
NATURE FINANCE: An Opportunity to Drive Economic Resilience and Climate Action

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Simone Weichenrieder is a SAIS Alumna from DC and Bologna with a background in international economics and development finance. She works at the nexus of climate and nature finance and is passionate about integrating investments in nature into economic perspectives and financial decision-making. With experience at the Asian Development Bank and as a Member of the IUCN World Commission for Protected Areas on Sustainable Finance, Simone is dedicated to advancing innovative financing for nature-based solutions.

In her address at Davos 2024, UNEP Executive Director Inger Anderson succinctly captured the essence of humanity's relationship with nature: "Nature does everything. From cities to products, we've built the world on Earth's finite resources." These words resonate in an era defined by escalating environmental crises and urgent calls for action. Against the backdrop of biodiversity loss and accelerating climate change, the imperative to rethink our approach to nature and finance has never been more pressing.

With its intricate web of ecosystems and biodiversity, nature not only sustains life on Earth but also underpins global economies and societies. However, the exploitation of nature's resources and the degradation of ecosystems have led to significant environmental degradation and mounting socio-economic risks. As we confront the intertwined challenges of nature loss and climate change, there is a growing recognition of the need for innovative financial approaches that prioritize nature conservation and restoration.

This paper explores the emerging field of nature finance, delving into its conceptual foundations, current trends, and potential for transformative action. By examining the intersection of finance, climate change, and biodiversity, this paper aims to shed light on the opportunities and barriers to mobilizing resources for nature conservation and restoration. This paper seeks to provide insights into how the power of finance to safeguard nature can be harnessed and how a more sustainable future can be built.

Understanding Nature Finance

This paper chooses nature finance as the term of use when answering how nature can be financed with results-based instruments. Nature finance refers to "public or private expenditure that contributes or intends to contribute to the conservation, sustainable use and restoration of nature."¹ "Nature" is used with a diverse subset of characteristics and definitions. Terminologies involve the broad term of nature finance or investment in natural assets, biodiversity, ecosystem, or conservation finance, including or excluding a focus on ecosystem services and nature-based solutions. To understand the term for its use regarding results-based finance instruments, the following section conceptualizes "nature" concerning natural capital, natural assets, ecosystems, biodiversity, ecosystem services, and nature-based solutions.

¹ Edward Perry and Katia Karousakis, *A Comprehensive Overview of Global Biodiversity Finance*, Organisation for Economic Cooperation and Development (Paris: OECD, 2020).

Nature can be defined as the stock of natural capital and its flow of natural services towards its surroundings.² Natural capital is the stock of the earth's renewable and non-renewable resources, including trees, soils, air, water, and all living species.³ This stock of resources is categorized into different groups of natural assets (atmospheric assets, freshwater, soil and geomorphology, flora and fauna, salt water, and ocean geomorphology).⁴ By the occurrence and interrelation between different natural assets, ecosystems are formed. The term biodiversity represents the natural asset group "flora and fauna".⁵

From the stock of natural capital, a range of benefits create a flow of value for business and society, the ecosystem services. Ecosystem services are services provided by nature. Nature can, therefore, act as a regulator (e.g. air and water quality), a resource (e.g. food and raw materials), a support (e.g. soil formation and pollination) and a cultural space (e.g. recreation and spiritual meaning). In response to societal challenges, nature-based solutions (NbS) are developed to increase the stock of natural capital by creating or enhancing the condition of natural asset groups (e.g., ecosystems and biodiversity). In turn, the healthy state of the natural capital increases the flow of ecosystem services and the value that helps to meet societal challenges.⁶ Nature Climate Solutions (NCS) describe nature-based solutions to climate change.

The Role of Nature Finance in Addressing Environmental Challenges

The imperative for investing in nature becomes increasingly evident as we face the consequences of inaction on climate change, biodiversity loss, and land degradation. Despite the urgent need for a 45% reduction in greenhouse gas emissions this decade, emissions soared to record highs in 2021, risking significantly warmer temperatures by 2070 and mass socio-economic disruptions.⁷ Accelerated biodiversity loss, with a staggering 69% decline in wildlife populations since 1970, threatens critical ecosystem services essential for food security and economic stability.⁸ Furthermore, unsustainable land-use practices have degraded up to 40% of the planet's surface, risking half of global GDP and impacting over a billion people, particularly marginalized communities.⁹

Choosing a path toward environmental preservation and sustainable economic growth is imperative. Global commitments to reverse biodiversity loss, combat land degradation, and reduce emissions are crucial for shaping a sustainable future. While initiatives like the Paris Agreement have stimulated investments in low-carbon and nature-based solutions, additional action is essential. Governments and businesses setting net-zero goals offer hope for limiting climate change to the 1.5 C threshold by the century's end.¹⁰

² Thomas Fatheuer, Lili Fuhr, and Barbara Unmüßig, "Inside the Green Economy – Promises and Pitfalls in 9 Theses," *Heinrich Böll Stiftung*, 2016.

