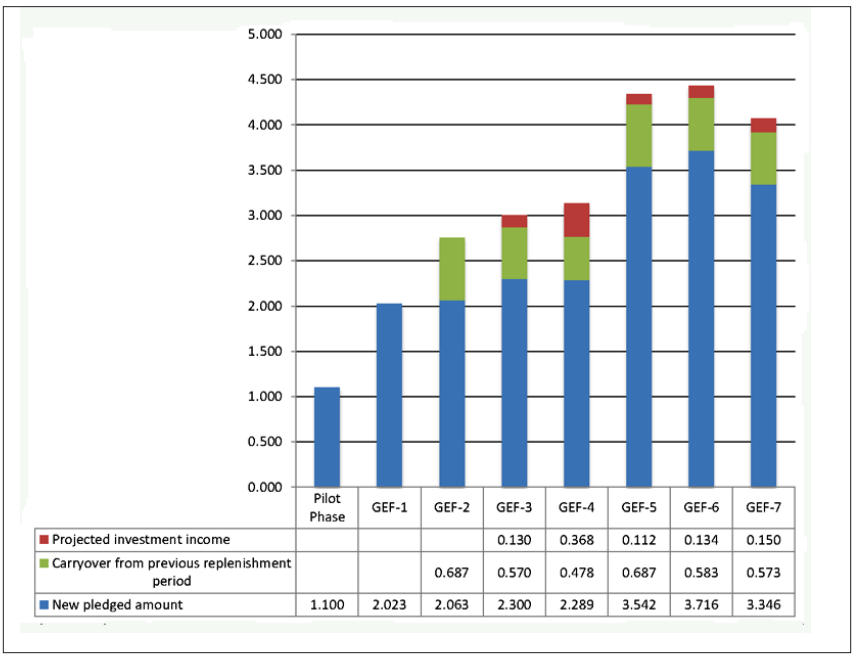
24 Global Environment Facility 2020, p. 2.

25 Sjöberg, 1999, p. 36.

26 Global Environment Facility, 2009; This GEF document draws on Clémençon, 2006.

GEF-7 even saw a nominal decline in new pledged amounts as well as total funding (see figure below, not adjusted for inflation).

Figure 1. Historical pledged amounts to GEF replenishments (USD billion)[27]



	Pilot Phase	GEF-1	GEF-2	GEF-3	GEF-4	GEF-5	GEF-6	GEF-7
Projected investment income				0.130	0.368	0.112	0.134	0.150
Carryover from previous replenishment period			0.687	0.570	0.478	0.687	0.583	0.573
New pledged amount	1.100	2.023	2.063	2.300	2.289	3.542	3.716	3.346

While a rough official assessment is that the GEF has directed over USD 3.5 billion to biodiversity,[28] it is difficult to discern the total amount going towards biodiversity-related objectives during individual replenishments. We have started research towards assessing this in Appendix A, but further study is needed along with increased GEF transparency, which would require systems for a more granular breakdown of the GEF's historical spending for biodiversity. The take-home from the data presented in Appendix A is that actual GEF spending during the GEF-2, GEF-3 and GEF-4, which in total covers the period between 1998 and 2010, clearly fell short of the original programming targets. Like the entire GEF portfolio during that period, the biodiversity focal area did not fulfil the original biodiversity

[27] Global Environment Facility, 2017, p. 9; Global Environment Facility, 2018a, p. 4. Figure 1 draws data from these GEF reports, but in the course of our research we noticed discrepancies: what is found in the 2017 GEF report does not match data in the summary of negotiations for individual replenishments. We therefore acknowledge that there could be some accounting discrepancies between the data we include for GEF-7 and previous replenishments.

[28] Convention on Biological Diversity, 2020b, p. 13.

programming as they appear in *Summary of Negotiations* documents for individual replenishments. Future research needs to examine the types of projects financed by the GEF (e.g. protected areas vs. ABS financing) and the types of funding received by different states and organisations.

1.3 Wealthy countries and the affluent have mounting ecological debts

Since Rio, researchers have sought not simply to understand the incremental costs of CBD implementation, but also to develop a more fulsome accounting of responsibility for ecological change between and within nations. This responsibility has been quantified around climate change and biodiversity loss, two domains that have been treated by research on climate and ecological debts. Attention along these two lines is critical not only because climate change poses accelerating risks to biodiversity,[29] but also because it is impossible to separate contemporary wealth inequalities (which condition responses to biodiversity loss) from climate debt. Some are more responsible for environmental degradation than others, or, to put it otherwise, some are more in debt for their (over)use of resources that degrade ecosystems.

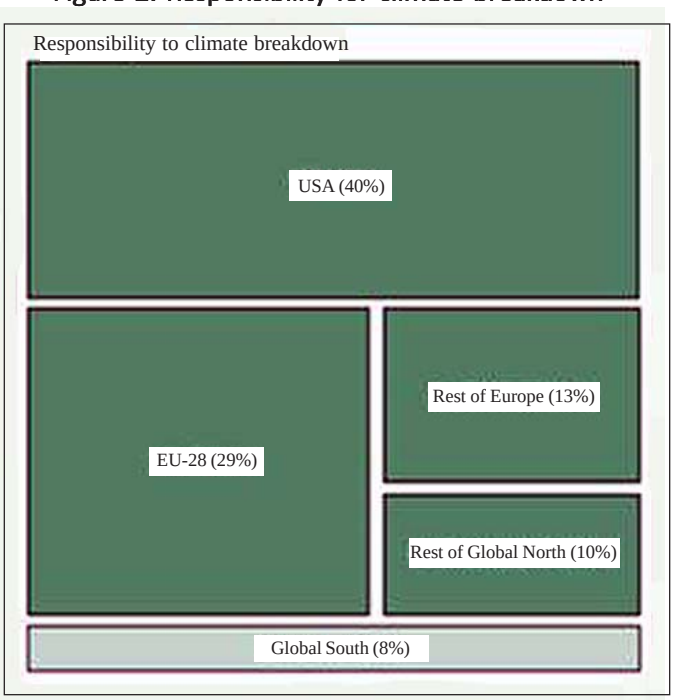
Research that estimates the share of countries' responsibilities for climate change and biodiversity loss has insisted that wealthy nations should be held accountable for decades – and centuries – of ecological degradation. In a 2020 article published in *The Lancet*, Jason Hickel quantifies what he calls "national responsibility for climate breakdown", to determine responsibility for global emissions in excess of planetary boundaries – or exceeding a safe emissions budget.[30] He shows that high-income countries have a greater degree of responsibility for climate damage than previous estimates.[31] The USA is responsible for 40% of excess emissions, and the EU for 29%. Furthermore, G8 countries are responsible for 85% of climate breakdown, and Hickel observes that countries classified by the United Nations Framework Convention on Climate Change (UNFCCC) as Annex 1 (defined as "developed") are responsible for 90% of emissions exceeding the planetary boundary.

29 Trisos et al., 2020; Urban, 2015.

30 Hickel, 2020.

31 Hickel (2020) frames responsibility upon the idea that "countries that have contributed more to global emissions are more responsible for related problems than those that have contributed less". He put this framework of responsibility in dialogue with the "principles of planetary boundaries and equal access to atmospheric resources" (p. 399).

Figure 2: Responsibility for climate breakdown[32]



Figures like the one above indicate that high-income countries have a greater degree of responsibility for climate damages than previous methods have implied. The extent to which wealthy nations are responsible for ecological and climate damage could parallel or even exceed the financial debts that many developing countries have with their creditors. Such a debtor condition, moreover, may be reversed if climate responsibilities become visible and monetised. Environmental activists in developing countries coined the term "ecological debt" to flag the historical inequalities in the access and use of natural commons. In what follows, we present the concept of ecological debt and the more contemporary concepts of climate debt and material footprint.

Ecological debt and responsibility

First mobilised by Latin American activists, the concept of ecological debt has circulated among environmentalists in developing countries since the early 1990s.[33] One definition signals "nature's vital heritage, necessary for its balance and reproduction, that has been consumed and not returned to it", including species and ecological conditions.[34] As its name suggests, ecological debt entails "ecological

[32] Source: Hickel, 2020, p. 403.
[33] Mickelson, 2005.
[34] Robleto & Marcelo, 1992. Also see Warlenius et al., 2015.

creditors", countries that deliver environmental resources (developing countries), and "ecological debtors", advanced industrialised countries that have used these resources without compensating for their ecological value. The concept of ecological debt highlights the circulation of ecological value from developing countries to developed countries for more than 500 years. This value originates and flows through landscapes of extractivism, which today are, as Maristella Svampa points out, part of a process of neoextractive development characterised by a "pattern of accumulation based on the overexploitation of generally nonrenewable natural resources"[35] – always at the expense of biodiversity. Thinking through ecological debt highlights that the wealth of developed countries today depends, and has historically depended, on the "extractive" devaluation of developing countries.[36]

Leading ecological economist Joan Martinez-Alier suggested two decades ago that a proper calculus of the ecological debt is far from complete, insisting on the need to develop a variety of instruments to estimate responsibilities and inequalities among nations.[37] Recent research has made similar claims. Goeminne and Paredis argue, for instance, that ecological debt can reorient intergovernmental negotiations on sustainability towards more historical understandings of environmental (in)justice, also noting the difficulties entailed in its calculus.[38] To dodge such difficulties, they argue for a variety of methods to complement the approach based on ecological debt. Here we present climate debt and material footprint as parametric approaches to estimate differentiated responsibilities among nations while connecting this planetary responsibility to biodiversity loss.

Climate and ecological debt

The Third World Network (TWN) defines climate debt as a combination of industrialised rich countries' "emissions debt" (excessive per person emissions) and "adaptation debt" (what developing countries require to adapt, both materially and financially). The sum of these debts, TWN observes, constitutes rich countries' "climate debt, which is *part of a larger ecological, social and economic debt* owed by the rich industrialized world to the poor majority".[39] Such wide framing of climate debt necessarily includes the loss of biodiversity. But the calculus of climate debt is not an easy task. According to the Transnational Institute, climate debt cannot be fully calculated as it encompasses more than 500 years of exploitation and plundering through unequal relations between developed and developing

35 Svampa, 2015, p. 66.

36 Dempsey et al., 2019.

37 Martinez-Alier, 1997. Also see more recent work in Martinez-Alier, 2014.

38 Goeminne & Paredis, 2009.

39 Third World Network, 2009, p. 1 (emphasis ours). The concept of climate debt was taken up by environmental movements in the early 2000s. According to Pickering & Barry (2012), in its most general approach, climate debt represents a frame to understand how responsibility for climate change should be shared among nations. For more, see Warlenius, 2018.

countries.[40] But efforts have been made to quantify inequalities among countries resorting to shorter time periods. For instance, Matthews developed a framework to quantify carbon and climate debts between 1990 and 2013, measuring greenhouse emissions from traditional sources and from land-use change, alongside their effects on climate warming.[41] His results highlight the United States as the leading country above their share of CO_2 emissions and land-use-change-induced climate warming. In contrast, India has the lowest per-capita carbon emissions and land-use changes in relation to its per-capita share.

Almost a decade before Matthews, Srinivasan et al. elaborated a framework to estimate human activities' environmental costs between 1961 and 2000 and quantified these costs relating to low, medium, and high-income countries.[42] The authors estimated each group represented 32%, 50%, and 18% of the world population, respectively, and yet, they were separately responsible for 13%, 45%, and 42% of greenhouse gas (GHG) emissions, respectively. In terms of the revenues extracted from biodiversity loss, the external costs from the degradation caused by deforestation represented up to 52% of industrial roundwood and fuelwood revenue,[43] while mangrove loss sustained up to 63% of aquaculture fisheries revenue.[44] Regarding consumption, Srinivasan et al. observe that between 1980 and 2000 low- and medium-income countries have sent 96% of their shrimp exports to high-income countries (presenting the largest disconnection between suppliers and consumers), while agricultural products and wood products were largely consumed within the groups in which they were produced (94-98%).

The material footprint of global trade and consumption

International trade theory suggests that all parties benefit from capitalising on their comparative advantages. But ecological economics research suggests this is not the case, particularly when one accounts for the transfer of materials, energy, land, and labour embodied in commodities and services traded between regions with differing economic power. One recent study examined the regions of origin and final consumption for four resource groups: materials, energy, land, and labour in the global economy from 1990-2015. They found that the "value added per ton of raw material embodied in exports is 11 times higher in high income countries".[45]

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40 Bullard, 2010.

41 Matthews, 2016.

42 Srinivasan et al., 2008.

43 Srinivasan et al. (2008) cite FAO to support this claim: Food and Agriculture Organization of the United Nations (2005), Global Forest Resources Assessment 2005 (FAO, Rome), FAO Forestry Paper 147.

44 According to Srinivasan et al., since 1980, there has been a loss of 35% of mangrove area.

45 Dorninger et al., 2020, online first, no page numbers.

With the exception of China and India, what they term ongoing "ecologically unequal exchange" effectively "allows high-income countries to simultaneously appropriate resources and to generate a monetary surplus through international trade".[46]

Another line of research has tried to address countries' dependency on international trade of raw materials that drive extraction and biodiversity loss. Wiedmann et al., for instance, propose an indicator called the "material footprint" (MF) defined as "the global allocation of used raw material extraction to the final demand of an economy" with the goal of signalling a country's responsibility – in terms of consumer responsibility – for "impacts associated with raw material extractions worldwide".[47] International trade, the authors observe, relies on the extraction, processing, and transporting of raw materials, pushing biodiversity loss further.[48] A result Wiedmann et al. highlight is the elevated rate of global raw materials that goes to the sustenance of exports; according to the authors, two-fifths of all global raw materials are "extracted and used just to enable exports of goods and services to other countries".[49]

The impacts of global trade are multifarious and differ across territories and scales. For the case of biodiversity impacts, Chaudhary and Brooks recently estimated the global biodiversity impacts caused by per-country consumption and those impacts associated with international trade.[50] Projecting IUCN (International Union for Conservation of Nature) scenarios of species extinctions combined with land-use projections, the authors show that 927 species are projected to go extinct due to global land use; 25% of these extinctions are directly resulting from production for exports.

What about domestic wealth inequalities & responsibility?

Indicators that calculate unequal responsibilities among nations, such as ecological debt, climate debt, or material footprint, are attempts to bring the ecological crisis into parametric frameworks with formulas to implement payment systems agreed upon during climate negotiations. However, it is crucial to bear in mind that in addition to quantifying climate debt among countries, socioeconomic and socioecological inequalities within countries that lead to what we may call "domestic ecological debts" are still a matter of concern. As decades of environmental justice research and advocacy show, the costs and benefits of ecological change are vastly inequitable globally and locally, often marked by class, racial, and gender lines (a topic we return to in the section below). A recent

46 Ibid, online first, no page numbers.
47 Wiedmann et al., 2015.
48 Ibid., p. 6275.
49 Wiedmann et al., 2015, p. 6272.
50 Chaudhary & Brooks, 2019.

publication in *Nature Communications* makes this point clear. Wiedmann et al. argue that "affluent citizens" are responsible for most environmental impacts.[51] According to the authors, the primary drivers of environmental change are, by far, consumption and technological change, making specific human activities more damaging in terms of the impacts they cause on the climate. In this vein, the authors insist that any green transition needs to achieve "far-reaching lifestyle changes". However, such changes are not readily achievable, since the super-affluent have vested interests in "maintaining the capitalist system and favourable conditions for capital accumulation", which can lead to political influence and corruption to support environmentally-damaging activities.[52]

In sum, work quantifying ecological debt, climate debt, and material footprint is useful for fleshing out historical patterns concerned with who benefited from ecological damage, and who bore the costs of these changes. This necessary work should bring wealth inequalities to the forefront, understood to exist both among and within nations. Drawing from the World Wildlife Fund (WWF)'s Global Futures Report, McElwee et al. claim that "no sustainable future that meets both human needs and stays within planetary boundaries is possible without decreases in consumption among the wealthier nations".[53] It is clear that consumption practices among the rich require substantial transformation, but they should not detract from addressing structural inequalities and historically patterned forms of injustice. As researchers like Michael Maniates show, social movement activism focusing exclusively on consumption can obscure the role of structural wealth inequalities that fuel overconsumption, and direct our attention away from the need for political, economic, and social change in order to achieve more equitable use of the world's resources[54] – a substantial transformation necessary to keep and nurture biodiverse life on this planet.

51 Wiedmann et al., 2020.
52 Ibid., p. 4.
53 McElwee et al., 2020, p. 15.
54 Maniates, 2001.

Part 2
Understanding the global political economy of biodiversity loss

Reports on biodiversity finance from states, bankers, and conservation organisations explain ongoing biodiversity loss by gesturing to the disjuncture – the gap – between current financial resources and the necessary resources to adequately support the conservation and sustainable use of biodiversity. In this part of the report, we survey broader political economic trends that can help explain why resources are so small, and why resources are often ineffective compared to ongoing investments in extractivism. Across all the sections of Part 2, we ask: what are the overarching political economic conditions constraining CBD implementation?

This section travels some distance from what is usually considered in discussions of biodiversity policy and finance. Many of the changes required to reshape the structural drivers will have to occur through a range of institutions that shape the global economy, far from the Ministries of Environment and far from the Convention on Biological Diversity. This research suggests the importance of not simply mainstreaming biodiversity domestically into Ministries of Finance and Natural Resources, as the CBD has advocated for many years, but mainstreaming it into the global political economic structures – into trade and financial rules.

2.1 The ability of countries to implement the objectives of the CBD is hampered by the debt-austerity nexus
2.2 Inequity-reinforcing policies, corporate-focused trade rules, and investment policies further entrench drivers of biodiversity loss.
2.3 Biodiversity finance is outpaced by harmful subsidies that are challenging to identify and reform

2.1 The ability of countries to implement the objectives of the CBD is hampered by the debt-austerity nexus

Introduction

The logic of austerity is baked into neoclassical economics, the ideological infrastructure of the global economy.[55] While global and regional inequality continues to grow, key institutions and policy "common sense" continue to push for ever-

[55] Hickel, 2017; Blyth, 2013.

increasing levels of "free" trade and investment while limiting the capacity of governments to manage its deleterious effects. This common sense continues to hold sway even as some of its key proponents, like the IMF, have started to publicly doubt its effectiveness for improving the outlook for most of humanity or the natural environment.[56]

Yet despite this questioning, austerity remains on the global agenda, now either repackaged as a fundamental component of resilience[57] or framed in more familiar and explicit terms like "belt-tightening", which has already led, for example, Namibia to privatise and auction off fishing rights.[58] COVID-19 has shown that governments can and will reach into deep pockets, and that international institutions like the IMF will quickly lend to countries to meet urgent health and social protection as they did in September 2020. But research shows that most (84%) of these loans require fiscal consolidation measures – austerity – as early as 2021.[59] In this section, we are primarily focused on understanding how austerity and debt hinder the achievement of CBD objectives.

Key points

- Austerity impedes the achievement of CBD objectives
- Bilateral and multilateral austerity fuels environmental injustice
- Debt-servicing continues to impede sustainable use and conservation of biodiversity

Austerity impedes the achievement of CBD objectives

The logic of austerity and the serious funding constraints it produces for environmental regulation are hampering the achievement of CBD objectives. The first UN report on Environmental Rule of Law makes this clear, finding that many environmental laws are unimplemented or unenforced around the world as implementing ministries are "often under-resourced and under-funded".[60] Recent models show that domestic conservation spending is tied to changes in biodiversity. Waldron et al. show that increased state investment in environmental regulation and enforcement results in less biodiversity loss, while correcting for pressures like economic growth and agricultural expansion.[61] Using this model the authors estimate that reductions in biodiversity loss can accrue from as little as USD 5 million in additional spending per annum; their model predicts that, for example, biodiversity

56 Ostry et al., 2016.
57 Daar & Tamale, 2020.
58 Africa Defense Forum, 2020; Munevar, 2020.
59 Daar & Tamale, 2020.
60 United Nations Environment Programme, 2019a.
61 Waldron et al., 2017.

loss would decline by 33% for Papua New Guinea and 54% for Peru with a USD 5 million annual investment in conservation. Another study focusing on Australia concluded it is spending only 15% of what is needed to avoid extinctions and recover threatened species,[62] demonstrating that lack of public expenditure is not just a problem in the developing world, but a global problem.

This is not to say that more conservation spending is a silver bullet, but that increased state spending can contribute to robust regulation and enforcement that contributes to CBD objectives. The need to dramatically ramp up public spending is echoed in the Third Report of the Panel of Experts on Resource Mobilization, who note that

> "The public sector should continue to play a lead role in providing a sustained flow of resources for biodiversity conservation, sustainable use and restoration. The public sector should increase direct domestic expenditure in recognition of the level of ambition in the post-2020 global biodiversity framework for achieving the three objectives of the Convention. This will be an essential component of increasing resources for biodiversity, recognizing that many biodiversity-positive projects will need to be financed out of public funds, given the fundamental nature of public goods, and an understanding that, while it will be important to increase private sector finance, this alone will never be sufficient for meeting all of the challenges of achieving the post-2020 global biodiversity framework."[63]

Further exacerbating austere spending on conservation, some countries have imposed legal restrictions on civil society advocacy, including restrictions on funding. That is, some countries are starving and criminalising the very entities that can help ensure environmental laws are followed and, in many cases, created.[64] The critical need for highly active environmental third sector actors can also be emblematic of austerity governance, as under-resourced governments and environmental bureaucracies rely on NGOs and charities to fill gaps in public services. This is especially true as austerity has drained capacity, or limited capacity development, for mainstreaming biodiversity in national law-making and regulation. This is a point also made in the Third Report of the Panel of Experts on Resource Mobilization, noting that mainstreaming will require advancements in national capacity.[65]

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62 Wintle et al., 2019.

63 Convention of Biological Diversity, 2020b, para 27, A.

64 See Tendayi Achiume, 2019.

65 Convention on Biological Diversity, 2020a, para 68.

Austerity and taxes

A major cause of public austerity can be found in inadequate tax regimes. One trend over the past decades is a reduction in corporate tax rates. As Reyes summarises, the US corporate tax rate has gone from 50% in the late 1960s down to 21% in 2017, the UK went from 45% in the late 1960s to the rate of 18% in 2018, Eurozone tax rates have also declined in just the past 15 years from 37% to 24% in 2018.[66] This corporate tax "race to the bottom" erodes "the tax base for public investment", including needed investments in health, green energy and implementation of the CBD.[67] These low corporate tax rates are compounded by tax avoidance and evasion by corporations and the super wealthy, further reducing public resources, leading to further austerity.[68] Ending this race to the tax bottom is a multilateral effort that will require regulating global capital. As Kozul-Wright states, there are ideas and initiatives advancing these discussions, including "clamping down on tax havens in the North, establishing a global asset registry to enable wealth taxes on the super-rich and moving to a unitary taxation system that recognizes that the profits of international corporations are generated collectively at the group level".[69]

Bilateral and multilateral austerity fuels global environmental injustice

The most recent (2020) OECD report on biodiversity finance provides rough estimates for different funding streams earmarked for biodiversity conservation under the umbrellas of public domestic, public international, and private finance. The report finds aggregate spending of between USD 78-91 billion per year between 2015 and 2017, with the vast majority accounted for through public domestic expenditure, and 95% of public expenditure accounted for by OECD countries.[70] However, the authors shy away from generalising about concrete trends up or down due to reporting and data inconsistencies. The authors cite lack of common reporting methods, issues of double-counting, and troubles with voluntary reporting as reasons why their dollar estimates of spending are conservative, flawed, and/or in large ranges. This gap in reporting is a problem in and of itself (and, as the authors note, could be rectified through CBD action), but we can still anecdotally characterise changes in different types of spending that relate to CBD objectives by drawing from other sources. The picture is discouraging, but consistent with what we know

66 Reyes, 2020, p. 119.
67 Ibid, p. 126.
68 Reyes, 2020, Kozul-Wright, 2020.
69 Kozul-Wright, 2020, p. 160.
70 Organisation for Economic Co-operation and Development, 2020a, pp. 3, 9.

of austerity as a global phenomenon, particularly as it relates to public spending on public goods like biodiversity.

First, the bulk of biodiversity spending occurs through domestic OECD public investment in their own countries, so there is a serious spatial mismatch between priority areas for biodiversity and application of capital. This is a problem for achieving global targets, leaving aside the role of solidarity finance for paying back the ecological debts – and of CBDR obligations – discussed in Part 1 of this report. Second, the upper bound estimated by the OECD shows biodiversity funding through official development aid topping out at USD 9.3 billion between 2015 and 2017, well short of even the lowest bound estimate of USD 103 billion, much less the upper bound of USD 895 billion that was estimated as necessary by the Second Report of the Panel of Experts on Resource Mobilization.[71] While ODA, in its current form, is unlikely to comprise the majority of financial resources for conservation, ODA represents less than 10% of projected needs even at the lowermost bound.

Post-financial crisis ODA has been mostly flat in real terms and falling relatively. Only five countries met the OECD target of 0.7% GNI for ODA in 2018. In a recent review of financial mechanisms for meeting the SDGs, Clark et al. find that the investment needed for SDGs is between USD 3.3-4.5 trillion for developing countries, but in 2015 ODA was only USD 132 billion across all 18 categories.[72] While the tendency is to turn to the private sector as the pot at the end of the rainbow, section 3.2 reviews the track record of private investment for achieving CBD objectives, finding private investment to be limited in scale and scope, geographically constrained and in a perennial "proof of concept" phase. Given the social, environmental, cultural,and even existential consequences of failing to acheive the SDGs in communities across developing countries, this mismatch between rhetoric and reality requires urgent correction.

But, in line with the conclusions of this report, it is crucial to note that funding alone is no silver bullet. There is literature that suggests that certain types of environmental aid can increase trends like deforestation. One study found that Norwegain bilateral aid for conservation had no impact on forest loss – with troubling implications for focusing new initiatives on NBS.[73] Another study examined the impact of conservation aid on deforestation rates in 42 African countries between 2000 and 2013, concluding that conservation aid is correlated with deforestation.[74] The study suggests that the amount of aid, the type of aid (to protected areas, which can displace people and lead to leakage), the short-term nature of the aid, and lack of good forest governance, is no match for the underlying forces driving deforestation.

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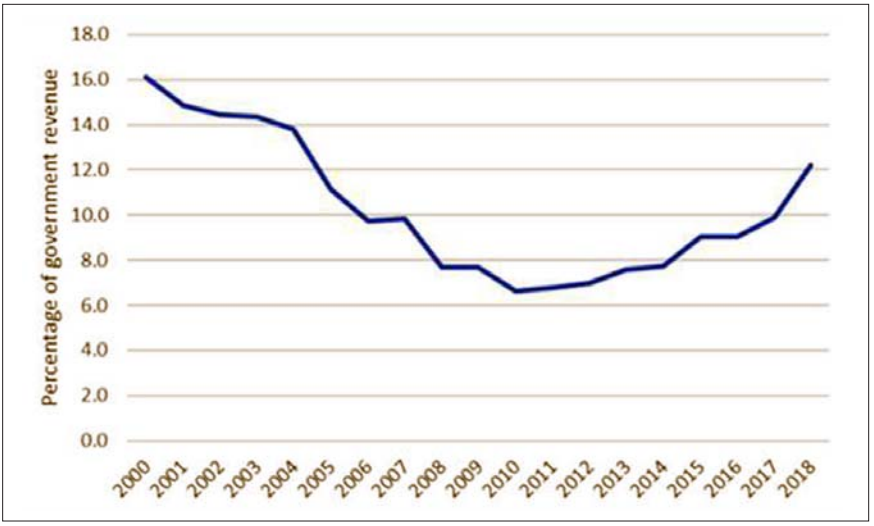
71 Convention on Biological Diversity, 2020c.

72 Clark et al., 2018.

73 Hermanrud & de Soysa, 2016.

74 Bare et al., 2015.

Figure 3: Debt service costs were already on the upswing pre-COVID-19. Developing world only.[75]



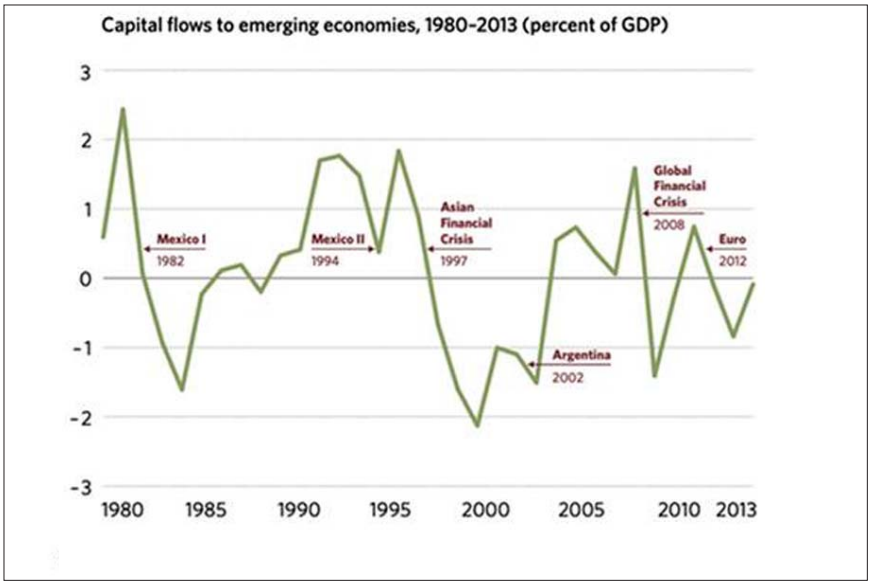
Debt-servicing continues to impede sustainable use and conservation of biodiversity

With the globalisation of financial markets, capital has become more free, resulting in "surges" of capital flow to developing countries, stopping and starting as crises emerge. Alongside the periodic crises of public accounts produced by tidal flows and ebbs of "hot money",[76] there has been an enormous growth in debt loads all over developing countries (see Figure 3). Estimates of developing countries' debt are around USD 11 trillion, with debt service estimated at USD 3.9 trillion annually. This figure dwarfs official CBD projections on the costs of stabilising biodiversity loss (estimated at USD 895)[77], although the precise mechanisms for achieving that stabilisation must continue to evolve and be subject to debate based on new evidence regarding both effectiveness and equity issues. Over the last decade, debt service has comprised an increasing share of developing countries' expenditures as low-interest rates in developed countries, coupled with a sluggish recovery from the 2008 financial crisis, prompted well capitalised lenders to send capital to developing countries. Developing countries' average debt payments as a proportion of GDP more than doubled between 2008 and 2017.[78] While increased access to funds for developing countries is imperative to achieve all manner of environmental and social priorities, it has come at the cost of spiralling debt service.

75 Jubilee Debt Campaign, 2019.
76 Alami, 2019.
77 Convention on Biological Diversity, 2020c.
78 Jubilee Debt Campaign, 2020.

The Jubilee Debt Campaign found that, between 2010 and 2019, developing countries' debt service payments grew by 85%, now comprising more than 12% of all developing world government expenditure.[79] Furthermore, low-income countries have small domestic lender bases, so the vast bulk of borrowing is foreign-denominated, making borrowing nations vulnerable to developed countries' monetary policy change and reliant on foreign currency to make payments. The need to acquire foreign currency to service debt incentivises exports that can bring in international reserve currencies, particularly extractive commodities.[80] In turn, the 2014 commodity crash pushed exporters into further debt as demand collapsed, significantly restricting public spending in many countries that are dependent on raw material exports, hold foreign-denominated debt, and are home to high-risk areas of significant biodiversity.

Figure 4: "Hot money" contributes to developing countries' macroeconomic instability, which contributes to poor biodiversity outcomes[81]



What's at stake in all this debt? One might describe our contemporary political economy as a debt-peonage society, where even in times of financial crises debt-holders make out just fine while debtors shoulder the pain; developed countries' governments and international institutions bail out the owners of capital, leaving the realised risks to the less powerful and most vulnerable.[82] This cycle of private

79 Jubilee Debt Campaign, 2019.
80 Ibid.
81 Jubilee Debt Campaign, 2020, building on UNCTAD statistics.
82 Gallagher & Kozul-Wright, 2019; Krugman, 2005.

debt has been termed "privatized Keynesianism".[83] That is, unlike Keynesianism that staves off crises with public finance, private financiers are emboldened to take evermore risky positions by developed countries' governments' track record of bailing out asset owners, creating speculative bubbles. In the subsequent crash, when private finance becomes scarce, private debt becomes unpayable. Then, enter stage left: bailout. As Gallagher and Kozul-Wright explain, "one of the lessons is that we need more true public capital and less reliance on promiscuous private capital."[84] This is also true of the international debt system, where private debt was the catalyst for the 1980s debt crisis, and which could credibly form the cornerstone of the next crisis.[85]

While private lending became a smaller proportion of developing world external debt during the era of structural adjustment, its proportion has been creeping up again as excess liquidity and quantitatively-eased financial markets scour the world for yield. These yields are often found in extraction, which then go untaxed as profits routed through secrecy jurisdictions or simply undertaxed by home governments, further driving and justifying austerity. More concretely, rising levels of debt service are directly related to falling domestic spending. In 10 of the 15 countries with the highest debt service payments, per capita public spending fell between 2016 and 2018; conversely, among the 15 countries with the lowest debt service, public spending *rose* by 11% across the group and fell in only two.[86]

Given the potential for even small additional state appropriations to have big biodiversity impacts, the siphoning of state revenues to service debt leads to poor environmental outcomes. Indeed, higher levels of debt have been linked to greater levels of biodiversity loss. A study by Shandra et al. concluded that both debt service and structural adjustment were significantly related to greater threats to mammal and bird species.[87] The explanation is straightforward – higher levels of debt mean a greater need for countries to increase exports to service debt, particularly foreign-denominated debt, which often means the intensification of agricultural or other kinds of extraction for export that, perversely, further threatens biodiversity loss. For example, Bolivia underwent the "shock therapy" of the IMF and World Bank, requiring them to undertake "currency devaluations; road construction; export tax rebates; reduction of import taxes; and suppression of price controls", all meant to attract national and international investment.[88] Policies were enacted to increase export earnings needed to facilitate loan repayment, which led to the increase of

83 Crouch 2011, discussed in Gallagher & Kozul-Wright 2019.
84 Gallagher & Kozul-Wright, 2019, p. 15.
85 Plender, 2020.
86 Jubilee Debt Campaign, 2020
87 Shandra et al., 2010.
88 Redo, 2011, p. 231.

foreign actors, particularly in agriculture. Critically, the effect was an increase in deforestation and unequal land distribution.[89] Chile also experienced rapid growth of export-oriented forestry after its forests were privatised and all export restrictions lifted, and there are links between these policy changes and the loss of old growth forests with widespread conversion to plantation forestry,[90] with similar outcomes reported in Indonesia and Cameroon.[91]

Even in light of the challenging economic situations in which countries around the world find themselves, economic recovery and improved conservation measures are realisable with just a bit more imagination and solidarity than reverting to austerity-as-usual. As Jayati Ghosh recently put it, "Covid-19 has made one thing clear: Internationalism is not a luxury. It is a necessity."[92] This internationalism must reckon with the entrenched logics of austerity and the institutions that solidify discourses of fiscal rectitude, but the intersection of our various crises – economic and environmental – is an opportunity to use evidence-based policy that can start to contend with the results of previous policy mistakes. For example, rather than insist on debt-repayment driven by export earnings from extractive industries, debt-forgiveness is increasingly recognised as sound policy for achieving SDGs, and, we suggest, CBD objectives and decisions.[93] Debt cancellation may have all manner of salutary impacts, improving countries' balance sheets to free up investment in conservation, improving infrastructure and services that reduce dependence on extraction, and improve the enforcement of environmental regulations. Besides debt-cancellation being a sound policy position, the contemporary norm that debt must always be repaid by indebted states is contested by the legal concept of "odious debt", which claims that a debt is illegitimate "if the debt was incurred (1) without the consent of the people, *and* (2) not for their benefit".[94] Legal scholarship thus also calls into question the normative foundation on which creditor claims rest.[95]

But debt cancellation is not enough. In the short term, debt relief will be important, as will providing crucial funding to public health systems, which could include environmental protection as a holistic component of human well-being – a critical intervention given the zoonotic origin of COVID-19 and the potential for more diseases to jump to humans as habitats continue to shrink.[96] In the medium term, the global financial and aid systems will require wholesale reckoning with austerity and rules governing investment and trade if biodiversity targets, or indeed the SDGs more broadly, are to be met. But despite internationalism evidently being

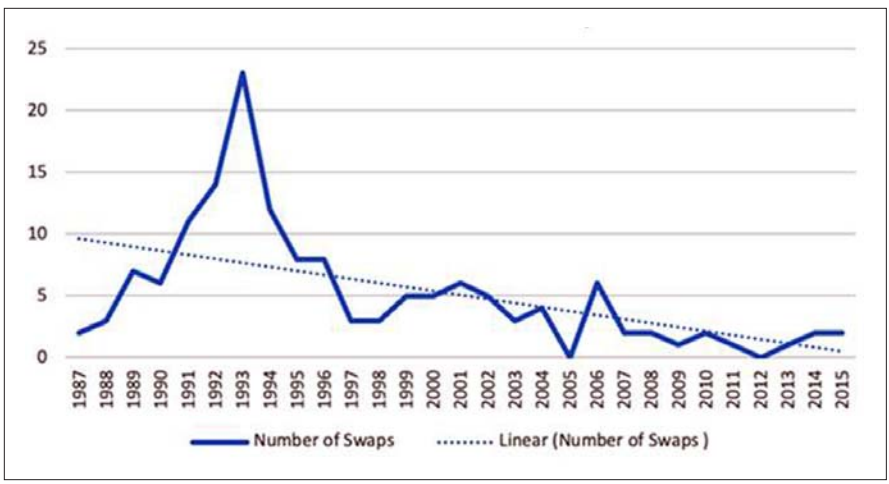
89 See Hecht, 2005; Redo, 2011.
90 See Liverman & Vilas, 2006; Clapp, 1998.
91 Kaimowitz et al., 1998.
92 Ghosh, 2020.
93 UNCTAD, 2019.
94 Lienau, 2014, p. 8.
95 For a broader discussion of illegitimate debt, see Hanlon, 2002.
96 Tollefson, 2020

a necessity, as of now, the IMF's attempts to deal with debt for highly indebted countries in the face of the COVID-19 pandemic seem to be locking countries into yet another lost decade of austerity.[97]

Debt-for-nature swaps?

Debt-for-nature swaps (DNS) are agreements where donors (governments, organisations, or a combination of private and public) reduce a highly-indebted country's debt burden in return for some conservation/sustainable action on the part of the debtor nation. The funds generated have typically been used to establish, maintain, and monitor protected areas.[98] The majority of these swaps took place in the 1990s but have nearly ceased after their peak in 1993.

Figure 5: Total number of Debt-for-Nature Swaps 1987-2015[99]



Several factors account for this decline. For commercial debts involving third parties (such as Conservation International, TNC, and the World Wildlife Fund), this is likely due to declining costs of debt servicing. One researcher speculates that these declining costs may be tied to the end of the Brady Plan which allowed highly indebted countries partial debt forgiveness if the remaining debt were restructured as bonds that could be traded on securities markets.[100] When the programme ended, the price of debt went up while financial leverage decreased and conservation organisations chose to

97 Munevar, 2020.

98 Deacon & Murphy, 1997.

99 Sheikh, 2018. The author notes that some debt transactions during this time period may not be represented in this figure due to limited data available from international sources and organisations.

100 Sheikh, 2018.

explore different financial instruments. The same researcher accounts for the decline of the United States' involvement in DNS as stemming from a change in appropriations. Prior to 1991, no appropriations were necessary to cancel debt, however, the Federal Credit Reform Act of 1990 required the use of Net Present Value (NPV) in calculating future swaps. Meanwhile shifting US policy emphasis (away from deforestation) meant that relatively greater amounts of debt could be cancelled through other programmes, like the Heavily Indebted Poor Countries (HIPC) initiative. The HIPC, created by the World Bank and IMF, offered more favourable rates to debtors willing to undertake austerity measures.[101] In this context, the policy that the US uses to make these swaps, the Tropical Forest Protection Act, was dormant from 2014 until its re-authorisation in 2019. This impact can likely be seen internationally as well, where no bilateral DNS agreements were reached between 2007 and 2012.

Recent reviews indicate that the US government is responsible for 64% of all debt forgiveness from these swaps, cancelling the debt of over USD 1.9 billion in low- and middle-income nations, and generating USD 550 million for conservation.[102] Other developed nations are responsible for USD 1 billion of debt, generating about USD 500 million for conservation purposes.[103] While the amount of sovereign debt retired by creditor nations may appear large, the amount of commercial debt retired has been relatively small. One researcher notes that even during their peak the overall volume of trade in commercial debt was small, totalling USD 134 million between 1987-1997.[104] The same research group also concludes that it is unclear if these swaps represent new and additional funding, or involve donor countries shifting their funds around, a point made in a UNDP overview of DNS.[105]

Although the DNS heyday has passed, there is growing interest in these mechanisms and new experimentation, such as the USD 21.6 million deal struck by The Nature Conservancy and the Seychelles.[106]

How well have swaps worked? It's difficult to know in the aggregate. A recent UNDP document states: "It is impossible to provide a detailed account of DNS [debt for nature swaps] due to patchy information."[107] The literature that does exist suggests mixed outcomes. One recent review focused on the US transactions suggests there is a correlation with reduced deforestation.[108] Other studies point to short-term gains, such as improvement of local capacity to manage forest resources, followed by declines once the funding generated from the swap ended.[109] This latter point about lack of

101 Cassimon et al., 2011; Ruiz, 2007; Sheikh, 2009; Sheikh, 2018.
102 Cassimon et al., 2011; Sheikh, 2018.
103 Ibid.
104 Ibid.
105 Cassimon et al., 2011; United Nations Development Programme, 2017.
106 Silver & Campbell, 2018.
107 United Nations Development Programme, 2017.
108 Sommer et al., 2020.
109 Gockel & Gray, 2011.

continuity and also limited monitoring of results is also made in a 2006 review article.[110] Cassimon et al. closely examined swaps between the US and Indonesia, noting the difficulty of assessing the impact of the USD 22 million total transactions. They suggest that these swaps lacked incorporation into government structures and conclude that due to the small amount of debt forgiven compared to the size of Indonesia's debt load, it had little impact on the need for Indonesia to advance extractive development to meet debt obligations.[111]

Several studies and overviews question the complexity of these instruments, with some pointing to how they duplicate institutions which monitor and administer funds, and can increase the role of international or non-domestic actors in natural resource or environmental decision-making.[112] The latter stems from new trust funds that can be established to manage the new funds, which often include board members from outside organisations. This same point is raised in a recent review of the Seychelles deal, where a trust fund established to manage funds includes The Nature Conservancy (TNC). Given their role in the swap and in the trust fund, TNC has come to have a large role in the planning and implementation of a marine spatial plan for the country's entire exclusive economic zone (EEZ).[113] This Seychelles swap, the same researchers note, allows the Government of Seychelles to "meet its IMF debt-to-GDP benchmarks and show itself to be a proactive player in its own economic future". But connecting the dots, the researchers argue that the result is "the entirety of the Seychelles' EEZ has been enrolled as both subject to, and an asset in, macroeconomic restructuring; a stronger hand for neoliberal logics, institutions, and property arrangements in its governance has no doubt been secured".[114] In sum, these authors suggest there is a real risk that these kinds of deals push countries to give up sovereignty over their natural resources because of the imperative to lower their debts.