³ Scott Mesley, Carolin Leeshaa, and Georgie Aley, *Demystifying Natural Capital and Biodiversity* (Australia: KPMG, 2020).

⁴ Zoe Whitton, *Nature Finance Focus: Tracking Global Trends in Nature Investment* (Pollination Group, 2023).

⁵ Andrew Deutz et al., *Financing Nature: Closing the Global Biodiversity Financing Gap* (Paulson Institute, The Nature Conservancy, and Cornell Atkins Center for Sustainability, 2020).

⁶ *IUCN Global Standard for Nature-based Solutions. A User-Friendly Framework for the Verification, Design and Scaling Up of NbS* (Gland: IUCN, 2020).

⁷ World Meteorological Organization, "WMO Annual Report Highlights the Continuous Advance of Climate Change," April 21, 2023.

⁸ *WWF-UK Annual Report + Financial Statements 2021-22* (World Wide Fund for Nature, 2022).

⁹ "Chronic Land Degradation: UN Offers Stark Warnings and Practical Remedies in Global Land Outlook 2," UN Convention to Combat Desertification, April 26, 2022.

¹⁰ *State of Finance for Nature: The Big Nature Turnaround – Repurposing \$7 Trillion to Combat Nature Loss* (Nairobi: UN Environment Programme, 2023).

Investing in nature offers multifaceted benefits. Increased conservation efforts could reduce species extinction rates from 37% to 25% by 2100, while biodiversity conservation could yield up to US\$454 billion annually from protected areas and related activities.¹¹ Sustainable land management, with potential economic benefits of up to US\$75.6 trillion annually, can significantly improve food production and enhance ecosystem resilience. Restoring natural ecosystems by providing essential resources like clean water, biomass fuel, and forest products offers economic opportunities and promotes biodiversity and carbon storage, supporting sustainable livelihoods.¹²

Increasing investment in nature can play a significant role in achieving biodiversity and climate targets. Land use and biodiversity modeling suggest that successfully implementing the Rio Conventions could restore global biodiversity levels to the 1970s.¹³ The Biodiversity Intactness Index (BII) illustrates the historical and projected trends in biodiversity intactness.¹⁴ In a scenario aligned with the Rio Conventions, net deforestation would cease, and reforestation efforts would expand significantly by 2030, resulting in the removal of 7.7 GtCO₂e per year in greenhouse gas emissions.¹⁵ Additionally, increasing evidence shows that nature-based solutions can significantly impact climate mitigation.¹⁶

Current Trends and Barriers

The global nature funding gap, estimated at \$542 billion annually, is a substantial obstacle to addressing nature and biodiversity loss. Current investments in nature lie at \$200 billion per year and need to triple by 2030 and quadruple by 2050 to reach climate, biodiversity, and land degradation targets. Overall, public finance is the primary source of finance flows towards nature at 82%, with 71% of this directed to biodiversity and landscape protection, sustainable agriculture, forestry, and fishing. Private finance accounts for only 18% of total finance flowing to nature, with more than half being channeled through biodiversity credits and offsets, and sustainable supply chains.¹⁷

The primary obstacle to financing the increased uptake of nature lies in the fact that most of nature's benefits currently lack financial market value despite their critical role in supporting our collective well-being and prosperity.¹⁸ Within the policy discourse surrounding nature, there is a notable absence of consideration for the inherent challenge posed by its classification as a "public good."¹⁹ This classification inherently reduces the incentive for private-sector investment. This discrepancy not only explains the current status quo but also offers guidance for expanding the utilization of nature. However, to encourage greater private sector involvement, it is imperative to establish conditions conducive to investment. This would enable a broader range of funding and financing mechanisms.²⁰ Given the right circumstances, nature presents an

¹¹ Forest Isbell et al., "Expert Perspectives on Global Biodiversity Loss and Its Drivers and Impacts on People," *Frontier in Ecology and the Environment* 21, no. 2 (2022): 94-103; Anthony Waldron et al., *Protecting 30% of the Planet for Nature: Costs, Benefits and Economic Implications* (Conservation Research Institute, 2020).