If there is a growing new wave of DNS on the horizon, there is also the question of the monetary valuation of the nature part of the swap. Silver and Campbell undertake a kind of thought experiment, noting that a conservative estimate of the economic value of the ecosystem services supposedly protected by the TNC-Seychelles deal comes in around USD 52.5 million. Yet the entire debt swap deal totalled only USD 21.6 million. If these deals result in reductions in national control, and they truly are delivering global biodiversity benefits, it appears that the Seychelles may have let their resources go far too cheap.[115]

110 Reilly, 2006.

111 Cassimon et al., 2011.

112 Cassimon et al., 2011; UNDP, 2017; Silver & Campbell, 2018.

113 Silver and Campbell, 2018. As noted by other researchers, this debt swap involved a marine spatial plan where artisanal fishers were not adequately represented. See Schutter & Hicks, 2019.

114 Silver & Campbell, 2018, p. 250.

115 Silver & Campbell, 2018.

2.2 Inequity-reinforcing policies, corporate-focused trade rules, and investment policies further entrench drivers of biodiversity loss

Introduction

If austerity is one of the key ideological and policy underpinnings of the operation of the global economy that has significant ramifications for the achievement of the Aichi targets, the other structural economic pillar is the policy and practical preference for "free trade" and free-roaming capital investment. Under the Washington consensus (or neoliberal consensus), enabling norms and rules allowed footloose financial firms and corporations to invest freely around the globe, expanding investment in extractivist activities in developing countries focused on mineral and fossil fuel extraction, monocultural agricultural expansion, forestry and fisheries operations, all of which are known direct drivers of biodiversity loss.[116] Indeed, one set of researchers call the large corporations that control much of the supply chains "keystone actors of the Anthropocene", meaning like keystone species in ecosystems, these companies play a dominant role in shaping contemporary socioecologies.[117] In what follows we explore how trade, investment rules, and extractivism intersect with ongoing biodiversity loss and the difficulty of implementing CBD decisions.

Key points

- International trade and the free movement of commodities and capital are critical drivers of biodiversity loss
- Focus on comparative advantages and export of primary commodities, even when entangled with the green economy, continues extractivism and uneven geographical development
- Racialised, gendered, and wealth inequalities fuel extractivism and exacerbate domestic and international ecological debts

International trade and the free movement of commodities and capital are critical drivers of biodiversity loss

Global investment and trade, and the rules that govern it, have a significant relationship to biodiversity. Trade agreements, whether bilateral, regional, plurilateral or multilateral, have continued to proliferate over the last two decades and continue to be actively sought by states.[118] These agreements not only ramp up protections for private investors (for example by conferring rights for foreign investors to directly sue host governments in secretive private arbitration for legitimate measures to

116 IPBES, 2019.
117 Österblom et al., 2015.
118 Maluck et al., 2018.

protect biodiversity and the environment) but also can effectively privatise conditions of production. A prime example of this is the expansion of trade agreements to include intellectual property rights (IPRs) (the international minimum standard being the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights) to include parts of nature, like microorganisms. This has led to increased incentives for misappropriation of genetic resources, or "biopiracy", without fair and equitable benefit-sharing, directly undermining the third objective of the CBD.[119]

And while the era of big regional or global trade agreements seems to have stalled after the Doha Round of WTO negotiations, this masks the rise of bilateral free trade agreements between either a developed and a developing country or developed countries' trade blocs to developing countries. These bilateral trade deals put developing countries at a significant negotiating disadvantage, often advancing an environmental race to the bottom. There have been some efforts to add biodiversity protections into trade deals, but the fact remains that chapters like investment or intellectual property tend to take precedence (legally and politically) over environmental or sustainable development chapters in FTAs. There is also evidence that enforcement of those sustainability provisions varies radically, for example, between US and EU treaties.[120]

On top of this, free trade agreements actively incorporate investor protection mechanisms, such as investor-state dispute settlement (ISDS) or the recently introduced investment court system (ICS). Investor protection mechanisms enable transnational corporations to sue a state if it introduces legislation that may lead to lost profits for the multinational corporation. This threat of a lawsuit can thus lead states to not introduce ambitious environmental legislation.[121]

Global trade and investment agreements enable money to traverse the globe in secret. Countries in Africa miss out on more than USD 50 billion from multinational corporations each year in avoided tax – taxes that could be put to use as public investments (for example, to address the drivers of biodiversity loss).[122] Merely capturing a fraction of this untaxed revenue would provide important domestic funds for pursuing self-determined priorities rather than being tethered to external donor goals, giving country-ownership. In an age of hyperglobalisation for capital, secrecy jurisdictions and tax havens also play a more direct role in ecological overdraw. As Galaz et al. put it, tax havens "provide bad actors with opportunities to avoid financial scrutiny, reducing the impact of policies such as certification or supply chain monitoring. A recent study of tax havens found that 70% of known

119 Information on biopiracy can be found in Hammond, 2013; Hammond, 2014; further discussions on the relationship between digital sequencing and biopiracy can be found in Hammond, 2017; Laird and Wynberg, 2018.

120 Meyer, 2018.

121 Eberhardt, 2016; Khor, 2018.

122 United Nations Economic Commission for Africa, 2015.

fishing vessels implicated in illegal fishing are flagged in a tax haven, and that nearly 70% of foreign capital linked to the largest companies raising soy and beef in the Amazon, prime drivers of deforestation, were channeled through tax havens."[123]

The outcome of hyperglobalisation: wealth inequalities and super-charged extraction

Much of what has transpired in the last few decades validates the concerns of the anti or alter-globalisation movements of the 1990s as trade rules have eroded sovereignty, weakened environmental and labour laws, and contributed to galloping inequality.[124] These concerns were expressed at the 1992 Rio Earth Summit where the CBD was created, as civil society expressed fears about a race to the bottom and expanded development without standardised, international rules or regulations able to protect people and nature. And indeed the resulting flows of capital since Rio accelerated global environmental problems like climate change and biodiversity loss, while exacerbating inequalities. As one recent United Nations Conference on Trade and Development (UNCTAD) report puts it, "The problem is that while trade and investment flows have mushroomed under hyperglobalization, the package of accompanying policies, including special processing zones and massive subsidies to attract multinationals, offered by developing countries to encourage processing trade and by local communities in advanced countries desperate to attract jobs, has brought limited (economic) benefits."[125] While some growth has alleviated extreme poverty, the bottom 50% of the global income earners captured only 12% of growth between 1980-2016, while the top 1% captured 27%, and virtually all of the gains made by poor people were achieved in China. This radically uneven geography of economic growth has left most people, especially those in HIPCs, entirely excluded from whatever material and social benefits offered by expanded production and consumption.[126] Much of this inequitable growth is predicated on limited or under-enforced environmental law and policy.[127]

Trade and investment – and the agreements that govern them – continue patterns of ecological debt outlined in Part 1 of this report. The overall goal of these agreements is to push economic growth, with limited concern for its costs. As a recent UNCTAD report states, "Growth has become dependent on punishing levels of debt and a pace of resource extraction and energy consumption that is threatening the survival of the planet itself."[128] The hyperglobalisation of capital is linked to biodiversity loss because, even as volumes of trade and attendant financial

123 Galaz et al., 2018.
124 Mander & Goldsmith, 1996; Klein, 1999; Klein, 2007.
125 Gallagher & Kozul-Wright, 2019, p. 19.
126 Hickel, 2017.
127 United Nations Environment Programme, 2019.
128 United Nations Conference on Trade and Development (UNCTAD), 2019, p. 6.

flows have grown dramatically over the last 40 years, the material stuff that is traded continues to be dominated by raw or intermediate materials. The leading material exports for better than 75% of countries fall into these categories. Only East Asia, as a region, has finished goods as top material exports; in Sub-Saharan Africa and Latin America, virtually every country's exports are led by raw materials, either agricultural or mineral.[129] Scholars in Latin America characterise the region as going through a "reprimarization" of their economies over the past few decades.[130]

The case of invasive species

One of the ways trade causes damage to biodiversity is through the increased risk of invasives. This is, of course, not a new phenomenon, as the importation of invasives that damage local ecologies was a critical, if not always intentional, feature of colonial exploration, exploitation, and trade.[131] As the rules on trade have become less restrictive and global trade volumes have exploded over the last 30 years, Potter and Urquhart note that "the resulting unprecedented mixing of species across continents and ecosystems is surely one of the most profound manifestations of the Anthropocene".[132] Illustrating this point, it is no coincidence that the USA, being highly interconnected through both volume of trade and geographical diversity of trade linkages, is both the largest net sender and recipient of invasive species.[133] However, the threats posed by invasives are highly differentiated across scales and depending on the nature of the invasive. Developed countries are more likely to have resources and expertise for sophisticated bio-surveillance regimes, while developing countries, with fewer resources but increasingly interconnected into global trade networks, will face increased, but less well mitigated risks.[134] What is consistent across world regions, however, is the role of material trade practices, and in turn, the rules that govern them, in facilitating the spread of invasives. These threats are already responsible for significant biodiversity loss globally; for example, as much as a quarter of South African biodiversity loss is due to invasives.[135] Meanwhile, global agreements that are directly related to trade and biodiversity tend to focus on restricting traffic in endangered species, often involving militarised, violent enforcement in biodiversity-rich, cash-poor communities, a troubling fixation that is mirrored in bilateral ODA that focuses on enforcement rather than addressing drivers.[136] These compacts are focused on regulating very narrow types of trade in a handful of designated species, but do little to nothing to confront the drivers of the trade in those species, much less the broader political economic drivers of biodiversity loss, including trade itself.

129 UNCTAD, 2019b.
130 Brand et al., 2016.
131 Hulme, 2009.
132 Potter & Urquhart, 2017, p. 61.
133 Turbelin et al., 2017.
134 Early et al., 2016.
135 van Wilgen & Wilson, 2017.
136 Duffy et al., 2019; Masse & Margulies, 2020.

"The financial sector is bankrolling the mass extinction crisis, while undermining human rights and indigenous sovereignty"

Financialisation, including international investment into farmland trusts and the expansion of agricultural futures markets, is increasingly implicated in the expansion of intensive, industrial agriculture and attendant biodiversity loss.[137] Development banks keep pumping money into environmentally damaging agribusinesses.[138] One recent study found that high-profile banks like Goldman Sachs, JP Morgan, Bank of America, and Morgan Stanley are implicated in financing deforestation by delivering debt and equity financing to agribusiness to the tune of USD 44 billion.[139] Another report found that 50 of the world's largest banks had levels of biodiversity risk valued at USD 52 billion, on average. Adding it all up, these banks are underwriting more than USD 2.6 trillion into sectors known to be the drivers of biodiversity loss. This, they note, is an amount equivalent to Canada's GDP.[140] The report concludes, "The financial sector is bankrolling the mass extinction crisis, while undermining human rights and indigenous sovereignty."[141]

What's the answer? As the authors of the above report succinctly state, "[T]o prevent extinction, banks have to stop funding it." Yet, the emphasis since at least Rio has been on voluntary "regulation", a point we take up in section 3.4. Why voluntary given the outsized impact of the sector? In part it is because the financial sector is highly concentrated with a similarly outsized influence on international and national policy. As Reyes writes, "A key part of the problem lies in the structure of the banking system itself, in which power is concentrated in the hands of large 'too big to fail' banks", who have only consolidated their power since the 2008 financial crisis.[142] And they have used this power to impede reforms to their sector.[143]

More broadly, Piketty has clearly shown that holders of capital – particularly the most wealthy with the means to participate in the extension of debt or equity – tend to accumulate wealth more quickly than the economy grows. So the actors tied up in finance and the institutions themselves shore up their wealth and thus often power and influence over time, a concentration that is made easier without strong international tax regimes.[144] This influence has been exacerbated by trade and investment agreements, which have raised the bargaining power of capital compared to labour, "allowing corporations to repress wages and working conditions in both developed and developing countries".[145] The contemporary international

137 McElwee, 2020, p. 9.
138 Wasley & Heal, 2020.
139 Global Witness, 2019.
140 Portfolio Earth, 2020, p. 6.
141 Ibid., p. 9.
142 Reyes, 2020, p. 64.
143 Reyes, 2020, see also Vitali et al., 2011.
144 Reyes, 2020.
145 Gallagher & Kozul-Wright 2019, p. 6.

relations dynamic is one where "territorial power of strong states" is "intertwined with the extra-territorial power of footloose capital", a configuration that Kozul-Wright describes as a "mercantilist jungle" inimical to necessary multilateralism.

Capital is simply doing what prevailing political economic norms & states want it to do: expand the world economy

Banks, investors, trade and investment agreements are essentially achieving what they are set up to do: expand the world economy. The World Trade Organization (WTO)'s own research shows that trade and investment agreements tend to increase carbon dioxide emissions that underpin the climate crisis and are often coincident with biodiversity loss.[146] This is a finding whose effects are confirmed by more recent research by the United Nations Environment Programme (UNEP), which concludes that "90 percent of biodiversity loss and water stress are caused by resource extraction and processing".[147] The authors find that, to achieve some stabilisation, there must be "absolute reductions in per capita resource use in developed countries",[148] a finding which runs counter to the rules of engagement that currently govern international trade, and the global economy as a whole, which focus intently on expansion.

A review paper published in 2020 shows that economic growth, full stop, is implicated in biodiversity loss, through increased trade and resource use which leads to both land-use change, invasive species increases and climate change.[149] The same paper demonstrates that increased resource efficiency, or what is known as "decoupling" of GDP from resource use, is yet to occur on a scale and scope that can attenuate global environmental impacts and is unlikely to do so (barring massive technological innovation). Yet major global environment and development policies tend to still take an "unreflexive growth emphasis", an emphasis the review authors say stands in the way of "safeguarding biodiversity".[150]

While the reactionary response to the deleterious effects of free-floating trade and capital can be (and has been) isolationism, there is enormous room to produce a renewed multilateralism, a progressive internationalism able to foster solidarity across vast geographies. Any such reform, as a recent UNCTAD report states in relation to the climate action, "must ensure the maximum space to undertake financial regulations and debt workouts (...) policies for social welfare that are in line with the demands for a global green new deal, including the effective use of

146 Gallagher & Kozul-Wright, 2019, citing WTO-UNEP 2009 Trade and Climate Change report, p. 22.

147 United Nations Environment Programme, 2019b, p 27.

148 Ibid., p.95

149 Otero et al., 2020.

150 Ibid, p. 6. Similarly, a review of the literature on climate change and economic growth concludes that any kind of absolute decoupling of global warming and economic growth is highly unrealistic. See Kallis & Hickel, 2020.

subsidies to support structural transformation and the development of alternative energies and to re-engineer the production process of carbon-intensive industries".[151] It is not a stretch to add biodiversity to this line of thinking.

Focus on comparative advantages and export of primary commodities, even when entangled with the green economy, continues extractivism and uneven geographical development

The underlying theory that has driven the free trade agenda harkens back to outdated, discredited theories of development, particularly comparative advantage and linear paths to development.[152] "Free" trade undermines local industry as resources flow to established or protected manufacturing centres, and value-adding processes are concentrated in those centres of production. This leads to the lock-in of old manufacturing processes and ensures that exporters of raw materials remain dependent on those activities, limiting opportunities for economic diversification away from extraction, even in a "green" form. Unequal terms of trade, as well as dependency on countries with financial hegemony, severely limits development strategies based on classical economic theories like "comparative advantage".[153] As McAfee summarises, "No country in history has ever advanced up the international economic ladder by exporting primary commodities on 'free market' terms. Genetic resource primary commodities are no different in this respect."[154]

As McAfee gestures to with genetic resources, the dangers of a development strategy focused on the export of primary commodities are crucial to keep in mind in the current green energy boom, too. The imperative to increase raw material exports, often at the expense of ecosystems, will not be alleviated by the switch to "greener" technologies in developed countries, but instead often move to new, fragile ecosystems. For example, countries with significant lithium reserves are already signing bilateral export deals with battery-manufacturing countries, where the vast majority of the value will be added to finished products.[155] The same is true of rare earth minerals critical to the production of various "smart" consumer and industrial goods. In both cases, and countless others, the rules of global trade and geographies of consumption, expenditure and finance make it virtually impossible for resource-extracting countries to develop the infrastructure, technology, or adjacent industrial sectors to add value to their own raw materials, engendering a new circuit through which ecological debt accrues. Now, a push to the foreground NBS that makes responses to environmental crises primarily a matter of shifting

151 United Nations Conference on Trade and Development (UNCTAD), 2019a, p. 30.
152 Ferguson, 1999.
153 Felipe & Vernengo, 2002; Kaplinsky, 2005.
154 McAfee, 1999, p. 146.
155 Valle & Holmes., 2013.

land use in developing countries threatens to reinscribe the logic of comparative advantage that once led former World Bank president Lawrence Summers to declare that Africa was "underpolluted".[156] That is, rather than do the more challenging work of reducing the material throughput of developed, consumption-based economies, the onus will fall on the still-biodiverse developing countries to make significant and difficult changes because it is the "least-cost" solution.

The extraction of these new resources for ostensibly green technologies and products has profound local biodiversity impacts, from hypersalinity in Chilean lakes that destroys habitat for endangered migratory birds[157] to riparian damage and forest loss in sensitive ecosystems from both artisanal and large-scale coltan mining in the Democratic Republic of the Congo.[158] In each of these cases, and myriad others – from cut flowers in Kenya to oil palm in Indonesia – little of these biodiversity-adverse resources are upgraded or consumed locally. It is only through systems of international trade that wealthy nations can function as centres of demand at such a destructive scale. As developing countries are facing soaring debt levels in the face of the COVID-19 pandemic, the IMF has once again stepped in to demand fiscal consolidation.[159] Such austerity measures will structurally limit government spending in developing countries. A result of this is that these countries will be unable to invest in ambitious economic strategies that would otherwise be able to present an alternative to primary commodity production.

In summary, rather than pursuing biological diversity as yet another set of commodities ripe for export-led growth, we turn again to the insights of Gallagher and Kozul-Wright:

> "The rules and practices of multilateral trade, investment and monetary regime are in need of urgent reform. The rules are currently skewed in favour of financial and corporate interests, and powerful countries, leaving national governments, local communities, households and future generations to bear the costs of economic insecurity, rising inequality, financial instability, and climate change. The rules of the global trade and investment regime have been instrumental in delivering this unbalanced outcome.... The most effective efforts will be those that recognize the systemic nature of the challenge, rather than piecemeal policy tinkering."[160]

Yet, even policy tinkering is rare. Despite the role these sectors and their enabling "rules" play in perpetuating ecological decline, many efforts to reign in corporate and financial impacts have been voluntary.[161] The "economic efficiency"

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156 Pearce, 1992.
157 Gajardo & Redón, 2019.
158 Sonter et al., 2018.
159 Munevar, 2020.
160 Gallagher & Kozul-Wright, 2019, p 25.
161 See section 3.4 of this report.

promised by theories of comparative advantage (often promoted by international trade economists) not only represents negative externalities, but existential threats to nature, and as the next subsection argues, human life itself.

Racialised, gendered, and wealth inequalities fuel extractivism and exacerbate domestic and international ecological debts

While the problem of economic development and biodiversity conservation is often narrated as a trade-off between reducing poverty or reducing the impact on nature, the real story is much more complex. Who benefits and who bears the costs of extractivism matters, not only to identify who is negatively impacted, or to calculate national ecological debts, but because inequalities – along gender, racial, and wealth lines – can fuel extractivism, and thus fuel biodiversity loss and rights abuses.

This is perhaps made most clear by the UN Special Rapporteur on contemporary forms of racism, Ms E Tendayi Achiume, who in 2019 released an official report on the subject of global extractivism and racial inequality.[162] The report reaffirms what many communities have experienced for a very long time: the extractivist economy – ranging from mining and fossil fuels to large-scale forestry and industrial agriculture – is deadly. The report summarises: "Powerful States and their transnational corporations, and the political elites of weaker States that are territories of extraction, emerge as the clear winners. The populations of those territories of extraction bear the brunt of the extractivism economy, too often paying with their very lives."[163] And these impacts are far from evenly felt, with contemporary models of "extraction that rely upon or produce racial, ethnic, and Indigenous exploitation" that tend to perpetuate colonial inequalities, a point made by another UN Special Rapporteur on the Rights of Indigenous Peoples, James Anaya, in a 2012 report.[164] Rapporteur Tendayi Achiume links her research to the earlier work of the Special Rapporteur on violence against women, Rashida Manjoo, by highlighting the intersectional effects of extraction, with gender as a crucial axis: women living near extractive projects experience "increased workload...exclusions from consultations, and violations of sexual and reproductive rights".[165] The study also notes that women lack access to waged employment in the sector, with contractors and companies preferring to hire men. Patriarchy, Tendayi Achiume concludes, "operates within and through" extraction.

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162 Tendayi Achiume, 2019. In defining extractivism Tendayi Achiume draws from Brand et al., "the predominance of economic activities that are primarily based on resource extraction and the nature valorization without distributive politics" (p. 4).

163 Ibid. p. 2.

164 Quote from Tendayi Achiume, 2019, p. 10, 14-19; Anaya, 2012.

165 Tendayi Achiume, p. 18.

The international evidence compiled by Rapporteurs Manjoo, Tendayi Achiume, and Anaya illustrates the insights of feminist, Indigenous and Black scholars of economic development and capitalism: negative outcomes from economic development processes, falling too often along racial and gender lines, are not only outcomes or the results of extractivism, but rather constitutive of them.[166] As Sami scholar Rauna Kuokkanen explains, systems of oppression and economic processes of economic development "come into existence through each other".[167] Naomi Klein connects these widespread systemic social processes like racism and sexism to environmental degradation: these systems of oppression are not only an outcome of extractivist processes, but also legitimise extractivist developments.[168]

Gendered, racialised, and colonial hierarchies – the societal production of some as more or less human, or as more or less important – cannot be dissociated from ecological crisis, as those systemic hierarchies render some people and species more sacrificial than others, more available to be poisoned, or to have their land and communities polluted or extracted from. What this research and analysis bring to the fore is the role that systemic racism, sexism, and class divisions play not only in perpetuating wealth inequalities (within and between countries) but also in perpetuating extractivism and thus biodiversity loss. With these drivers of biodiversity loss in mind, one can consider anti-racism, decolonial, and feminist movements crucial planks of biodiversity strategies, even if they don't directly address issues of ecological change.

2.3 Biodiversity finance is outpaced by harmful subsidies that are challenging to identify and reform

Introduction

Reforming subsidies is a major plank of the proposed resource mobilisation component of the post-2020 Global Biodiversity Framework (GBF), demonstrating a growing awareness that stopping the outsized public finance perpetuating biodiversity loss "would serve to reduce biodiversity finance needs in the long-term" by slowing biodiversity loss at the source.[169] Hence, addressing this issue properly is critical. The CBD defines harmful subsidies as "government action that confers an advantage to consumers or producers (…) but in doing so, discriminates against sound environmental practices".[170] These subsidies are widespread and incentivise practices that accelerate biodiversity loss, while also pushing industries past a sustainable limit for the long-term continuation of their economic activities. Despite

166 See for example, Incite! (Eds.), 2006; Pulido, 2016; Melamud, 2015.
167 Kuokkanen, 2008.
168 Klein, 2016.
169 Ibid., p. 13.
170 Convention on Biological Diversity, 2018, p. 5.

a growing consensus among international political and economic organisations that these subsidies must be reformed, perennial government commitments remain unfulfilled. The CBD's Aichi Target 3, for example, is still pending for most signatory countries with only 19 out of 193 countries showing progress in this matter.[171] Meanwhile, even conservative estimates of biodiversity-harming subsidies are concerning: the OECD's 2020 report estimated that the flow of subsidies potentially harmful to biodiversity was in the order of USD 500 billion per year, an amount five to six times greater than the monetary resources flowing toward conservation.[172] A resource mobilisation strategy that tries to keep pace with these flows rests on the assumption that harmful industries can continue as long as there is adequate additional capital to "protect" nature from these very impacts. This assumption means that "many of the innovative instruments designed to arrest biodiversity loss will categorically fail and, moreover, they will distract from the most needed change".[173] As harmful subsidies are known to put biodiversity, as well as long-term economic prospects, at risk, we must ask why it has been so challenging to stop governments from giving the upper hand to destructive industries.

Key Points

- Research is needed in order to quantify how and where harmful subsidies are flowing, as well as their eventual social and ecological impacts.
- Eliminating harmful flows of finance may include eliminating subsidies altogether or reorganising subsidies so that their most harmful impacts are disincentivised.
- The entrenched nature of subsidies and entanglements with powerful lobby groups make them difficult to eliminate, even when they do not make long-term economic or ecological sense.
- The benefit of subsidies tends to be captured unequally across class, race, and gender, but undoing these programmes without alternatives may still disproportionately impact marginalised communities.

Research is needed in order to quantify how and where these subsidies are flowing, as well as their eventual social and ecological impacts

The beneficial or harmful outcomes of subsidies remain obscured and hard to track, in part due to a lack of publicly available and transparent data. Data on subsidies released to the public may also be incomplete by not accounting for tax-based subsidies, subsidies for infrastructure, or other costs absorbed by the state.[174]

171 Convention on Biological Diversity, 2018.
172 Organisation for Economic Co-operation and Development, 2020a, p. 3.
173 Bigger et al., 2019, p. 9.
174 Corkal et al., 2020.

Public funding for fossil fuels, for example, ranks "among the largest flows of public finance potentially harmful to biodiversity",[175] yet estimates on the exact costs incurred by the public vary. Global public financial support for fossil fuel consumption and production subsidies was estimated at USD 478 billion in 2019.[176] However, these figures do not include estimations of delayed costs incurred from the extraction and use of fossil fuels, many of which do eventually translate to public spending for environmental clean-up, flood repair, emergency response, healthcare costs, and so on. A 2015 report from the International Monetary Fund (IMF) attempted to put a number to the true cost of these externalities and estimated the global annual public cost of supporting fossil fuels to be closer to USD 4.7 trillion.[177]

Making these public expenditures transparent and legible is a necessary step towards better accountability for stated government commitments to environmental and social well-being. Yet improving disclosure is only the first necessary step. More research is needed to specify, compare, and characterise the impact of these subsidies, which would allow for a more comprehensive assessment of the extent to which domestic budgets are aligned with climate and biodiversity objectives. While we may have assumptions about which corporations and communities benefit the most from harmful subsidies, understanding the specifics of this public finance is crucial to subsidy reform. To use a term coined by Dempsey et al., we need *subsidies accountability*, a research agenda that identifies which subsidies are harming biodiversity, who benefits, and what policy alternatives will have the best social and ecological outcomes.[178] Understanding who captures the economic advantage, and what practices are incentivised to do so, will be necessary for forming any specific policy recommendations aiming to equitably turn off public finance flows to drivers of biodiversity loss.

Eliminating harmful flows of finance may include eliminating subsidies altogether or reorganising subsidies so that their impacts most harmful to biodiversity are un-incentivised

Where subsidies research has taken place, one can point to which flows of finance need to be most urgently turned off and repurposed. For example, with regard to fisheries, Sumaila et al.'s research leads them to recommend the elimination of "capacity-enhancing subsidies", that is, subsidies that incentivise the expansion of fisheries' productive capacity, and instead reorient these subsidies to support sustainable activities that improve overall ocean conditions (i.e. removing plastics).[179] We can take from this example that the structure of subsidies, rather

175 Organisation for Economic Co-operation and Development, 2020a, p. 13.
176 Organisation for Economic Co-operation and Development, 2020b.
177 Coady et al., 2019.
178 Dempsey et al., 2020.
179 Sumaila et al., 2016.

than just dollar amounts of public funding to certain industries, may determine the impacts upon immediate biodiversity loss or long-term sustainability. Undertaking similar research, the OECD found that "In 2017, OECD countries alone provided USD 228 billion in support to farmers, of which USD 116 billion (i.e. 51%) is considered potentially most environmentally harmful compared to other types of support."[180] Characterising subsidies with structures that incentivise environmentally destructive behaviour may allow for more precision about how much money is flowing to the most harmful subsidies. These analyses help make explicit which "most harmful" subsidies within an industry should be eliminated, and which may continue to benefit communities without harming biodiversity if their incentives are reorganised. This kind of research on environmental outcomes of subsidies must continue if we are to understand which subsidies most urgently need to be stopped. It would also help us understand which communities – particularly vulnerable communities – might be harmed by subsidy removal, facilitating the creation of replacements or policies to reduce that harm.

The entrenched nature of subsidies and entanglements with powerful lobby groups make them difficult to eliminate, even when they do not make long-term economic or ecological sense

Understanding the environmental or economic impacts of subsidies alone does not necessarily help to undo the political structures they are reliant on to continue. In 1995, harmful subsidies were mentioned briefly in a CBD Decision from Jakarta, which states: "The inclusion of subsidies was contentious. Some delegates stressed that the issue of subsidies was politically sensitive, with potential trade implications."[181] This sentiment is reflected in the literature on harmful subsidies, which points to the important political roles they play across societies as one reason they have been so hard to reform. Subsidies can be used as a means for a number of political ends; to nurture re-election hopes, advance geopolitical goals, or quell uprisings.[182] While subsidies may have direct impacts on citizens who benefit, they are also considered inefficient and short-sighted, especially as a means of addressing poverty and inequality.

For example, a recent study found that 90% of capacity-building subsidies known to deplete fisheries flow to large-scale fisheries: USD 17.8 billion of those capacity-building subsidies go to large-scale fisheries while only USD 2.3 billion flow to small-scale fisheries.[183] The latter, of course, are crucial for supporting some of the poorest communities, whereas the former serve large companies and those of

180 Organisation for Economic Co-operation and Development, 2020a, p. 13.
181 Convention on Biological Diversity, 1995, p. 19.
182 Global Subsidies Initiative, 2011.
183 Schuhbauer, et al., 2017.

us dining out on cheap sushi. Lobbying power is also a reason behind the tiny fraction of fisheries subsidies given to small-scale fisheries worldwide.[184] In Indonesia, powerful interest groups organise to defend palm oil subsidies, and governments are pushed to appease their backers.[185] Likewise, the influence of the fossil fuel sector on public policy is a well-known story. For example, over a five-year period, the Canadian Association of Petroleum Producers met with the Canadian federal government 536 times, as opposed to six meetings with the national climate coalition, influencing not only energy but climate and wider environmental policy.[186] Making explicit how government subsidies tend to be advocated for and captured by the wealthy – and what alternatives exist to secure livelihoods for marginalised communities – may create space for the political will to eliminate or reform subsidies.

The benefit of subsidies tends to be captured unequally across class, race, and gender, but undoing these programmes without alternatives may still disproportionately impact marginalised communities

Subsidies that result in lower prices on goods such as fuel, electricity, and food make it hard to untangle these subsidies from larger issues of inequality, even if there are more efficient and progressive ways to capture public funds that do not give an upper hand to destructive industries. Many consumer subsidies are regressive, in that they disproportionately benefit those of middle or higher incomes; one survey of 19 developing countries that employed petroleum subsidies between the years 1993-2007 found that only 3% of the subsidy was captured by the lowest quintile of household incomes, compared with 62% by the highest.[187] However, in cases such as this, it is also estimated that the removal of the subsidy would have the greatest impact on those of the lowest incomes, especially women.[188] Oscar Reyes examines how subsidy reform may mask austerity measures under the guise of environmentalism, and can have negative societal effects:

> "Most of the subsidy reforms achieved in recent years have in fact fallen on the consumer side, removing price limits that keep diesel or gasoline affordable ... Cutting these subsidies tends to be regressive, because people with low incomes spend a larger share of their income on energy than the rich do. To make matters worse, the IMF has taken to hard-wiring fossil fuel subsidy reform into broader packages of austerity, with Ecuador's move to eliminate subsidies on diesel and gasoline the poster child of this approach. This move had a predictable result: a political insurgency that

184 Pauly et al., 2003; Jacquet & Pauly, 2008.
185 Maxton-Lee, 2018.
186 Much of the evidence comes from investigative reporting and freedom of information requests. See: Yunker & Daub, 2017; Linnet, 2012.
187 del Granado et al., 2012, cited in Kitson et al., 2016.
188 Kusumawardhani et al., 2020.

has swept across the country. A similar condition in IMF lending to Egypt has also sparked protests and worsened inequality in the country."[189]

Instead of these measures, the public finance currently directed at subsidies that benefit upper-income households could be repurposed for social assistance, social services, or public infrastructure investments that benefit the lowest-income households. For example, in 2015, Indonesia repurposed close to USD 1.6 billion from removing gas and diesel subsidies, which was reinvested into social programmes and infrastructure.[190] Similar programmes have been underway in Ghana and India.[191] The Global Subsidies Initiative has begun the work of understanding gender-based impacts of fossil fuel subsidies, and alternative ways to support low-income women, but, as they note, there is little research out there that examines this issue.[192] More research on this topic, as well as other gendered and racial inequities in subsidy distribution and impact, will be needed to understand how harmful subsidies can be turned off and repurposed without further disadvantaging marginalised communities.

189 Reyes, 2020, p. 128.
190 Pradiptyo et al., 2016.
191 Reyes, 2020.
192 International Institute for Sustainable Development, n.d.

Part 3
Understanding biodiversity-related financial flows

The previous section lays out the broad, political economic conditions and policy choices that continue to erode biodiversity. In light of global political economic norms like austerity and the predominance of trade and investment interest over public goods, governments, civil society, and international institutions pushed voluntary measures to tame financial flows and development impacts, and advanced what are termed innovative financial mechanisms, including payments for ecosystem services (PES), private finance and blended finance. To what extent have private, innovative/market-based, and voluntary financial/economic initiatives advanced the implementation of the CBD? What are the primary challenges? To what degree can these support the broader transformative change called for by IPBES in 2019 and for many decades by Indigenous, environmental justice, and social movements?

3.1 Market-oriented approaches, such as PES and REDD+, offer insufficient finance and mixed results for biodiversity
3.2 Private investment in biodiversity-enhancing projects is small, geographically constrained, and in a perpetual state of "proof of concept"
3.3 Blended finance is unlikely to deliver a sustainable future
3.4 Voluntary certification and disclosure schemes may have some impact, but rarely on the scale necessary to halt biodiversity loss

3.1 Market-oriented approaches, such as PES and REDD+, offer insufficient finance and mixed results for biodiversity

Introduction

Goal 4 of the CBD's current strategy for resource mobilisation is focused on exploring "new and innovative financial mechanisms", including Payments for Ecosystem Services (PES). PES programmes have been increasingly promoted in the past few decades as a way of generating new sources of revenue for conservation and compensating individuals and communities for the livelihood impacts of conservation, with over 550 programmes worldwide.[193] While each of the

[193] Salzman et al., 2018.

mechanisms under Goal 4 deserves attention, we focus on PES due to our specific expertise, and also because there is a robust literature on, and a significant amount of policy momentum behind, these programmes in locations around the world. In addition, PES are often defined capaciously so as to include other mechanisms listed under Goal 4, such as sustainable certification for green products and REDD+ projects under the Kyoto Protocol.[194]

We define PES as direct payments or in-kind transfers to individual or collective landholders that aim to incentivise, compensate, or reward land uses beneficial for the production of pre-defined ecosystem services, including programmes such as water funds and REDD+ that may not self-define as PES but in several instances share the same characteristics. As an early iteration of market-based approaches to conservation, the evidence on PES can offer insights for other innovative financial mechanisms, such as the recent push for "nature-based solutions" (NbS), and therefore inform the next resource mobilisation strategy.

We address the following three questions with regard to the track record of PES for biodiversity conservation: (1) Have PES programmes been effective at mobilising resources for biodiversity conservation? (2) What are the outcomes of PES programmes with regard to biodiversity? (3) What factors contribute to positive biodiversity outcomes in PES?

Key Points

- PES do not present a major new source of funding for biodiversity. The few biodiversity-focused PES show narrow scope and uncertain results.
- In part because biodiversity is difficult to standardise and measure, monitoring tends to be inconsistent and/or insufficient.
- When driven by user demand (the market), PES initiatives are vulnerable to market fluctuations and tend to have an overly narrow focus on species and solutions of direct interest to buyers.
- To support just and sustainable outcomes, PES programmes should harmonise with existing values, knowledge systems, and institutions.

PES do not present a major new source of funding for biodiversity. The few biodiversity-focused PES show narrow scope and uncertain results

According to the original, theoretical model, PES focus on a specific ecosystem service or set of services that can be voluntarily purchased or subsidised by downstream users who compensate service "providers" for ecosystem management activities upstream thought to increase the production of ecosystem services. Based on this model, creating markets, or market-like arrangements, between users and

[194] Hein et al., 2013.

providers of ecosystem services will provide access to new funding for conservation and increase its efficiency as those paying will be highly motivated to ensure that targets are achieved.

A review by Hein et al. addressed the effectiveness of PES as a resource mobilisation strategy under the CBD.[195] That review concluded that, while PES sometimes served as a useful tool for advancing implementation, **it was not sufficient to address biodiversity funding needs**. This review also found that employing PES to achieve biodiversity conservation goals posed a number of problems concerning the specific focus of programmes and the metrics used to monitor them, the sustainability and reliability of finance, and the difficulty of valuing multiple ecosystem services produced by a single landscape. While such programmes have become ubiquitous for ecosystem services such as water quantity and quality, carbon, erosion control, and even "scenic beauty", PES for biodiversity "has been slowest to take off, due largely to the typically low availability of financial support for biodiversity conservation".[196]

Although theorised as being funded by markets for ecosystem services, most PES initiatives are government-funded or, similar to REDD+, financed through "blended" or hybrid approaches. According to a 2018 review, there are 120 habitat and biodiversity PES programmes globally, 86% (104) of which are compliance-driven rather than buyer-driven.[197] Belying the goals and focus of the PES model, this indicates that such programmes rely on strong regulatory frameworks for protection of biodiversity, and are not demand-driven. Biodiversity outcomes are more difficult to "sell" and to measure in PES than ecosystem services such as water or carbon. Unlike these ES, biodiversity is not easily standardisable and does not always have clearly-defined beneficiaries or existing institutions governing its distribution (in comparison to e.g. water utilities). In a review of the viability of PES as a strategy for global biodiversity finance that responds to the 2008 CBD Resource Mobilization Strategy, Hein et al. note:

> "The complexity of ecosystem functioning is not easily transferred to market prices. Ecosystem changes are subject to complex dynamics including thresholds and irreversible changes... Consequently, there may be major variations in the societal costs and benefits of preserving one additional unit of an ecosystem, depending on the changes in ecological processes as a function of that change."[198]

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195 Hein et al., 2013.

196 Ingram et al., 2014, p. 10; see also Salzman et al., 2018; Wunder & Wertz-Kanounnikoff, 2009.

197 Salzman et al., 2018, p. 138.

198 Hein et. al., 2013, p. 90.

The few existing biodiversity-focused PES initiatives tend to focus only on specific protected species or those of interest to users (buyers). The largest biodiversity-related PES market – habitat mitigation banking mainly in developed countries – has been criticised for prioritising narrow measures of "unbundled" ecosystem functions that do not necessarily add up to holistic or sustainable habitat preservation.[199] Salzman et al. also note that data for the compliance mitigation market for streams and wetlands is the "least transparent", making global transactions difficult to track.[200] These transactions are estimated to be USD 2.5-8.4 billion annually.[201]

As noted earlier in this document in relation to other financing sources, PES for biodiversity has been hampered by the same lack of funding that limits other strategies for biodiversity conservation, raising questions about its capacity for capturing significant new resources.[202] Many studies have described the gap between the market-based theoretical model of PES, which emphasises private user demand, and PES in practice.[203] The track record of PES highlights the important role that governments play in programme design, implementation, monitoring, and financing.[204] If these solutions are to be pursued, they will need to be accompanied by long-term, reliable public finance for conservation. Hein et al. write that "[c]ontrary to existing PES schemes, [a new] funding mechanism should finance the long-term conservation of biodiversity in low-income and middle-income developing countries per se, that is, regardless of any other ecosystem services provided by an ecosystem."[205] A recent UNCTAD report makes a related point, emphasising that effective market mechanisms rely on robust state policy and regulation that define them, drive demand, and ensure enforcement:

> "'market-like' solutions to the environmental breakdown, such as carbon pricing or tax incentives, are only as good as the state policies that define them. The market does not achieve remedies on its own accord. The use of pricing disciplines has a place in a comprehensive global strategy to arrest and reverse climate catastrophe, but they are, by themselves, not a solution."[206]

199 Robertson, 2006.
200 Salzman et al., 2018.
201 Ibid.
202 Ibid.
203 Muradian et al., 2010; Shapiro-Garza et al., 2020.
204 Ola et al., 2019.
205 Hein et al., 2013, p. 91.
206 Gallagher & Kozul-Wright, 2019, pp. 22, 23.

In part because "biodiversity conservation" is difficult to standardise and measure, monitoring tends to be inconsistent and/or insufficient

In part because there are few biodiversity-focused PES, evidence on outcomes for biodiversity is limited. As noted above, biodiversity – relying on complex relations among multiple ecosystem variables – is more difficult to standardise and measure than some other ecosystem services. A review by Calvet-Mir et al. of biodiversity-focused PES uses "biodiversity" as a general term to refer to all conservation outcomes, but only 17 of the 30 programmes reviewed had biodiversity as an explicit focus, with "biodiversity" in many of these cases referring to habitat conservation for a single species.[207] Most of these programmes do not directly monitor biodiversity outcomes, but use proxies such as land cover or agroforestry practices to demonstrate biodiversity outcomes. This is an important gap in research because such proxies do not provide direct evidence as to biodiversity outcomes: for instance, while Costa Rica's PES programme includes biodiversity conservation as a goal, it relies solely on forest cover as a proxy measure for ecosystem services,[208] a metric which indicates little about biodiversity outcomes in a context where PES also include payments for plantation forestry. As Hein et al. point out, "safeguarding the supply of a specific ecosystem service does not necessarily involve protecting the species or genetic diversity in the ecosystem", and where biodiversity is not the explicit goal of PES these programmes may negatively impact biodiversity.[209]

Literature assessing outcomes specifically for biodiversity in PES is limited, and there is little consistency in methods for assessing outcomes. Evidence in the review literature suggests that the carbon-driven policy frameworks in REDD+ fail to address drivers of biodiversity loss, and in some cases may accelerate them or undermine local practices that sustain biodiversity, even where co-benefits are ostensibly prioritised.[210] Even in those programmes that are explicitly focused on biodiversity – such as the four programmes reviewed by Ingram et al.[211] – these are often not oriented toward biodiversity as such but toward specific charismatic species of interest to downstream users, such as sport hunters of wild turkeys in Guatemala or ecotourism for birdwatching in Cambodia. In such instances "land owners may not be interested in maintaining the overall ecosystem, but may instead intervene to shape the ecosystem to heighten specific attributes or the presence and visibility of species attractive to tourists".[212] The indirect and offsite outcomes of PES interventions, which may impact biodiversity elsewhere, are also not well

207 Calvet-Mir et al., 2015.
208 Daniels et al., 2010.
209 Hein et al., 2013, p. 91.
210 Krause & Nielsen, 2019; Bayrak & Marafa, 2016.
211 Ingram et al., 2014.
212 Hein et al., 2013, p. 91.

understood. David Lansing has shown how Costa Rica's PES has subsidised commercial forestry, resulting in more homogenous "plantation forests" planted with a majority of a single non-native tree species used in the production of wooden shipping pallets for export agriculture.[213] Lansing thus argues that "PES payments for reforestation have become an indirect subsidy for plantation agriculture",[214] raising questions about the broader impact of PES on drivers of biodiversity loss.