¹² *Reaping Economic and Environmental Benefits from Sustainable Land Management* (Bonn: Economic Land Degradation Initiative, 2015).

¹³ *State of Finance for Nature* (Nairobi: UN Environment Programme, 2023).

¹⁴ *IPR Forecast Policy Scenario and Nature* (London: Inevitable Policy Response, 2023).

¹⁵ Shiyu Deng et al., "Can Nature Help Limit Warming Below 1.5°C?" *Global Change Biology* 29, no. 2 (2022): 289-291.

¹⁶ *Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again)* (Nairobi: UN Environment Programme, 2023).

¹⁷ *Emissions Gap Report 2023*.

¹⁸ *Emissions Gap Report 2023*.

¹⁹ *Emissions Gap Report 2023*.

²⁰ *Making Nature Markets Work: Shaping a Global Nature Economy in the 21st Century* (Geneva: NatureFinance, 2023).

opportunity for global public and private sector investment, offering revenue sources that can enhance resilience and reduce costs.²¹

Opportunities for Investing in Nature

Enabling a Nature-Positive Policy Environment and Frameworks

Governments also play a crucial role in encouraging and mandating businesses and financial institutions to assess, report, and disclose their nature-related risks, impacts, dependencies, and opportunities. While businesses and financial institutions are increasingly reporting on these factors voluntarily, they are unlikely to be adequate without regulatory intervention. Some countries have started enshrining biodiversity, restoration, and climate targets into law, integrating them into National Biodiversity Strategies and Action Plans (NBSAPs) and Nationally Determined Contributions (NDCs).²² For instance, the European Commission's Nature Restoration Law mandates assessing restoration finance needs and gaps and devising solutions to bridge these within a specified timeframe.²³

Regulatory frameworks and incentive mechanisms are essential for governments to influence private sector behavior positively. Measures such as requiring due diligence, providing tax incentives for sustainable practices, and promoting adherence to mitigation hierarchies and biodiversity offsetting can help shift unsustainable supply chains towards more nature-positive alternatives.²⁴ These frameworks serve as vital tools amidst mounting pressure for reform driven by global initiatives such as COPs and impending regulatory actions. For instance, the recently launched Taskforce on Nature-related Financial Disclosures (TNFD) provides practitioners with comprehensive guidance on assessing risks, dependencies, impacts, and opportunities.²⁵ However, the effectiveness of these frameworks relies on ensuring that disclosing entities receive tangible benefits over non-disclosers, such as reduced capital costs and enhanced compliance.

Moreover, the convergence of global standards, exemplified by the Sustainability Standards (S1 and S2) developed by the International Sustainability Standards Board (ISSB), indicates a promising step towards aligning reporting frameworks. As initiatives like the Task Force on Climate-related Financial Disclosures (TCFD) are absorbed into the ISSB framework in 2024, integrating nature-related standards seems inevitable.²⁶ This alignment can foster a level playing field for businesses on environmental, social, and governance (ESG) metrics, encouraging private sector action to meet biodiversity and climate targets.

Additionally, commitments to reduce biodiversity and climate impacts are crucial for finance and business sectors. Tools like the Science-based Targets Network (SBTN) and frameworks like Business for Nature's Assess, Commit, Transform, and Disclose (ACT-D) provide valuable support for companies in assessing, committing to, and disclosing their impacts on nature.²⁷ Similarly, guidance documents like the Principles for Responsible Banking Nature

²¹ *Investing in Nature-based Solutions: State-of-play and way forward for public and private financial measures in Europe* (Frankfurt: European Investment Bank, 2023).

²² Haseeb Bakhtary, Franziska Haupt, and Jana Elbrecht, *NDCs – A force for nature? Nature in enhanced NDCs* (London: WWF-UK, 2021).

²³ "Nature Restoration Law one step closer to becoming reality but with loopholes," WWF, November 9, 2023.

²⁴ *Innovative Finance for Nature and People: Opportunities and Challenges for Biodiversity-Positive Carbon Credits and Nature Certificates* (Global Environment Facility, 2023).

²⁵ *Getting started with adoption of the TNFD recommendations* (Taskforce on Nature-related Financial Disclosures, 2023).

²⁶ "ISSB congratulates Task Force on Nature-related Financial Disclosures on finalised recommendations," The International Sustainability Standards Board, September 19, 2023.

²⁷ *Emissions Gap Report 2023*.

Target-Setting Guidance by the UNEP Finance Initiative offer practical frameworks for banks to address nature loss and align with global biodiversity goals.²⁸

Decreasing Detrimental Financial Flows on Nature

To ensure sustainability funding, there is a critical need to realign public subsidies away from climate- and nature-negative incentives and towards nature-based solutions and positive climate and nature initiatives. Despite international agreements to reform subsidy regimes, progress has been hampered by political and social barriers.²⁹ Successful reforms should prioritize protecting vulnerable groups, ensuring public acceptance, allowing time for adjustment, and transparently allocating repurposed revenue.

Prioritizing and redirecting public subsidies away from activities that negatively impact the climate and instead allocating them towards nature-based solutions (NbS) and climate-positive initiatives is a crucial step for governments.³⁰ Internationally agreed targets, such as target 18 in the Global Biodiversity Framework (GBF), aim to reform harmful subsidy regimes by eliminating, phasing out, or reforming incentives detrimental to biodiversity, amounting to at least US\$500 billion annually.³¹

Increasing Domestic Expenditure and Facilitating Private Sector Involvement

Moreover, increasing domestic expenditure on nature initiatives, particularly those providing public goods, is essential. Governments contribute 82% of nature finance, primarily through direct spending.³² Government policies are instrumental in creating an environment that enables private-sector investment in nature. Governments can direct private finance towards nature and climate-positive investments through regulation and incentives. Incentives such as subsidies for regenerative agriculture can spur private investment, while regulations mandating biodiversity offsetting drive private sector engagement in conservation efforts.

For example, the EU and the UK enforce sustainable supply chains through due diligence laws, targeting illegal conversion and deforestation in global supply chains. Companies are prohibited from using commodities like soy, palm oil, and cocoa if they originate from illegally converted or occupied forests. The Brazilian Forestry Code also mandates agroforestry practices, requiring farmland to maintain a minimum of 20 to 80 percent natural vegetation.³³

Moreover, blended finance instruments, including concessional loans and grants, can reduce risks for private entities, facilitating their involvement in nature-related projects. Some governments support the development of high-integrity nature markets and implement mandatory compliance measures for the private sector.³⁴ Successful subsidy reform efforts should prioritize measures that protect vulnerable populations, address gender inequalities, garner public acceptance, provide sufficient time for adjustment, and ensure transparency in the allocation of repurposed funds.³⁵

²⁸ UNEP Global Biodiversity Framework, *PRB Nature Target Setting* (UN Environment Programme Finance Initiative, 2023).

²⁹ David Meyers et al., *Conservation Finance: A Framework*, Conservation Finance Alliance (2020).

³⁰ Meyers et al., *Conservation Finance*.

³¹ *Emissions Gap Report 2023*.

³² *Emissions Gap Report 2023*.

³³ *Emissions Gap Report 2023*.

³⁴ Meyers et al., *Conservation Finance*.

³⁵ *Emissions Gap Report 2023*.

Conclusion

The intersection of finance, climate change, and biodiversity presents challenges and opportunities for global sustainability. The intricate web of nature underpins our world, providing essential services and resources while serving as a critical ally in the fight against climate change.

The urgency of addressing nature loss and climate change cannot be overstated, particularly given their far-reaching implications for ecosystems, economies, and societies worldwide. With over half of the world's GDP heavily reliant on nature, investing in its protection and restoration is an environmental and economic necessity. Understanding the concept of nature finance is crucial in navigating this complex landscape. By conceptualizing nature as natural capital, ecosystems, biodiversity, and ecosystem services, we can develop targeted strategies for financing nature conservation and restoration. Public and private sector collaboration is essential, with governments playing a central role in enabling policy frameworks and incentivizing private sector engagement.

Despite the challenges, there are promising opportunities for investing in nature, from sustainable land management practices to developing nature-based markets and blended finance instruments. By aligning financial flows with nature conservation and climate resilience goals, we can unlock the full potential of nature as a solution to global environmental challenges. Investing in nature is not just about protecting ecosystems but safeguarding our future prosperity and well-being. A more resilient and sustainable world for future generations can be built by mobilizing resources and scaling up investments in nature.