When driven by user demand (the market), PES initiatives are vulnerable to market fluctuations and tend to have an overly narrow focus on species and solutions of direct interest to buyers

In contrast to government-driven PES programmes, user- or market-driven programmes can expose both biodiversity outcomes and participants' livelihoods to new market risks. Ingram et al.'s review of four PES programmes for biodiversity notes that "because the PES initiatives are highly demand-driven, the financial sustainability and long-term revenues for these projects are dependent on the markets that exist for sport hunting, ecotourism, and certified rice".[215] Because most PES require significant and often irreversible changes in participants' livelihood strategies (such as abandoning farming activities), this means that both biodiversity outcomes and participants' livelihoods are subject to risks of programme failure due to market changes or other variables. Although PES are often heralded as a more sustainable financing mechanism, this is only the case so long as biodiversity outcomes remain economically valuable for downstream users, or if demand is high for those services, and only insofar as programme costs can remain competitive with regard to other sources of substitutable ecosystem services.

The lack of funding for biodiversity-focused PES and the focus on charismatic species highlight a key limitation of PES, insofar as these programmes are only viable for ecosystem services that have economic value for downstream users, or consumers. This means that ecologically significant but non-charismatic or geographically-remote species are unlikely to benefit from PES finance or ecotourism revenues.[216] Green certification has similar limits, insofar as "the impact of such management in plantations is limited to species whose presence can be reconciled with agricultural production, which excludes a range of threatened species, such as large mammals".[217]

213 Lansing, 2013.
214 Ibid, p.107.
215 Ingram et al., 2014, p. 10.
216 Hein et al., 2013.
217 Ibid., p. 89.

This raises a broader issue for understanding PES outcomes in general: assessments of PES effectiveness (the degree to which programmes achieve environmental goals) are narrowly defined according to the market demand. This has led some scholars to conclude that user-financed PES programmes are more efficient than government-financed programmes because there is a strong incentive to impose conditionality (payments are not made unless the ecosystem service is produced).[218] This indicates the limited ability of user-driven PES to address broader social and ecological issues, especially if these programmes are made to conform to models of market exchange between ecosystem service "buyers" and "sellers". While they may succeed in enhancing ecosystem service flows to specific users – which may range from urban water consumers or powerful agro-industrial interests[219] – this says little about their implications for environmental health or sustainability in general. In these instances such initiatives may primarily serve to legitimise environmentally-harmful industries by partially mitigating their impacts, while doing little to address fundamental drivers of biodiversity loss.

The links between PES and export agriculture in Costa Rica, mentioned above, reflect broader concerns about "leakage" in PES and related programmes, i.e. that conservation interventions in one area may simply displace destructive activities to other areas. Leakage and other offsite outcomes of PES programmes have not been sufficiently addressed in the literature, and constitute an important research gap: for instance, given that the majority of PES programmes focus on changing or curtailing farming by small-scale landholders, how might PES contribute to agricultural consolidation and intensification, and with what social and environmental effects?

A key lesson from the literature is the need to align programme goals with drivers of biodiversity loss, interventions, and monitoring.[220] Inconsistent monitoring and metrics make comparison of PES outcomes difficult in general,[221] but particularly so for biodiversity. If biodiversity is to be a PES goal, robust monitoring for biodiversity outcomes – beyond proxies such as forest cover or even single-species surveys – is necessary. This presents a challenge to existing PES, as monitoring increases transaction costs in PES and payments in most programmes are currently determined through negotiation between programme managers and providers or by fiat (for instance in government programmes).[222] Establishing effective monitoring and sufficient payments requires significant contextual knowledge and interaction with prospective participants as a necessary part of programme design.[223] Another key

218 Wunder et al., 2008.
219 Nelson et al., 2020.
220 Panfil & Harvey, 2015.
221 Calvet-Mir et al., 2015.
222 Ola et al., 2019.
223 Ibid.; Leimona et al., 2015.

challenge lies in designing PES to address the drivers of biodiversity loss or land conversion. Evidence from REDD+ programmes suggests that strong influence of international donors and monetary valuation of ecosystem services (carbon) can divert attention from the drivers of forest loss.[224] This means that, similar to other biodiversity conservation strategies, it is vitally important to design PES in a context-specific manner – a point that has been repeatedly stressed in the literature.[225] This means that this approach is not easily standardised across contexts, raising costs and limiting the potential to "scale-up" PES programmes.

To support just and sustainable outcomes, PES programmes should harmonise with existing values, knowledge systems, and institutions, and be based on recognition of Indigenous peoples' and local communities' rights

Despite the challenges described above, there are some positive examples of the potential for PES to support beneficial biodiversity outcomes. Although we have limited direct evidence on biodiversity outcomes, we do have evidence of various factors that affect outcomes in PES, positively and negatively, that provide lessons for biodiversity conservation goals. In the case literature, holistic landscape management of the type associated with biodiversity tends to be most evident in programmes that substantively incorporate community participation, and harmonise with existing values, knowledge systems, and governance institutions that influence extant land uses. For instance, Dorligsuren and Uilst document participatory wildlife monitoring and protection in a community-designed Mongolian PES that centred traditional land-use practices, arguing that this participatory approach offers "important benefits for conservation of key wildlife species, as do herders' activities to protect wildlife from illegal hunting and poaching".[226] A review of community participation in community-based PES (e.g. PES that enrol organised community groups rather than individual landholders) found that "community participation had universally positive impacts on... compliance, consensus-building, community assets, social capital, legitimacy and environmental impacts", with communal contracts being the most influential type of participation positively affecting environmental outcomes, alongside participatory governance and consultation.[227]

Case literature suggests that participation in programme design and governance is important for supporting participant buy-in and perceptions of legitimacy, incorporating traditional ecological knowledge, and aligning participant values with programme goals – all of which have implications for outcomes.[228] For

[224] Milne et al., 2019.
[225] Reed et al., 2017; Barton et al., 2017.
[226] Dorligsuren & Uilst, 2019, p. 21; see also Upton, 2020.
[227] Brownson et al., 2019, p. 9.
[228] Betrisey et al., 2018; Bayrak & Marafa 2016; Brownson et al., 2019.

instance, when their values are not represented in programme design, participants may express them in ways that undermine programme goals, including protest, non-participation, sabotage and modifying conservation activities to prioritise other values.[229] Failure to incorporate local ecological knowledge can also lead to the elimination of land-use activities that support biodiversity.[230] Recognition of land rights is also an important motivator of participation: in Aboriginal-led carbon farming programmes in Australia, aboriginal ownership of land has been critical to programme success,[231] while in community-based PES formalisation of community land rights has enhanced participation.[232] In contrast, where PES programmes have conflicted with traditional use or curtailed land rights, land conflicts have enhanced inequities, complicated benefit distribution, and undermined programme effectiveness.[233]

These findings suggest the importance of incorporating social goals alongside environmental ones. A recent systematic review by Ola et al. of 56 programmes in Asia, Africa, and Latin America found that 54% of these programmes "attained 'win-win' outcomes" for environmental and poverty-alleviation goals, with three decisive factors: 1) high levels of payments that cover transaction and opportunity cost of participants (found in only 41% of programmes); 2) monitoring of ecosystem services; and 3) equity.[234] In addition, adequate, reliable, and equitable benefit-sharing of biodiversity use is key to sustaining enrolment.[235] Ola et al. find that "establishing participatory, distributive and contextual equity is essential" in the initial assessment and design stage, and that "[t]he presence (absence) of equity enhances (diminish) the impact of PES programs".[236] Equity enhances trust among buyers and sellers of ES, decreases transaction costs, and enhances safeguards for vulnerable populations.[237] Equity not only supports environmental outcomes but is important in ensuring sustainable outcomes in PES that are consistent with the Convention on Biological Diversity and other intergovernmental agreements.

229 Kauffman & Martin, 2014; Nelson et al., 2020; Harrell et al., 2016; Shapiro-Garza, 2013.

230 Bayrak & Marafa, 2016, p. 11.

231 Jackson et al., 2017.

232 Brownson et al., 2019.

233 Bayrak and Marafa, 2016; Brownson et al., 2019; Milne et al., 2019; Boerner et al., 2017.

234 Ola et al., 2019, pp. 58, 62; Ingram et al., 2014, have argued that PES programmes can be effective for biodiversity only where this is the priority over and above social goals; however, their review importantly did not address any cases in which social goals were on par with biodiversity goals, rendering these conclusions largely speculative. Further, that study found that all four programmes reviewed had both positive livelihood and biodiversity outcomes, demonstrating that such goals can be compatible.

235 Milne et al., 2019; Pascual et al., 2014.

236 Ola et al., 2019, p. 62.

237 Ibid.

As discussed above, the majority of PES initiatives stray from the original theory of user-driven, market transactions, and instead are initiated, managed, and financed by governments.[238] As user-financed PES are less likely to integrate social goals,[239] this suggests a strong role for governments in prioritising equity objectives and aligning PES with other policy frameworks. PES programmes have been shown to be more effective when integrated with other poverty-reduction or environmental policies. Locally-appropriate and robust safeguards against market risks, and governance arrangements that empower local participants in decision-making and integrate local ecological knowledge, are necessary to support biodiversity outcomes and participant livelihoods.[240]

3.2 Private investment in biodiversity-enhancing projects is small, geographically constrained, and in a perpetual state of "proof of concept"

Introduction

Leading up to the Rio Earth Summit and the adoption of the CBD, scientists and conservationists pointed to the economic value of biological diversity, the untapped trillions in what now goes by the term "natural capital". For example, the 1987 World Commission on Environment and Development (WCED) report *Our Common Future,* optimistically predicted that the economic value in genetic resources alone "is enough to justify species preservation",[241] suggesting that the economic value of forests harnessed through bioprospecting would be able to secure their conservation over alternative land uses such as intensive timber extraction or conversion to agriculture. In the 1990s this focus was placed on promoting biodiversity-friendly economic development, such as from bioprospecting and ecotourism. As the climate agenda, and in particular the carbon market, ramped up, energy turned in the mid-2000s to the possibility of climate action also funding biodiversity conservation and sustainable use, most famously with the attention to avoided deforestation schemes like REDD, schemes that are now often going under the more general and controversial term "nature-based solutions". While, as we show in sections 3.1 and 3.3, much of the funds backstopping these initiatives are public, the mid-2000s began an era of enthusiasm for increasing the role of private, return-oriented finance in biodiversity conservation and sustainable use. In an era of austerity (see Part 2 above), it has become commonplace to look to private capital as holding the key to bridge the so-called biodiversity funding gap: the oft-cited ~USD 300-700 billion shortfall between what is currently flowing to biodiversity

238 Ola et al., 2019.
239 Ingram et al., 2014.
240 Ibid.
241 World Commission on Environment and Development, 1987, p. 155.

finance to fund conservation endeavours and the amounts ostensibly required to scale them up to achieve internationally agreed conservation goals and targets. The questions we ask in this section include: how large is private sector investment in biodiversity conservation and sustainable use? Where are these flows of capital going, geographically? How much staying power do these mechanisms have?

Key points

- Flows of for-profit biodiversity finance are small and can pose risks to livelihoods and rights
- For-profit biodiversity investment is concentrated in developed countries
- There is risk that "catalysing" private finance will lead to private gains and social losses and continue proliferation of short-term, pilot projects

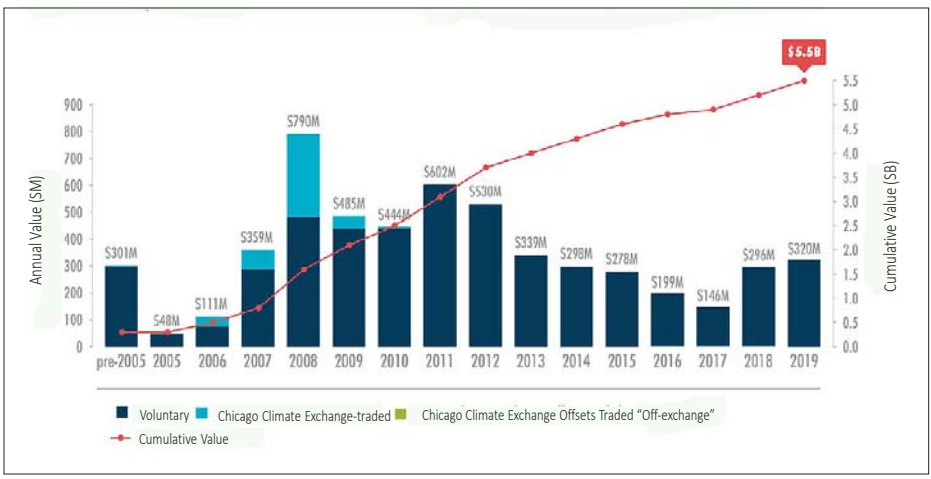
Flows of for-profit biodiversity finance are small and can pose risks to livelihoods and rights

Over the past decade what is known as conservation finance, or conservation impact investing, has grown in prominence. Assessing the size of these investments poses particular challenges, as the field is highly fragmented and often privately held. Research shows that these capital flows are tiny in relation to the size of the problems and essentially infinitesimal in the world of capital flows writ large.[242] Take, for example, the private capital flowing into avoided deforestation and ecosystem restoration. In 2008 the Eliasch review concluded that including REDD in a well-designed carbon trading system could provide the finance and incentives to reduce deforestation rates up to 75% by 2030. One scenario modelled by the review predicted that USD 7 billion could be generated by the carbon markets by 2020.[243] What happened? The graph below from Ecosystem Marketplace's 2020 report gives a visual summary of the decades since then in the voluntary carbon market.[244] The cumulative transaction value is, of course, growing (the red line) – as years of value pile onto each other – but the market has remained relatively flat in market size in yearly terms, with some growth in the past couple of years. It is important to note that of the USD 320 million transacted in 2019, only about half is in forestry and land-use offsets – just shy of USD 160 million. While that may sound like a large number, it is, for example, a fraction of most large university annual budgets (UBC, where many of us work, is about USD 1.6 billion), far less than the USD 1.5 billion Vale SA company paid in fines for dam burst in Brazil or less than the monthly increase of USD 321 million of Jeff Bezos' fortune since the beginning of the COVID-19 pandemic.

242 Dempsey & Suarez, 2016; see also Clark et al., 2018.
243 Cf. Eliasch, 2008.
244 Ecosystem Marketplace, 2020.

Despite its low revenue and small transaction size, it is crucial to note that ecosystem-based forestry or land-use offsets are not benign for all communities; depending on the project it can result in land dispossession and further entrench social inequities.[245] One review paper highlights that what they term neoliberal, and especially for-profit forms of conservation, tend to amplify "pre-existing inequalities and social differentiations" as new forms of power associated with the production of market-friendly environments begin to circulate through existing livelihoods.[246] Examples of direct negative impacts are evictions, exclusion from customary land and natural resources (such as grazing land, firewood, bushmeat, and medicinal plants); while less direct impacts are the boom-and-bust cycles provoked by the increase of tourism, with the consequent loss of jobs.[247] One academic paper summarises that REDD+ projects have faced issues of "insecure land tenure, elite capture of incentives, equity concern between recipients of payments and beneficiaries of ecosystem services, uncertainty over conditional based incentives".[248] Other studies point to precarious labour conditions in green financial projects.[249] Regarding water, schemes like tradable water rights can negatively impact ecosystems and people, as is the conclusion of a recent study of Chile.[250] We also point to the section above (3.1) on PES, where the evidence suggests that market-driven projects are less likely to integrate social goals[251] and also tend to consider a narrow(er) range of species.

Figure 6. Historical market-wide voluntary offset transaction values[252]



245 For an overview of social impacts see Holmes & Cavanagh, 2016.
246 Ibid, p. 205.
247 Ibid. p. 200.
248 Clark et al., 2018, p. 341.
249 Neimark et al., 2020.
250 Prieto et al., 2019.
251 Ingram et al., 2014.
252 From Ecosystem Marketplace, 2020.

The story with bioprospecting is similar to that of land-based offsetting. The 2012 *Little Book of Biodiversity Finance* reports almost negligible finance flowing from bioprospecting.[253] Regarding efforts to expand access and benefit-sharing of genetic resources, commentators in *Science* note that "after almost 30 years, innumerable national ABS measures, and tens of millions of dollars spent discussing and developing these policies – there is relatively little to show in the way of conservation, technology transfer, capacity-building, or other monetary or nonmonetary benefits" of bioprospecting.[254]

And what about ecotourism as a source of private finance for biodiversity conservation? Often touted as a win-win solution for ecosystems and communities, in theory ecotourism attracts capital that can be funnelled to conservation or development projects.[255] Yet the amount of capital generated by ecotourism for protected areas and biodiversity conservation is uncertain and there is little data on how much of that revenue is actually funnelled to initiatives aligned with the CBD goals. Research also notes a "severe lack of data on the contribution of ecotourism to biodiversity funding", with revenue from ecotourism often "inadequate for the conservation of biodiversity in remote areas".[256] Additionally, ecotourism is a poorly defined phenomenon that some researchers argue is prone to greenwashing. Capital generated in the name of biodiversity conservation may not be used for those ends, especially in private conservation areas or ventures.[257]

A growing body of literature demonstrates that the human consequences of conservation-related tourist ventures can include land dispossession, livelihood disruption, state-sanctioned violence and militarisation, localised inequality, and the exploitation of Indigenous cultures.[258] More broadly, a key concern surrounding ecotourism's role in conservation-related ventures is the fact that it consumes the very resources it claims to protect.[259] Though ecotourism helps realise revenue in the form of park entrance fees or payments for lodgings and tours, such activities come at an ecological cost. Higher rates of tourism, especially in concentrated areas, can result in increased fossil fuel emissions, habitat destruction, excessive demand on local natural resources, and disruption to protected wildlife.[260] Given tourism's place at the "heart of global development policies" in conjunction with its uncertain post-COVID future, ecotourism specifically warrants re-evaluation with regard to its role as a lever for biodiversity finance.[261]

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253 Parker et al., 2012.

254 Laird et al., 2020, p. 1201.

255 Stronza et al., 2019.

256 Hein et al., 2013, p. 88.

257 See, for instance, Hein et al., 2013; Stronza et al., 2019; Fletcher, 2019.

258 See, for instance, Ojeda, 2012; Loperena, 2016; Péres et al., 2017; Devine, 2017; Devine & Ojeda, 2017; Di Giminiani & Fonck., 2018; Montes & Kafley, 2018; Gibson, 2019; Ma et al., 2019.

259 See, for instance, Sierra-Huelsz & Kainer, 2018; Devine, 2017; Duffy, 2015.

260 Sierra-Huelsz & Kainer, 2018.

261 United Nations World Trade Organization, 2020.

What's the take-home? One research paper concludes, "Expecting such a shortfall [in funding for SDGs, including biodiversity conservation] to be picked up by the private, or indeed any other sector, is arguably misguided and clearly represents the current disconnect between stated ambitions and reality."[262] So far, the return-generating (meaning for-profit) conservation finance sector faces serious challenges to scaling up, a problem readily recognised by the sector itself. The Conservation Finance Alliance concludes, "The overwhelming majority of the financial sector has yet to show interest in biodiversity conservation."[263] Or, as NatureVest and their co-authors plainly state, conservation investments are much "less competitive compared to competing market opportunities".[264] Similar insights are outlined in a 2020 overview of the field by the Paulson Institute, The Nature Conservancy, and Cornell University. This report notes the limited flows of private finance moving into biodiversity conservation and sustainable use, particularly in comparison to the need.[265] The state of play regarding the scale and scope of private investment – of returns-generating, profit-oriented biodiversity conservation finance – depicts an emerging but halting, precarious, and still largely promissory global economic sector.

Biodiversity offsets may be inimical to transformative change

Thought to connect economic growth with sustainability, biodiversity offsets rest upon the notion that development projects can compensate for biodiversity's degradation by restoring or protecting biodiversity elsewhere. While the OECD defines biodiversity offsets as the "economic instruments used to allow for some continued economic development whilst simultaneously delivering biodiversity objectives",[266] other definitions emphasise the connection with conservation. Among these, ten Kate et al. argue biodiversity offsets are "conservation actions intended to compensate for the residual, unavoidable harm to biodiversity caused by development projects, so as to ensure no net loss of biodiversity".[267] Definitions like the latter have given biodiversity offsets a place together with financial mechanisms deemed innovative for CBD implementation such as carbon offsets and green bonds. However, several fronts complicate the implementation of offsets.

First, the attempt to re-create a degraded ecosystem elsewhere suggests that ecosystems can be isolated from their "spatial, evolutionary, historical, and social"[268]

262 Clark et al., 2018, p. 338.
263 Conservation Finance Alliance, 2014, p. 4.
264 NatureVest & EKO Asset Management Partners, 2014, p. 12.
265 Deutz et al., 2020.
266 Organisation for Economic Co-operation and Development, 2016, p. 20
267 ten Kate et al., 2004, p. 13.
268 Moreno-Mateos et al., 2015, p. 552.

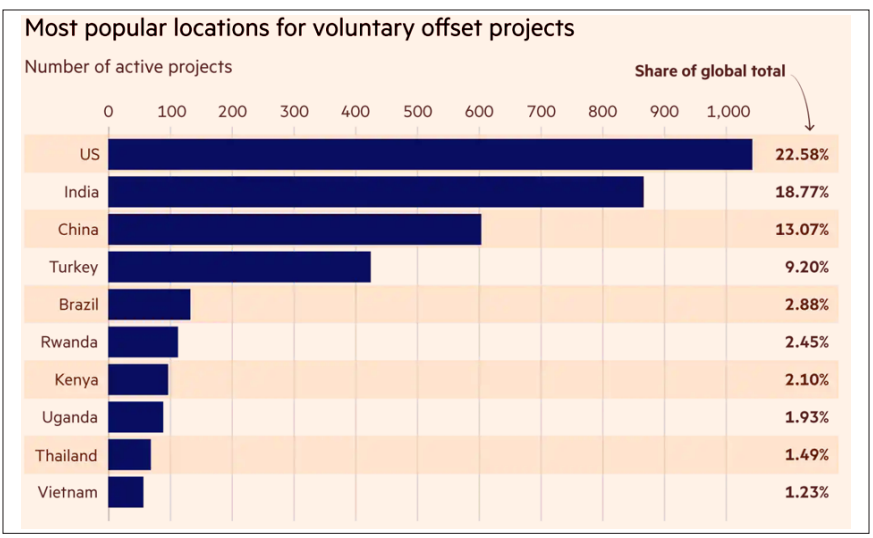
contexts; that ecosystems are replaceable. Yet research conducted on the first mitigation wetlands programmes implemented in the US following the approval of the Clean Water Act of 1974 – arguably the most well-known offset programme in the world - shows low success of plant cover and functionality in restored ecosystems.[269] Second, while best practice for biodiversity offsets involves strong compliance of the mitigation hierarchy, one that enforces avoidance of impacts before the mitigation and compensation phases, research shows that not all offsetting programmes apply this hierarchy. Having offsets as the final part of this hierarchy has been found to disincentivise implementation of earlier stages of the mitigation hierarchy.[270] Third, biodiversity offsets require a complex methodology to incorporate aspects of impacted ecosystems, creating situations where "what is not measured, is not compensated".[271] This is more pressing given that, according to research conducted in the US, current assessments to calculate mitigation banking measures have become more simplistic compared to older "non-commercial" methodologies circulating as early as in the 1980s.[272] Fourth, in order to certify sites to offer "biodiversity offset credits" (one of the most used units of exchange), baselines are needed to confirm that those sites are indeed being protected because of this market — business-as-usual would be degradation of these areas. According to recent research in Australia,[273] offsets can further biodiversity loss when baselines are elaborated to show "unrealistically large amounts of credit". This modus operandi of crediting baselines creates pervasive incentives that can undermine the mitigation hierarchy and ultimately provoke bigger amounts of biodiversity loss. As one research team observes, "generating gains against a static baseline or, indeed, an improving trajectory, is likely to be more costly than averted loss".[274] And fifth, using biodiversity offsets to inject capital flows into conservation can pose risks to achieving transformative change, as the bridging of conservation with economic growth can weaken the public debate around large-scale extractive projects that cause great harm to biodiversity, as well as obscuring the most-needed discussions on alternatives to the current ecological crisis.[275] Finally, lack of legitimacy among local governmental institutions and a closed selection of actors to participate in the design and validation phases of these programmes are also factors that turn biodiversity offsets into "sources of social contestation and operational challenges".[276] For all these reasons, biodiversity offsets are unlikely to move forward in the way its promoters suggest.[277]

269 Ibid.
270 Robertson, 2000; Apostolopoulou & Adams, 2017.
271 Moreno-Mateos et al., 2015, p. 554.
272 Robertson, 2006, p. 384.
273 Maron et al., 2015.
274 Ibid. p. 510.
275 Apostolopoulou & Adams, 2017.
276 Maestre-Andrés et al., 2020, p. 61.
277 See, for instance, Deutz et al., 2020, p. 18.

For-profit biodiversity investment is concentrated in developed countries

The global geographic distribution of biodiversity finance, both public and private, is uneven, with the bulk flowing to developed countries (see Part 1). This situation has not changed a great deal over the past decade, either. One 2012 report concluded that the United States, Canada, Europe, and China "generate and receive the majority of the world's biodiversity finance".[278] This pattern is only exacerbated in private financial flows; the OECD 2020 Private Finance for Sustainable Development report found that only 5.3% of private finance went to LDCs and other LICs for 2017-2018.[279] A recent (2020) BIOFIN report notes that impact investing (a term that refers to investing meant to return in positive social and environmental impacts, as well as profit) in conservation is concentrated in the USA and Europe, only recently reaching developing countries.[280] Other, earlier studies confirm this geographical concentration of private capital. A 2014 industry-sponsored survey of private investment in conservation found that 92% of the private investment originated from US-based investors and that across the three areas of conservation investment examined (green commodities, habitat, and water), Canada and the United States received 82% of this finance.[281] Similar patterns are found in voluntary carbon markets. The *Financial Times* recently reported that most voluntary offsets are found in the US, which accounts for 23% of the total projects, with China, India, Turkey, and Brazil accounting for 44% of active projects in the voluntary market (together).[282]

Figure 7: Geographical distribution of voluntary offset programmes[283]



Source: Allied Crowds © *FT*

278 Cf. Parker et al., p. 109.
279 Organisation for Economic Co-operation and Development, 2020c.
280 Global Biodiversity Finance Initiative (BIOFIN), 2020. Also see Hamrick, 2016.
281 Cf. NatureVest & EKO Asset Management Partners, 2014.
282 Gross, 2020.
283 Ibid.

There is risk that catalysing private financial flows will lead to private gains and social losses and continue proliferation of short-term, pilot projects

Given this track record, where is this segment of potential biodiversity finance heading? The 2020 Paulson, The Nature Conservancy and Cornell *Financing Nature* report calls for using government and philanthropic funds to catalyse private sector investment, and for national and subnational governments to "set policies and take actions to de-risk and incentivize private sector investment, build in-country support for sustainable commodity production".[284] What this demonstrates is growing understanding that private finance will not flow to CBD implementation without concerted government direction. This raises several questions. One is about risk distribution: how much risk will the public take on vs. how much risk will the private sector take on? Sometimes de-risking goes by the term "blended finance", which we take up in the following section (3.3), an approach also plagued with challenges and lopsided risk-return outcomes.

Another question is what kind of projects will private finance invest in, and how are private flows governed in relation to the three CBD objectives? What transparency and disclosure will be required of these financial mechanisms? And finally, how will known social impacts and questions of land rights be managed, particularly if the objective is to scale up existing efforts? As section 3.1 outlines, the evidence shows that when payments for ecosystem services projects are driven by the market, they become vulnerable to market fluctuations and tend to have an overly narrow focus on species and solutions of direct interest to buyers; they also tend to be less likely to integrate with social concerns. The research also suggests that the best and most just initiatives harmonise with existing values, knowledge systems, and institutions, and are based on recognition of stakeholder rights – this means that projects are slow and participatory, often inimical to scaling up. As one report writes in relation to climate finance, rather than trying to "shift the trillions" of private capital, our efforts may be better placed in modifying global political economic relations – like tax regimes, trade agreements, and regulations that can "structure markets in socially useful directions".[285]

Finally, there are concerns about private-sector or elite-driven "innovation" when it comes to biodiversity and how a culture of pilot projects that rarely achieve scale contribute to consistently missed CBD targets. Social scientists have demonstrated the ways that the fixation on innovative financial and conservation mechanisms and the culture of piloting creates "dynamics of expectations" among communities who are the recipients of these projects.[286] To get pilot projects running, project developers and policymakers raise expectations to enroll actors, especially when it comes to competing for grant funds and securing legitimacy with

[284] Duetz et al., 2020, p. 7.
[285] Reyes, 2020, p. 116.
[286] Massarella et al., 2018.

communities of practitioners.[287] But when the hype of expectations does not meet reality, public blame and judgment can occur *inside* communities that are enrolled in these projects. In this culture of piloting, many of the efforts made to push for projects crash with the overwhelming reality of implementation, significantly affecting communities who are constantly asked to participate in market-led conservation pilots, giving up time and energy, if not radically modifying their livelihood strategies. For example, in REDD+ pilot projects in Tanzania, funding was gutted after the pilot phase, leading project developers to withdraw while communities who had been enrolled were left to pick up the pieces.[288] The role of global finance and investment in these land-based projects has led organisations such as La Via Campesina to argue that their very premise, based on enabling a set of mechanisms driven by investment incentives and capital accumulation, "implies fundamental changes in the relation between people and their territories";[289] changes that reinforce a strong divide between culture and nature, disrupt the social fabric of indigenous communities, fishing communities, farmers, and even urban populations, and endanger the basis for the different relations of land and livelihoods.

The culture of innovation and seemingly endless small-scale demonstration projects that quickly fizzle out have led researchers to observe that pilot projects and models are "pervasive in contemporary conservation and development schemes".[290] According to Asiyanbi and Massarella, efforts to prove efficacy in demonstration projects tend to isolate the projects from the wider social context. For example, the Norwegian government, the principal funder of REDD+ in Tanzania, commissioned a series of studies to evaluate the success of REDD+ in the country between 2009 and 2014; the studies presented model projects as "success stories" with "lessons learnt", but failed to tell the full story.[291] Asiyanbi and Massarella point to the exclusion of information about the fragmentation of one village in Kilosa, where farmers were relocated from the newly defined village forest reserves. This relocation produced conflict between supporters of REDD+ in the area and farmers who refused to leave and continued farming in the reserve. By the end of the project the problem only increased; however, none of this information was included in the reports commissioned by the Embassy of Norway.[292] As it is becoming increasingly evident across market-based and profit-oriented conservation, REDD+ pilots and models cannot walk their talk. This does not, however, obviate the need for ex-post evaluation and monitoring of the performance of individual projects, or market-based strategies as a whole, given how widely they have proliferated and the vast sums of public money that have gone into their development.

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287 Dressler, 2017.

288 Massarella et al., 2018, p. 379.

289 Rogue Capitalism and the Financialization of Territories and Nature, 2020, p. 55.

290 Asiyanbi & Massarella, 2020, p. 477.

291 Ibid.

292 Asiyanbi & Massarella, 2020.

3.3 Blended finance is unlikely to deliver a sustainable future

Introduction

Blended finance uses concessionary or grant capital from non-governmental organisations, states, development banks, and philanthropists as a means of attracting private investors. While blended finance can mostly be seen as a principle for structuring financing rather than a financial mechanism, it can nonetheless be seen as a central underlying principle that was used to promote "new and innovative financial mechanisms". Blended finance has recently gained traction in a variety of policy areas, one of which is biodiversity financing. We explore the following three questions in an effort to interrogate the workings of blended finance: 1) What has been the role of blended finance as a form of development finance? 2) What is the broader political economic context that blended finance operates within? 3) Will blended finance engender the development of sustainable markets?

Key points

- The originality of blended finance should not be overemphasised
- The emphasis on blended finance is symptomatic of austerity and insufficient ODA
- There is no guarantee that blended finance and associated private investments are the most efficient solution to arrest biodiversity loss

The originality of blended finance should not be overemphasised

The Global Environment Facility's recent emphasis on so-called blended finance as a method for mobilising private finance for biodiversity conservation is indicative of the prominence that the concept has achieved over the last decade.[293] The main novelty of blended finance is its aim to support the Sustainable Development Goals, introduced in 2015. Before this, however, creating markets for private finance has been a central *raison d'être* for multilateral development banks (MDBs), and MDBs continue to serve this function, if only at an increased scale in recent years.[294] The use of capital from development finance institutions and states to actively facilitate markets is therefore far from new.

There is a proliferation of actors serving the blended finance trajectory. Non-governmental organisations and philanthropists now often see their role as actively supporting and applying blended finance approaches. While blended finance is often presented as a novel approach for making nature investable, it is difficult to ignore the central role that development finance, NGOs, and philanthrocapitalists have

293 Global Environment Facility Independent Evaluation Office, 2017.

294 Romero, 2014; Romero & Van de Poel, 2014; Dimakou, Romero & Van Waeyenberge, 2020; Christiansen, 2021.

played when it comes to market-based environmental governance, providing crucial support for new schemes like forest carbon markets.[295] It is possible that the role of non-profit or concessional financing is increasingly acknowledged as a tool for market-based environmental governance and that these tools are being refined as a result, but its "innovativeness" and ability to change the status quo should not be overemphasised as it has long been part of the development finance tool kit.

The emphasis on blended finance is symptomatic of austerity and insufficient official development assistance

The Sustainable Development Goals (SDGs) are often seen as a series of funding gaps that need to be filled – one way or another.[296] As we have accounted for in previous sections of this report, one feature that severely hampers actions to limit biodiversity loss is austerity and the inability (or unwillingness) to properly tax polluters to raise funding for mitigating biodiversity loss or, more ambitiously, to address the drivers in the form of regulation of development and investment.[297] Thus, the funding gap is not a fact of nature, but a political choice (much like choosing to continue subsidising biodiversity-averse extraction). In this context, scarce funding in the form of official development assistance is presented as mainly a means of attracting private investment for the SDGs.[298] Actors like the World Bank see the effort for meeting private investors' risk and return requirements as a precondition for "maximising finance for development".[299] Thus, blended finance as it is currently being promoted seems to have become a prominent financing strategy because alternative fiscal policies that challenge austerity internationally and nationally have been off the table.

It is, of course, difficult to dismiss any intervention that can be considered blended finance *tout court* since blended finance is merely a means of attracting private capital, but the goals of what that capital is to do remains a political question.[300] It is, however, a worrying tendency that the current framing of blended finance takes the biodiversity funding gap for granted as an absolute amount of capital, that the specifics of how that capital is allocated are not discussed, and that the main aim of blended finance in making biodiversity investable is thus to de-risk investments for private investors in order to make those projects more attractive. The effect of this within the field of climate finance, as Reyes has argued, is that blended finance is used to support projects that would have been invested in without

295 Holmes, 2012; Olesen et al., 2018.
296 Gabor, 2019.
297 See also Steinfort, 2019.
298 Mawdsley, 2020.
299 Bigger & Webber, 2021.
300 Gabor, 2020, p. 45.

any "blending" or that blended finance has been used to bail out failed projects.[301] In its most optimistic formulations, blended finance is seen to mitigate risk for capital and thereby facilitate new markets, but the risk with this approach is of course that it merely guarantees the incomes of investors and investment bankers rather than people and natures with greater need.[302] Meanwhile, the additional private finance that is attracted is intended to create a trickle-down "developmental additionality" (defined as the development benefits in terms of employment, sustainability, etc. that private finance on top of the initial public or philanthropic outlay is said to bring).[303] However, researchers have raised questions about the labour conditions in green finance projects, with one study showing precarious employment.[304] Market-based conservation can itself be part of entrenched social inequalities.[305] What then, we ask, is guaranteed with blended finance: secure employment and critical ecosystems or incomes for investors in developed countries?

There is no guarantee that blended finance and the private investments that it facilitates are the most efficient solution

The implication of thinking about biodiversity conservation as simply a matter of mobilising as much capital as possible is that more capital is necessarily an improvement. Such thinking takes the financing gap as gospel, reducing action on biodiversity to a question of finance. While additional financing is clearly needed, this cannot be the totality of action, and further, the source of investment matters. The preference for blended finance assumes that its application will necessarily "crowd in" private capital that would not necessarily have been used for biodiversity purposes otherwise. Unfortunately, the equation is not that simple. Research on other sectors shows that private/public partnerships (PPPs), a critical tool for blended finance approaches, comes with the cost of lower transparency.[306] This is sometimes the result of governments' attempts to support PPPs in order to lower their debt, but the result is lower parliamentary transparency.[307] Research by the OECD claims that guarantees are the best blended finance method for attracting private investments.[308] But if investments with a public guarantee fail, however, these investments themselves come with a public cost and that guarantee could have been spent otherwise. When blended finance is used to facilitate further public

301 Reyes, 2020, p.136.
302 Christiansen, 2021.
303 Andersen et al., 2019, p. 16.
304 Neimark et al., 2020.
305 Lopez-Alonso, 2017.
306 Hildyard, 2016.
307 Sundaram and Chowdhury, 2020.
308 Lee et al., 2018.

debt to private actors, there is a risk that blended deals can become a drain on existing public resources.[309] For example, the Republic of Seychelles recently issued what has become known as the world's first Blue Bond. The deal was supported with a guarantee and a concessional loan from the World Bank and the Global Environment Facility, and the proceeds from the bonds are intended for improving its marine management. While this deal technically did raise private capital in the form of debt, it is the Republic of Seychelles that is the debtor. Even if Seychelles' investments fail, Seychelles is nonetheless still committed to paying back the sovereign bond – with interest.[310]

While the above comments raise some principle issues when it comes to blended finance, it is difficult to say whether blended finance can fulfil its quantitative promises in the biodiversity space in terms of raising further capital. Again, it is worth being cautious, considering experiences from other sectors. Attridge and Engen soberingly argue that blended finance could not raise "trillions from billions", but rather "billions from billions", and that the private money mobilised through blended finance does not benefit the countries with the lowest incomes.[311] When examining private-public partnerships (PPPs), which have been a key vehicle for blended finance, Jomo et al. even go as far as concluding that "the evidence suggests that PPPs have often tended to be more expensive than the alternative of public procurement while in a number of instances they have failed to deliver the envisaged gains in quality of service provision, including its efficiency, coverage and development impact".[312] Such warnings are indeed worth heeding when blended finance is being proposed in the biodiversity space. Below we explore investment into REDD+ as an example of how much blending it can take to develop a market-based environmental governance mechanism.

The case of blended finance in REDD+

One way to illustrate these issues in blended finance is through an assessment of REDD+ financing. Initially envisioned as a global Payments for Ecosystem Services market wherein countries with at-risk forests could be rewarded on a market-basis for protecting those forests, REDD has, at best, morphed into a "results-based aid programme",[313] and at worst a tool for dispossession that creates no environmental benefit.[314] Between 2008 and 2015, multilateral development banks (MDBs), states and supranationals disbursed EUR17.2 billion (of which more than EUR2 billion was direct funding) through various channels to support the development of REDD+ programmes across the world. One report's best assessment is that this investment has netted all of EUR31 million in direct

309 Bigger & Webber, 2021.
310 Hunt, 2020.
311 Attridge & Engen, 2019; see also Reyes 2020, p. 136.
312 Jomo et al., 2016, p. 22.
313 Hook, 2019.
314 Asiyanbi et al., 2019.

funding from voluntary carbon offset trades.[315] Even if we include green bond financing (EUR131 million) as part of direct private financing, the report concludes that "REDD+ is predominantly a public sector supported mechanism."[316] Thus, on its own terms, blended finance appears to be far from an efficient use of public resources.

Proponents of REDD+ will argue that improvements in monitoring, verification, and, above all, forest governance, produce a range of other impacts and facilitate private investments in conservation indirectly that would not have happened otherwise. This includes supply chain sustainability improvements made possible by this increased governance capacity.[317] If this is indeed the case (though causation would be challenging to prove), then specifically funding capacity-building for supply chain governance would seem to be a sensible approach, rather than continuing to fund REDD+ development in anticipation of a global offset market that never seems to materialise, but which has incidental supply chain impacts.

All of this raises more questions. With major donors, such as the Norwegian government and the WBG, contributing a majority of REDD+ ear-marked money for governance, and governance comprising 56% of total public financial flows for REDD+, we must ask, who is governing what with improved capacity?[318] That is, are public funds building capacity for administering contracts for private governance or investment, or are they building institutions in line with, say, the objectives of the CBD, such as Article 10(c) that focuses on encouraging customary use of biological diversity or Article 8(j)?

Overall, REDD+ readiness may have achieved some concrete governance objectives, but its social and environmental outcomes are mixed at best, and it has manifestly failed in the economic register for which it was initially devised. The question is whether this is a good use of public and philanthropic funds. If so much public finance is needed to achieve such paltry outcomes, is blended finance realistic as a way to finance the implementation of CBD objectives?

3.4 Voluntary certification and disclosure schemes may have some impact, but rarely on the scale necessary to halt biodiversity loss

Introduction

At the 1992 Rio Earth summit, organised business lobby groups like the World Business Council on Sustainable Development and the International Chamber of Commerce, along with their government allies like the US and Japan, pushed back at any regulatory or binding efforts to stem biodiversity loss.[319] In lieu of international policies requiring corporations or financial institutions to internalise the social and environmental costs of their operation, voluntary mechanisms took centre stage.

315 Olesen et. al., 2018.
316 Ibid., p. 20.
317 Ibid.
318 Myers et al., 2018.
319 Rowe, 2005.

This marked the beginning of a wider shift in governance away from states and towards the market, what some researchers call "non-state, market-driven governance".[320] Since Rio, international actors have created a dizzying array of schemes. The commonality between these schemes is that compliance – and thus authority – is predominantly rooted in the market, not in the state. In this section, we examine different voluntary strategies that have proliferated in the decades since Rio with attention to their role in addressing global biodiversity conservation. Thus, this is not a systematic review of every voluntary scheme's impact on the ground, but instead an evaluation of market-based schemes as a stand-in for state-based governance with regard to the scale and strength of their efforts. Overall, the nature of voluntary mechanisms – that is, the lack of enforcement or accountability – leads to a great deal of publicity for alternatives to strong state-driven policies, but, ultimately, very marginal impacts. We question the continued rollout of new voluntary efforts such as the Task Force for Nature-Related Financial Disclosures when there is little evidence that they will be able to provide change on the scale or time frame needed to meaningfully impact biodiversity loss.

Key Points

- Voluntary mechanisms that rely on businesses to "do the right thing" have failed to drive action at the pace or scale necessary to meet targets
- Risk management in international finance is insufficient for advancing action on biodiversity loss
- Schemes that rely on voluntary disclosure struggle on their own terms, and have yet to demonstrate that risk-based "market discipline" can rein in harmful finance
- Reining in finance's impact on biodiversity will require regulation

Voluntary mechanisms that rely on businesses to "do the right thing" have failed to drive action at the pace or scale necessary to meet targets

Voluntary models are predicated on the belief that consumers, at the level of individuals, businesses, or investors, like pension funds, will drive change. Environmental targets will be met, the theory goes, if actors have more information about the impact of activities and can then use that information to make better, more sustainable choices. These mechanisms, therefore, largely assume that a majority of actors will "do the right thing" when it comes to reducing biodiversity loss. While some do, evidence points to the marginal proportion of industry uptake, lack of adherence to agreements from those enrolled, and poor strength of professed environmental targets.

[320] Cashore et al., 2007.

Commodity Certification

One class of voluntary mechanisms focuses on standardising and uplifting the production of commodities in ways that cause less harm to ecosystems.[321] The Forest Stewardship Council (FSC), formed in 1993 in the immediate wake of the Rio Earth Summit, is one such mechanism, and an important one with regard to biodiversity and habitat. One of the FSC's guiding principles is to maintain high conservation value (HCV) forests alongside resource extraction. While occasionally successful at the local level, commodity certification schemes present clear issues of scale. For example, despite being the largest forest certification regime, the Forest Stewardship Council (FSC) currently has 213,916,033 hectares under its purview.[322] This amounts to a mere 5.35% of the world's 4 billion ha of forest. While overall certification was estimated to cover 424 million ha of forests in 2019 (down 7 million ha from 2018),[323] FSC is considered uniquely rigorous, in standard-setting, auditing, and required consultation with environmental and indigenous groups, especially when compared to other certification regimes.[324] For example, a recent (2020) review of five large forest certification schemes found that "most of the elements considered in the FSC Principle 6 (Environmental Impact) are either only superficial, or not addressed at all, in the other four programs".[325] Moreover, certification schemes must compete with each other – as with the industry-led Sustainable Forest Initiative, started by the American Forest and Paper Association, which competes with FSC in the United States and Canada[326] – potentially leading to a kind of certification "race to the bottom".

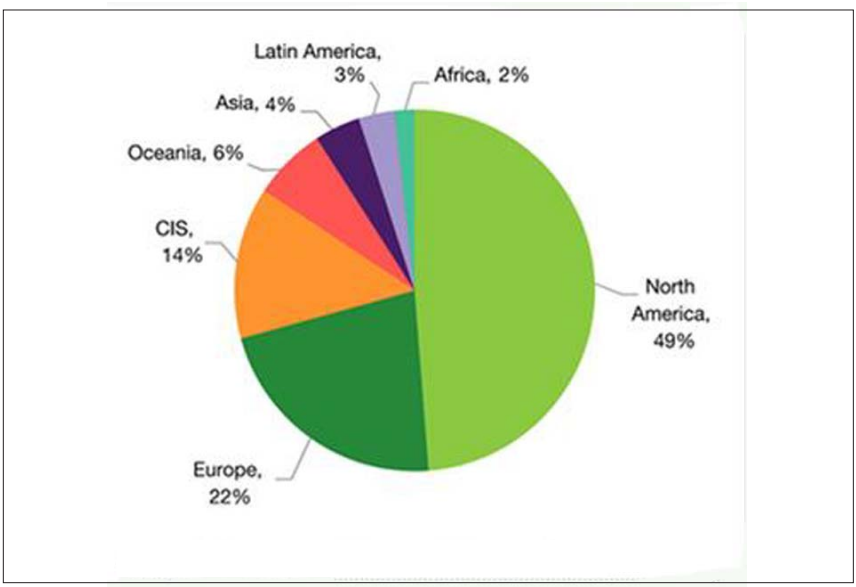
Geographic distribution of certified forest has also been a matter of concern, with the vast majority of forest certification occurring in the US, Canada and Europe.[327] Figure 8 shows the most recent geographical breakdown provided by the Forest Products Annual Market Review. The central explanation for this issue – and that of the scale – is that market uptake of certifications such as the FSC's has been "sparse and uneven", especially in tropical areas in developing countries, likely due to a lack of demand for "eco" certified products.[328] The same seems to be true for non-forest industries such as fisheries.[329] As with myriad other "green" products, change moves at the pace of consumer interest or ability (meaning, ability to pay more for products), a pace insufficient for reducing the rates of biodiversity loss. A 2020 review of FSC's smallholder certified forests (defined as small in area, private or communal ownership and/or management rather than corporate, and managed

321 For more on the impacts of international trade on biodiversity loss, see section 2.2 of this report.
322 Forest Stewardship Council, 2020.
323 United Nations, 2019a. p. 16.
324 Gutierrez Garzon et al. 2020.
325 Gutierrez Garzon et al. 2020.
326 Moore, et al., 2012.
327 Auld et al., 2008; United Nations, 2018. p. 18.
328 van der Ven et al., 2018.
329 Bush et al., 2013.

for multiple forest values rather than maximum timber yield), found that two-thirds are in developed countries, where smallholders are "more likely to be price-makers". In developing countries – where more biodiversity and more degradation is taking place – smallholders are more often in a "sell to survive" situation, and thus tend to eschew lengthy certification schemes that are also costly.[330] Forests in developing countries both house more of the planet's remaining biodiversity and are more vulnerable to degradation. Economic and social realities dictate that smallholders in developing countries are largely constrained by having to sell their timber to survive and fall in the price-takers category.

Additionally, in areas where commodity certification *is* present at a significant scale, there are still barriers to success.[331] Recent studies show that even in countries with comparatively strong uptake of certification for commodities such as soy, palm oil, and cocoa, negative land-use change (deforestation) is proceeding at pre-certification rates, or has worsened, a phenomenon that can likely be explained by the presence of regulatory loopholes.[332]

Figure 8: Share of certified forest area, by region, 2017.[333]CIS is the Commonwealth of Independent States.



330 Bulkan, 2020.

331 Bush et al., 2013, note that certification schemes are often thought to fill governance gaps in developing countries, even though this is not always the case on the ground. We highlight this assumption here to make clear how certification schemes, and other voluntary efforts, can be framed as alternatives to state regulatory approaches, which may be rendered political or economically inviable. While this section focuses on the bait-and-switch of voluntary mechanisms in national and multilateral policymaking, we also cover how austerity impacts regulatory ability in Part 2 of this report.

332 van der Ven et al., 2018.

333 Source: United Nations, 2018, p. 18.

Another point that emerges from the literature is the relative marginality of biodiversity conservation within standards themselves. In the case of the FSC, the main goal of the policy is the regulation and management of a biophysical resource that is deeply embedded in commodity production. Cashore et al. suggest that the conundrum facing voluntary certification regimes is that they must balance the demands of addressing the environmental and social problems they were created to confront while not outweighing the (real or perceived) economic benefits.[334] Although consideration of biodiversity appears in the FSC and other certification regimes, it is crucial to note that it stands as one part of a wider standard. Bush et al. note that most impact assessments tend to focus at the level of a single species, rather than at the level of an ecosystem where more systematic biodiversity conservation or loss might be evaluated more accurately.[335] This track record arguably reflects the relatively marginal position of biodiversity conservation in the policy.

Corporate Social Responsibility

While commodity certification mechanisms like FSC may be loosely tracked based on land-use change or market shares, the impacts of other corporate social responsibility (CSR) agreements on nature loss are even more challenging to quantify. Many global agreements celebrate success by the number of supporters who attach their names to these efforts, while the changes to these businesses practices remain limited, and internal targets they set are often weak. Thus, these projects seemingly create a big splash, claiming thousands of businesses or investors have signed on, when the reality is a far bleaker picture: a handful of actors "doing the right thing" – or worse, professing concern without subsequent action – while entire destructive industries remain unregulated and unaccountable for harm, past or present.

The 20-year history of the United Nations Global Compact illustrates this issue well. The Global Compact is a corporate sustainability initiative meant to align business practices with the Sustainable Development Goals under the premise of a shared moral imperative. Despite boasting the support of 10,000 business participants, their recent (2020) report states that action on these goals has been far from enough and that more concrete uptake of the compact's principles is needed.[336] For one example, this report, based on interviews with 40 participants, most at the level of Chief Sustainability Officer, found that "only 15 per cent of survey respondents have targets that have been approved by the Science Based Targets initiative", which evaluates targets for greenhouse gas emissions against the 2015 Paris Agreement.[337] The problem, of course, is that these efforts have few tools to enforce stricter targets beyond their perennial calls to action and reminders

334 Cashore et al., 2007.
335 Bush et al., 2013.
336 United Nations Global Compact, 2020.
337 Ibid., p. 14.

that "time is running out".[338] In the Global Compact 2020 report, particular emphasis is put on how businesses are still failing to recognise the consequences of their own environmentally-harmful actions, which is the very thing that these CSR efforts promised to facilitate.

Researchers have pointed out that initiatives such as the Global Compact face multi-dimensional barriers, including "vague and difficult to enforce guidelines, low participation rates, an uneven business case, and confusion arising from multiple and competing initiatives".[339] Additionally, when it comes to the case of large voluntary agreements, the entangled nature of the financial system itself is a barrier, making it difficult to discern who bears the brunt of the responsibility for biodiversity loss. While there are methodological issues that arise from trying to quantify the impacts of Corporate Social Responsibility agreements on biodiversity, two things emerge from the literature: (1) most voluntary mechanisms have struggled to receive widespread adoption and implementation from businesses, and (2) extractive activities are continuing (and in some cases, accelerating) at unsustainable rates, even decades on from Rio. In the next section, we examine efforts to discipline businesses through the financial sector.

Risk management in international finance is insufficient for advancing action on biodiversity loss

In 2005, the famed Freshfields report concluded that accounting for "environmental, social, and governance" (ESG) issues into investment analysis was not only legally permissible *vis-a-vis* fiduciary duty, but arguably "required".[340] The report, commissioned by UNEP Financial Initiative, set in place what was already a movement to encourage finance to consider factors outside of return, not in opposition or contra the profit-motive, but as a part of due diligence process that remains staunchly return-focused. Considering "ESG", it was found, was simply good investment practice; it reduces investor risks. Alongside the legal Freshfields analysis came a raft of third-party environmental, social and governance initiatives that encourage financial institutions to advance ESG integration. Below we address the Equator Principles, the United Nations Principles on Responsible Investing, and the IFC Performance Standards.

In 2003 the Equator Principles were launched, as a "financial industry benchmark for determining, assessing and managing environmental and social risk in projects".[341] In a similar way to the Global Compact, the Equator Principles are

338 Ibid., p. 11.
339 Clapp, 2017.
340 United Nations Environment Program Finance Initiative, 2005.
341 Equator Principles, 2020.

entirely voluntary; the theory of change is that large multinational banks will benefit from limiting the practice of lending to or funding projects that drive biodiversity loss.[342] As with the Compact, evidence of impact has been minimal.[343] One researcher notes that a major limitation to voluntary approaches like the Equator Principles is that they typically only apply to project finance and do "not reflect other very common financing practices in the finance sector, which are namely the underwriting and management of shares or bonds. Hence, the investment part of transactions is completely left out".[344] This oversight is supplemented by the various "loopholes, grey-areas, and discretionary leeway" that continue to plague evaluation efforts.[345]

Banks that subscribe to the Equator Principles, such as Barclays and JPMorgan Chase, have repeatedly come under fire for approving environmentally-harmful projects such as oil, gas, and mining.[346] Of particular note was the revelation that "13 of the 17 banks that financed the Dakota Access pipeline project were signatories to the Equator Principles".[347] Following this high-profile gaff, the Equator Principles promised stricter revisions to their recent update, particularly on human rights, climate change, and Free, Prior and Informed Consent.[348] However, Clapp notes that the only aspect of the financial sector that responsible investment programmes are likely to shift is discourse; thus far they've proven to lack the teeth to support any material change beyond this.[349]

Recent research from Portfolio Earth found that high-profile banks – many of whom are signatories to some kind of voluntary investment principles – are implicated in financing deforestation by delivering debt and equity financing to agribusiness to the tune of USD 44 billion.[350] The report argues that banks, regardless of adherence to voluntary mechanisms, will not be the ones to "draw the line" in the sand on extraction:

> "For instance, the CEO of Goldman Sachs argued in January 2020 that the bank should not decline to work on deals with companies that lack environmental credentials. He said: 'Should we draw a line and say we will not raise money for a company that is a carbon company, a fossil fuel company? And the answer to that is, we're not going to do that, we're not going to draw a line.'"[351]

342 Hennig & Worsdorfer, 2015.
343 Ibid.
344 Ibid., p. 26.
345 Ibid., p. 4.
346 Ibid.
347 Heim, 2019.
348 Davies Ward Phillips & Vineberg, 2020.
349 Clapp, 2017.
350 Portfolio Earth, 2020.
351 Portfolio Earth, 2020, p. 25.

According to that same report, of the top 10 banks with the most finance at risk in the fossil fuel sector,[352] all but Goldman Sachs are members of the Equator Principles, and six reportedly have higher exposure than Goldman.[353] While Goldman Sachs is not a member of the Equator Principles, it is a member of the UN Principles on Responsible Investing (UNPRI). Similar to the Equator Principles, UNPRI is a cohort of institutional investors who have agreed to invest with ESG principles at the fore. While signatories report on their achievements in line with the principles, they remain entirely voluntary with no internal enforcement. As Rowe et al. note, "PRI has no requirement that investors implement [their principles], and research suggests that it fails to hold signatories to any minimum standard of practice in their investment activities".[354]

A report by UNPRI paints a similar picture, drawing from a recent (2020) "collaborative engagement" between institutional investors and 25 of the world's largest oil and gas companies. In summary, the report states that "whilst climate-related disclosure is improving and there is growing recognition of the need for action, the oil and gas sector's current emissions trajectory is insufficient to avoid the catastrophic impacts projected by global warming scenarios".[355] Additionally, the report indicates that out of the 25 companies, five of them have no apparent plan for reducing emissions whatsoever.

The International Finance Corporation (IFC), an investment arm of the World Bank, has also chosen to emphasise ESG in its lending by implementing Performance Standards (PS) on its clients. Most significant for this paper is PS6, which requires that companies "implement a mitigation hierarchy of avoiding and minimizing impacts and offsetting any residual impacts on natural habitats to achieve no net loss or, in the case of critical habitats, a net gain of biodiversity" in order to receive financing from the IFC, which is often accomplished via biodiversity offsetting.[356] Vaissière et al. note a number of challenges for ensuring that these contract-based projects adequately compensate for "locally irreversible frontloaded loss of biodiversity", and argue for more research, monitoring, and enforcement for these schemes.[357] Thus, although PS may offer additional ways to extend voluntary certification, they play a limited and somewhat fraught role as with many of the other voluntary mechanisms discussed above (see section 3.2 for more insight on biodiversity offsets).

352 Portfolio Earth, 2020, p. 67.
353 The Equator Principles (n.d.)
354 Rowe et al., 2019.
355 Principles for Responsible Investment, 2020.
356 Vaissière et al., 2020.
357 Ibid.

Portfolio Earth's report succinctly lays out the state of large voluntary agreements today, claiming that "voluntary action is not a substitute for legal and regulatory reform. Global initiatives such as the Consumer Goods Forum, the United Nations Global Compact (UNGC), the Equator Principles, and the Principles for Responsible Investment have not led to transformative changes".[358] As we discuss in the last point of this section, turning off finance to destructive projects faces many challenges in the realm of voluntary mechanisms, but is not impossible with regulatory action.

Schemes that rely on voluntary disclosure struggle on their own terms, and have yet to demonstrate that risk-based "market discipline" can rein in harmful finance

The recently-launched Task Force on Nature-Related Financial Disclosures (TNFD) (est. 2020) and its climate cousin (TCFD) (est. 2015), are both designed under the same theory of change: when investors become aware of their climate- or nature-based risks, they will change course. Both TNFD and TCFD seek to implement standardised disclosure recommendations to companies and investors about the risks to their portfolio that might accompany a changed ecosystem or climate (respectively). These risks include not only the threats of extreme weather or deforestation, but also projections about the subsequent policy landscape that may result from such events (i.e. governments transitioning off of fossil fuels, or regulating certain land-use activities). Using the 2008 housing bubble and market crash as cautionary tales, these mechanisms warn that if investors don't take stock of their entanglements with industries under threat of collapse, overall financial stability will follow suit. This emphasis on a self-regulating market has led scholars to argue that TNFD and TCFD represent an outsourcing of state regulation to the financial sector.[359] Brett Christophers describes the emphasis on disclosure as a tactical political response, characterising "a distinctively neoliberal 'light-touch' regulatory approach, whereby disclosure in and of itself is expected to do the work of maintaining stability".[360] Given the lack of information for the newly-announced TNFD, this section focuses on what can be learned from the plight of the Task Force on Climate-Related Financial Disclosures thus far.

Like the UN Global Compact, and other voluntary mechanisms, TCFD has been very successful at organising supporters, and currently boasts the support of 1,500 organisations globally, including over 1,340 companies with a market capitalisation of USD 12.6 trillion.[361] However, in the TCFD's five-year history, they have not been

358 Portfolio Earth, 2020, p. 32.
359 Christophers, 2017.
360 Ibid.
361 Task Force on Climate-Related Financial Disclosures, 2020.

able to shift investor behaviour enough to keep pace with Paris Agreement targets.[362] The TCFD 2019 Status Report stated that disclosures "remain far from the scale the markets need to channel investment to sustainable and resilient solutions".[363] The recent 2020 Status Report echoes these concerns, stating that "companies' disclosure of the potential financial impact of climate change on their businesses and strategies remains low", and emphasising the need for "faster progress".[364] It cannot be stressed enough that time is of the essence in this matter, and that TCFD's failure to deliver on the premise of its value – information – means that the subsequent promise of investor behaviour is quite far behind, if it will arrive at all.

Even if disclosures were proceeding at a faster rate, by TCFD's own admission, most investors have yet to see the climate crisis as a threat to business as usual,[365] and therefore are unlikely to take recommendations for mitigating climate risk. After conducting interviews with global investment institutions (from 2017-2018) Christophers found that, despite the claims that disclosure would create change in investor behaviour, most investors were slated to remain in fossil fuel companies, and believed that they would continue to be profitable.[366] The findings of this research are supported by a 2016 survey of institutional investors conducted by Ameli et al., who note that participants did not see threats coming down the pike to their investments from either strong climate policy or actual environmental risk.[367] Moreover, the authors of that report argue that the foundational logic of TCFD – the "efficient market hypothesis", which supposes that reporting and transparency will lead to behaviour change – is "unsupported by either theory or evidence".[368] While it may be argued that these surveys are outdated, especially given how the climate crisis becomes more acute each year, an interim report (released December 2020) of a study by BlackRock found that the majority of Europe's banks have not formalised a clear ESG risk strategy.[369] Reyes, writing in 2020, highlights that this trend is widespread:

> "A recent survey by KPMG found that three-quarters of large companies still do not identify climate related risks in their annual reporting, with the financial sector amongst the worst in that regard. And when companies do report on climate change and sustainability, they typically ignore many of the long-term risks. Companies that voluntarily disclose their carbon footprint are not required to take any action on this basis, and many enter such schemes simply to enhance their reputation. In short,

362 Task Force on Climate-Related Financial Disclosures, 2019.
363 Ibid.
364 Task Force on Climate-Related Financial Disclosures, 2020, p. 4.
365 Task Force on Climate-Related Financial Disclosures, 2019.
366 Christophers, 2019.
367 Ameli et al., 2020.
368 Ibid.
369 Jessop & Abnett, 2020.

disclosure only works if it is 'mandatory and prescriptive' and connected to measures that require companies to limit their exposure to fossil fuel and other high-carbon investments."[370]

We imagine that the "nature risk" principle might face similar, or more severe, barriers to disclosure. While there are a few clear cases where certain species declines pose direct links to a firm or an investment (e.g. pollinators), for the most part, biodiversity loss is a systemic risk to the whole economy, and these risks cannot be individuated to specific firms easily.[371] Ultimately the most potent risk is that of clear state regulation and the reputational risks that social movements may bring about by highlighting the worst actors.

Mandatory disclosures, however, may help to bring about change on both of these fronts. Reyes notes that "climate-related financial disclosure makes visible who is bankrolling climate change", and is hopeful that some governments are beginning to require disclosure.[372] These requirements must be paired with strong climate or biodiversity policy, which requires state action to stop environment-harming activities, rather than waiting for investors to lead via behaviour change. Even mandatory disclosures do not automatically lead to less high-carbon investment, and Reyes notes a key limitation that "most bank shares are held by institutional investors, whose fund managers are generally not authorized to move investments on the basis of ethical concerns".[373] That is, they are legally responsible for maximising returns, not investing with concern for moral or ecological matters except where they are known to influence return (as per the Freshfield report, described above). Thus, further action upon mandatory disclosure is needed; we discuss the possibilities for addressing this action in the following section.

Finally, we would be remiss not to consider the social implications for approaching climate change and nature loss primarily as a threat to the global economy. Christophers describes this distinction through the example of a Pacific island facing sea level rise: if the island is disconnected from the global financial system, is this a "climate risk" the TCFD is concerned with? Not likely.[374] Edwards et al. put this concern about the TCFD methodology more bluntly: "The inclination of markets to discriminate purely on financial terms risks decisions and actions devoid of public good and/or consideration of those most exposed and vulnerable to climate risk."[375] They urge us to consider how these limitations would continue to be reproduced, even if required disclosure was adopted by the public sector.[376]

370 Reyes, 2020, p. 95.
371 Dempsey, 2013.
372 Ibid.
373 Reyes, 2020, p. 64.
374 Christophers, 2017.
375 Edwards et al., 2020.
376 Ibid.

Thus, while disclosure is gaining popularity among certain institutions, there is a far distance to travel for these mechanisms in (a) uptake of disclosing climate and nature risk; (b) demonstration that this disclosure shifts financial flows in ways significant to the mounting climate and biodiversity crises; and (c) mandates for disclosure among states and financial regulators. As we discuss in the following section, it ought to be considered what should be done with this information once it is disclosed, if we are to truly use it as a means of addressing destructive industries and practices.

Reining in finance's impact on biodiversity will require regulation

Before evaluating potential mechanisms for reining in harmful finance, it's critical to note that despite their evident inadequacy at preventing biodiversity loss, the fact that a number of high-profile institutions have felt the need to adopt a range of voluntary measures demonstrates that finance and business felt some global pressure. But waiting for the threat of ecological collapse to create material risks for Fortune 500 CEOs is – and has been – a losing strategy. The idea that funding and regulating biodiversity protection should be outsourced to the private sector is increasingly being met with scepticism, even by financial elites. Take the recent Paulson Report, which emphasises the role of governments in setting and funding policy agendas, not the private sector.[377] While some of this work reiterates the well-worn mantra that governments need to better set the table for the private sector with policy and "catalysing" public funds, it is worth reviewing some of the proposals for state action that could rein in harmful flows of finance.

First, of course, disclosure of impact on biodiversity can be required and made public. From here, governments can legislate liability regimes for financial actors to build in accountability for financial flows negatively impacting biodiversity.[378] Fiduciary duty and associated concepts that govern institutional finance can be revised to require protection of public goods like a safe climate and biological diversity and to include legal agreements like the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).[379] Additionally, public pensions, sovereign wealth funds, and central bank policies could be required to align with CBD decisions and targets.[380]

Overall, financial regulation (such as higher capital requirements for banks' investments in activities that are likely to lead to biodiversity loss) could further nudge financial institutions to not invest in biodiversity loss in the first place.[381]

377 Deutz et al., 2020.
378 Portfolio Earth, 2020.
379 Rowe et al., 2019.
380 Portfolio Earth, 2020; Reyes, 2020.
381 Reyes, 2020.

Some economists have started to model how a penalising factor for fossil fuel investments and a supporting factor for green investments can slow down climate change.[382] While such proposals require clear and legally sanctionable definitions, biodiversity considerations could be incorporated into these important proposals. The Bankrolling Extinction report describes some changes to banking regulations and processes that could better address the risks of biodiversity loss:

> "Alongside the immediate exclusion of practices with devastating impacts on biodiversity, the frameworks in which banks operate need to be overhauled. This includes the systematic inclusion of biodiversity considerations in lending decisions, risk management, and the development of corresponding due diligence systems. It also necessitates the development of procedures to measure the impact lending activities have on biodiversity, and transparency when it comes to reporting risks and impacts. Most importantly, in order to cease funding activity with detrimental effects on nature, banks will have to accept that as enablers of such activities, they are co-responsible and liable for their impacts."[383]

There is no shortage of ideas to reform financial markets in service of a livable planet. These proposals face a number of barriers to their actualisation, namely the consolidated power of the financial and corporate sectors.[384] Moreover, these actions alone can neither stand in for a reckoning with past environmental harm, which we explore in Part 1 of this report, nor the ongoing impacts of austerity, inequality-refinancing policies, corporate-focused trade rules, and investment policies discussed in Part 2. Yet, in the face of perpetual and ineffectual voluntary schemes, it is important to forefront the many options we do have for regulating the industries and investors who continue to finance biodiversity loss with few material consequences.

382 Dafermos & Nikolaidi, 2020.
383 Portfolio Earth, 2020, p. 32.
384 Reyes, 2020.

Conclusion and recommendations

The research we have presented in this report should make one thing abundantly clear: anyone who seeks to address biodiversity mass extinction and its political-economic causes and consequences solely, or even primarily, as a funding problem will fail on their own terms *and* on broader moral registers. What we call "gap mentality" suggests that we can solve biodiversity loss by throwing money into a pit until it is full, creating a bridge to the desired outcomes. While more resources are undoubtedly required to realise CBD objectives, reducing the scale and scope of the problem to one of funding will, at best, tinker at the edges of the crisis. Gap talk may be rhetorically powerful to demonstrate one (key) challenge we face in maintaining global biodiversity, but the gap tells us very little about what, or who, caused the gap in the first place, what is making the gap deeper, what the social and environmental impact of conservation finance is on the ground, and if the proposed mechanisms are actually closing the monetary gap. Furthermore, overemphasis of the gap often obscures the actual work we need to do to confront the current ecological crisis and prevent it from getting worse. Filling a pit with money on unstable, deeply inequitable ground is not a reliable path to transformative change.

We demonstrate the limits of this "gap mentality" through two distinct but interlocking threads. First, the ideology and rules that govern the global economy are poorly suited to confronting environmental issues as a whole, and biodiversity loss in particular. The global economy is driven by an insatiable need for growth, and politics are largely framed by that need. This leads to all manner of policy choices that fuel biodiversity loss, from the debt/austerity nexus to the continued subsidisation of extractive industries that directly and indirectly harm biodiversity. Second, we have explored contemporary mechanisms for channelling resources to biodiversity conservation or restoration and found them wanting. These mechanisms largely cleave to extant modalities of global governance that fetishise markets, and reinscribe the dominance and decision-making monopoly of powerful states and non-state institutions like banks, business and industry non-governmental organisations (BINGOs), and supranationals.

If the gap mentality continues to dominate debates over resources and finance, we are likely to see the continuation of biodiversity loss. Governments around the world actively subsidise extractive industries and encourage extractivism through trade deals. International debt relations and austerity impede government action and furthermore push developing countries to double down on extractivism. Continuing down this path only leads to further biodiversity loss and will continue to pose immediate threats to indigenous communities, women and the most

disenfranchised while benefiting the most wealthy and secure communities. Additionally, while austerity, trade deals, neo-colonial debt relations and extractivism are certainly driving biodiversity loss, we also need to acknowledge the tremendous human suffering that has historically accompanied these policies and continues to do so.

Amidst these unsustainable and unjust global political and economic patterns, a series of market-based and voluntary measures are presented as potential solutions. While the social implications of such approaches vary, there are clear examples of how market-based approaches have led to ongoing dispossession of local and indigenous communities. Market-based approaches have not delivered environmental or economic outcomes at scale and require strong state institutions or "blended finance" to get off the ground in the first place. Many market-based approaches themselves remain economically *marginal*, and we might add that, at best, they are marginal in a second sense: they only marginally slow down the ecocide we are facing, and do not fundamentally put us on a more sustainable path. Pursuing market-based biodiversity governance rather than addressing the extractive world economy as a driver of biodiversity loss is best understood as a form of extinction delayism, which postpones substantial action for another year, another decade.

It is apparent that we must move "beyond the gap", and beyond market-based and voluntary efforts, in our strategies for addressing biodiversity loss in order to ensure that the pattern of deferred action does not repeat itself. To start, there is an emerging evidence-based consensus pushing for strong state and multilateral action to regulate and redirect those flows of biodiversity and community-degrading finance, and a reasserted emphasis on shoring up public and multilateral institutions capable of rectifying past and present global inequalities. Only by placing biodiversity loss in the global economy will it be possible to realise the post-2020 Global Biodiversity Framework's call for "transformative, inclusive and equitable change across economies and society".[385]

Drawing from the analysis undertaken, below we provide a series of specific recommendations directed to policymakers at the CBD and their home governments. We organise these recommendations under four primary headings: reforming the debt/austerity nexus that characterises the organisation of the global economy; holding the institutional actors responsible for biodiversity loss to account; acting on inequality across and within countries that impede action on the drivers of biodiversity loss; and fostering broader social transformations that create a more sustainable world for all its human and non-human inhabitants. While these recommendations push at the bounds of what has previously been considered politically realistic, they are proportionate to the scope of the problems and necessary for moving beyond the gap.

[385] Secretariat of the Convention on Biological Diversity, 2020.

Recommendations

1) **End the debt-austerity nexus that fuels extractivism and impedes CBD implementation.** To advance the call for transformative change, Parties to the CBD must:

- Reject austerity/debt-led international and national policies that continue to cripple advancement of CBD and Sustainable Development Goal (SDG) objectives as well as pandemic recovery, and instead push for robust North-South transfers necessary to support global health, climate and biodiversity.[386]
- Reaffirm and deliver on Article 20 obligations not as aid or charity but as payment for developed countries' vast ecological debts.
- Increase Global Environment Facility and other funding to Indigenous and community initiatives.[387]
- Push for sovereign debt restructuring in line with CBD objectives and decisions, including some level of debt cancellation or restructuring that can allow governments to prioritise investments in quality public services as well as pandemic recovery that is just and sustainable.[388] As part of this effort, CBD Parties should request the Subsidiary Body on Implementation (SBI) to undertake a study on the relationship between debt, austerity and CBD implementation, with a view to removing specific impediments to CBD implementation.

2) **Regulate finance and penalise industries known to damage biodiversity and the rights of Indigenous peoples and local communities.** The language in the current GBF is weak, and there is a risk that the emphasis will be on voluntary disclosure and actions well-known to be ineffective. Parties should:

- Eliminate subsidies harming biodiversity and communities, and redirect these financial resources, along with wasteful military spending, to support Indigenous, peasant and smallholder stewardship.
- Actively support efforts to develop an international, legally-binding instrument on business and human rights that incorporates clear liability standards for corporate violations and abuse of human rights and guarantees victims' access to remedy and justice, including restoration and compensation for damage to biological diversity.[389]

386 See Kozul-Wright, 2020.

387 See also Forest Peoples Programme, 2020.

388 Ibid. Please note that this recommendation does not endorse debt-for-nature swaps, which we review in section 2.1.

389 See Office of the United Nations High Commissioner for Human Rights, n.d.

- Revise fiduciary duty and associated concepts that govern institutional finance to require protection of public goods like a safe climate and biological diversity, and to include commitments to international legal norms and standards like the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP).
- Require public pension funds, sovereign wealth funds, and central bank policies to align with CBD objectives and decisions through regulation (not voluntary measures).
- Ensure trade and investment agreements do not have provisions that negate or undermine CBD objectives and wider human, Indigenous, and peasant rights.
- Implement the "polluter pays principle", including taxes or levies on damaging activities like international shipping, extractive industries and industrial agriculture, for example.
- Establish a legal obligation of due diligence including the obligation to consider, identify and disclose biodiversity risks at every level of the investment chain, including upon institutional investors and asset managers. This due diligence obligation should be associated with commensurate sanctions in case of non-fulfilment.
- Establish rules pertaining to corporate disclosures, including Environmental, Social and Governance (ESG) risks, in a way that improves the quality, standardisation and comparability of the non-financial disclosures about key sustainability risks, including biological diversity.[390]

3) **Ensure biodiversity finance does not impede transformative change nor undermine CBD objectives, UNDRIP, and UNDROP.** The record of voluntary and market-based mechanisms, including offsets, is disappointing across social, economic, and environmental criteria, yet they continue to hold prominence in CBD discussions. Parties should:

- Reject financial and market-based mechanisms that impede or undermine necessary transformative change, like biodiversity and ecosystem-based carbon offsets that legitimise business-as-usual extractivism and power relations.
- Ensure that market-like incentive schemes such as PES, if used, support efforts to address indirect and large-scale drivers of biodiversity loss, including inequitable development and resource use, and respect the rights of Indigenous peoples and local communities.

[390] See Johnston et al., 2019.

- Ensure that biodiversity financing advances all three objectives of the CBD and does not undermine decisions taken to advance and secure the rights of Indigenous peoples, peasants, women, and local communities.
- Strengthen safeguards for all flows of biodiversity finance – including private and public – to ensure the free, prior and informed consent of all rights-holders and other stakeholders.[391]
- Reject blended finance and public-private partnerships that continue to socialise losses and privatise gains, and instead implement strong regulatory approaches as outlined above (under point 2) that will more effectively shift capital flows away from degrading activities.

4) **Reduce domestic and international wealth and power inequalities that impede transformational change.** Wealth inequalities concentrate power, and this power makes the necessary transformational policy change difficult. Parties should:

- Enact effective safeguards for environmental and land defenders.[392]
- Support the development of a UN Tax Convention to address tax havens and tax abuse by multinational corporations and other illicit financial flows through a universal and intergovernmental process.[393]
- Implement progressive tax measures, including but not limited to international and national wealth taxes, and raising tax rates of global banks and large firms, to increase funding available for CBD implementation, to support a just recovery from the pandemic, and to redress the social and environmental impacts of inequality.
- Support antitrust measures that break up the power of big finance and corporations which hold disproportionate influence on policymaking.

5) **Act on dismantling class, caste, racial and gender inequalities that underpin biodiversity loss and impede conservation and sustainable use**. Parties should:

- Recognise the role that racial, gender, caste and wealth inequalities play as drivers of biodiversity loss and as impediments to the three objectives of the CBD.[394]

391 See also recommendation in Forest Peoples Programme, 2020, p. 29.
392 Ibid., p. 13.
393 See United Nations Intergovernmental Tax Commission, n.d.
394 See, for example, Tendayi Achiume, 2019.

- Establish an expert group, to report to SBI 4, to further study the relationship between racial, gender, caste and wealth inequalities and CBD objectives/ decisions.
- Focus resource mobilisation – including the GEF resources – on supporting ongoing stewardship and legal/political orders of Indigenous peoples and smallholder fishers/farmers who are enacting conservation and sustainable use, but who for so long have been criminalised and blamed for the loss of biodiversity.

Appendix A

In this appendix we try to *approximate* carry-over in the GEF biodiversity focal area rather than the carry-over for entire GEF replenishments, which can be found in section 1.2 of this report. It is important to emphasise that this is our best way of heuristically illustrating the carry-over in this specific focal area based on publicly available data from the GEF, but we are unable to guarantee that this methodology can accurately show exact carry-over from the biodiversity focal area relative to other focal areas. The preliminary results of this investigation can be found in Figure 9 below. However, we urge the reader to approach these numbers with care since assessing exactly how carry-over is represented in different GEF focal areas would require further accounting research.

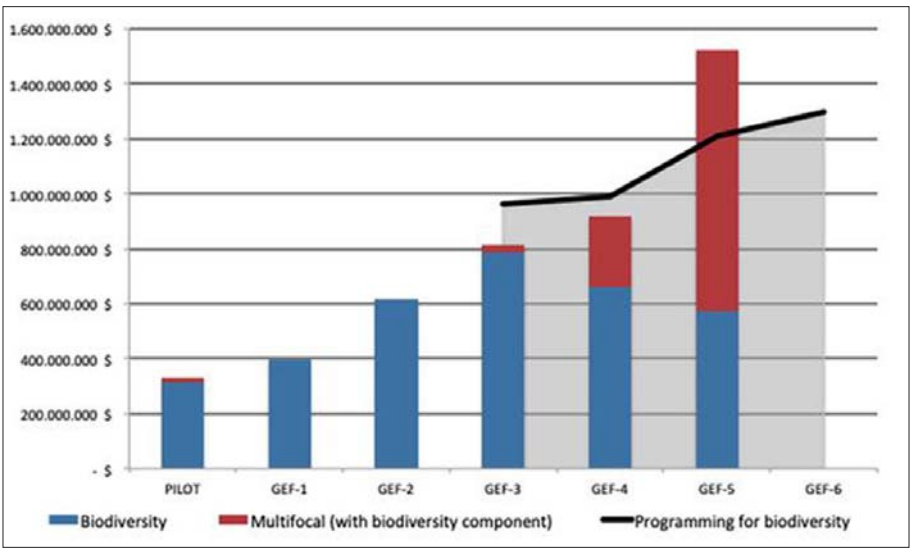
Figure 9 is based on two data sources in order to give an estimation of actual GEF biodiversity spending during individual replenishments in relation to targeted spending on biodiversity that appear in GEF *Summary of Negotiations* documents for individual replenishments. Firstly, the bars in the figure show estimations of actual spending in the biodiversity focal area during individual replenishments. These bars are aggregations of GEF project spending from the publicly available GEF Project Management Information System as of 14 December 2020.[395] The blue parts of the bars represent GEF financing for projects that are purely part of the GEF biodiversity focal area whereas the red parts of the bars are multifocal area projects that include a biodiversity component. However, it has not been possible for us to disaggregate multifocal area project funding, which would otherwise have allowed us to determine how much funding for multifocal area projects comes from the biodiversity focal area specifically. As should be clear from the figure, we do not include PMIS data for GEF-6 and GEF-7.

In order to construct the bars in Figure 9, we searched the publicly available GEF PMIS for the term "biodiversity". All cancelled projects were excluded. Projects were included irrespective of their fund source. Furthermore, to make sure that we did not underestimate spending for the biodiversity portfolio, we included a few projects that may not strictly be part of the biodiversity portfolio: Projects that were not categorised as biodiversity in the GEF PMIS and had no explicit mention of focal area, but had biodiversity in their title, were categorised as biodiversity by the researchers. Projects that were not categorised as biodiversity in the GEF PMIS and explicitly mentioned another focal area, but had biodiversity in their title, were categorised as multifocal area by the researchers.

395 https://www.thegef.org/projects.

The second kind of data that we have included in the graph is targeted focal area allocation and focal area breakdowns as they appear in *Summary of Negotiations* documents for individual replenishments.[396] These documents do emphasise that there might be various reasons why actual spending does not align with breakdowns. Even though it should be relatively straightforward to include these numbers, we do need to add a caveat: Of the numbers included in the figure, only the total of targeted numbers for GEF-3 and GEF-6 balances with the figures on historically pledged amounts that we included in section 1.2. The sum of all the different targeted allocations of GEF-4 and GEF-5 is lower than the historically pledged amounts that we present in section 1.2. Yet, these programming breakdowns also include focal area programming as a share of total programming. If we had calculated targeted biodiversity spending as a percentage of historically pledged amounts, we would have achieved higher numbers for targeted biodiversity allocation/programming.

Figure 9: Spending on biodiversity versus biodiversity programming targets at the GEF



Black line represents targeted allocation for the biodiversity focal area according to breakdowns in Summary of Negotiations *documents. The blue bars are GEF spending on projects in the biodiversity focal area. The red bars are GEF spending on multifocal area projects with biodiversity components. Both sets of bars are based on our own calculations of publicly available data from the GEF PMIS as this data appeared on 14 December 2020.*

396 These numbers are based on official *ex ante* programming numbers as they appear in summaries of GEF negotiations and thus differ from actual spending. See: Global Environment Facility, 2002, p. 14; Global Environment Facility, 2006, p. 15; Global Environment Facility, 2018a, p. 160.

As is evident from the stacked bars above, the combined spending for the biodiversity focal area *and* multifocal area investments, which contain a biodiversity component, did not fulfil the programming figures as they appear in summaries of negotiations in nominal terms for GEF-3 and GEF-4. From GEF-5 this changes: While the spending for projects that solely focus on biodiversity declines according to data from the GEF PMIS, spending for biodiversity projects and multifocal area projects with a biodiversity component fulfils the original programmed spending during replenishment negotiations *if we assume* that more than half of funding for multifocal area projects with a biodiversity component is actually spent on biodiversity.[397] However, without evaluating the actual spending on multifocal area projects coming from the biodiversity focal area, it is difficult to assess how much the carry-over from the biodiversity focal area is for every replenishment. It is important to once again emphasise that the graph is our best way of trying to illustrate potential carry-over in the biodiversity focal area through a discrepancy between spending/programming targets and spending on biodiversity according to the publicly available data in the GEF PMIS, but that much more thorough accounting research may be needed.

[397] There has been a trend towards multifocal area projects (which include biodiversity-related components) to become a larger share of the overall GEF biodiversity portfolio. See also Global Environment Facility Independent Evaluation Office, 2019, p. 9.

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FACING DECADES OF INACTION ON MULTILATERAL AGREEMENTS AND GOALS, there is growing consensus that "transformative change" is needed to address the ongoing biodiversity crisis. But what must be transformed?

In the area of biodiversity finance, governments and conservation organisations often point to a large gap between existing financial resources and the resources needed to achieve biodiversity objectives. But the gap is almost always presented without context, as though biodiversity loss will be resolved through increased funding alone. To illuminate crucial pathways for transformative change, this report examines the political and economic dimensions of biodiversity loss.

Beyond the Gap: Placing Biodiversity Finance in the Global Economy, a joint effort between an international team of researchers and Third World Network, addresses two questions: how does the organisation of the global economy drive biodiversity loss, and how has existing biodiversity finance performed? Trade, investment and financial regulation (or lack thereof), global economic pressures that push biodiverse countries into debt, and inequality across racialised, gender, class and colonial lines, all drive biodiversity loss and require urgent attention. These issues are not usually considered in international environmental negotiations; this report demonstrates why these structural patterns must be addressed if we are serious about changing the current trajectory.

Instead of transformation, a series of voluntary measures and market-based mechanisms such as payments for ecosystem services or blended finance schemes have been presented as tools to span the resource gap. This report shows that these efforts are marginal at best, and, at worst, entrench the power of rich world governments and non-state institutions like banks, large international NGOs, and supranationals, at the expense of the Indigenous peoples and local communities who are at the forefront of safeguarding biodiversity. Pursuing voluntary or innovative financial mechanisms rather than addressing the extractive world economy is best understood as a form of extinction delayism, which postpones substantial action on the fraying web of life for another year, another decade, with devastating consequences for people and planet.

It is apparent that we must move "beyond the gap". Only by placing biodiversity loss in the context of the global economy will it be possible to realise transformative, inclusive and equitable change. The report offers concrete recommendations for negotiators, civil society organisations, and activist groups to push questions of biodiversity finance beyond the gap.

About the authors

Our team is composed of social scientists from the University of British Columbia in Canada (Jessica Dempsey, Adriana DiSilvestro, Audrey Irvine-Broque, Fernanda Rojas-Marchini, Sara Nelson, Andrew Schuldt), Lancaster University in the UK (Patrick Bigger, Jens Christiansen), and Duke University in the US (Elizabeth Shapiro-Garza). The emphasis in this report stems from our particular areas of expertise: political ecology, political economy of nature, multi-scalar environmental governance and environmental change, and the uneven distribution of environmental damage and biodiversity loss.

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