Thematic Paper 6

Delivering Financing for Joint Biodiversity and Climate Solutions

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Delivering Financing for Joint Biodiversity and Climate Solutions

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Key Messages

- Actions such as nature-based solutions (NbS) can save money and time—as well as deliver on biodiversity and climate change objectives—by dedicating climate finance to biodiversity conservation and increasing commitments to advance financing mechanisms that tackle both challenges.
- Collaboration between the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD), through their financial mechanisms and the mobilization of resources, can play a key role in avoiding the further aggravation of biodiversity and delivering positive outcomes for both agendas.
- Boosting cooperation and strengthening financing for synergistic approaches at the international level will be decisive for more integrated climate–biodiversity governance at the national and local levels.
- Identifying synergies between national climate change and biodiversity goals and integrating them into budgetary processes helps to ensure the consistency of goals, better harmonise donor funding, and encourage greater involvement of the private sector. This can facilitate strategic investments, enable the smart use of resources, and deliver joint benefits, such as nature-positive climate mitigation and adaptation actions.
- Jointly financing biodiversity and climate action at the national level involves more than just determining the right financial mechanisms. To be effective and attractive, financial measures and incentives must be embedded in robust policies and regulatory frameworks that advance greater domestic coordination in climate and biodiversity policy implementation and budget planning. This approach will maximise synergies, minimise trade-offs, and reduce the amount of financing needed.

Introduction

Addressing climate change and biodiversity loss separately could seriously jeopardise our ability to deal with these critical challenges, as they are intertwined in their causes and solutions. Building synergies among the climate and biodiversity regimes will be pivotal in effectively addressing these twin challenges. This approach includes better identifying synergies in investments, funding, and financing strategies to achieve positive outcomes toward both goals.

Finance for biodiversity can be strengthened by responding to the growing evidence of both the value and cost of deploying solutions that address climate and biodiversity. Targeted finance strategies, dedicating climate finance towards biodiversity conservation and increasing commitments to advance financing mechanisms that tackle both challenges through actions such as NbS can save money and time—and often simultaneously deliver biodiversity and climate change objectives. At the same time, using NbS sends clear signals to important actors (e.g., subnational governments and the private sector) to pursue positive pathways to climate and biodiversity.

While NbS have specific challenges in implementation and financing, they are frequently more cost-effective than employing artificial or engineered infrastructure once their ability to deliver multiple objectives and ecosystem services, as well as factors such as lower maintenance costs, are considered (Chausson et al., 2020; Reguero et al., 2018). For instance, investments in flood plain restoration demonstrate more value than engineered measures when additional benefits like habitat and nutrient retention are considered. Indeed, many practical examples of financing NbS and emerging initiatives around the world are ready for duplication and extension.

This Thematic Paper emphasises the need for more coordinated joint climate and biodiversity funding, through both concerted international efforts and expanding the range of national finance options and appropriate policy frameworks. The paper outlines illustrative examples of possible sources of finance for solutions that deliver positive outcomes for both the climate and biodiversity, as well as ways to enable synergies in—and the joint delivery of—climate and biodiversity finance at the national level.

The Need for Coordinated Joint Financing to Advance Climate and Biodiversity Protection

Changes in natural ecosystems is a significant source of greenhouse gas emissions, as well as a major driver of biodiversity loss. The continuing loss of biodiversity affects society's ability to mitigate and adapt to the worsening impacts of climate change (Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services, 2019). Understanding these interactions is critical and underpins the need to address climate change and biodiversity loss in an integrated manner.

The governance of climate change mitigation, adaptation, and biodiversity and ecosystem conservation measures is generally discussed under different conventions: mitigation and adaptation fall under the United Nations Framework Convention on Climate Change (UNFCCC), while biodiversity and ecosystem conservation fall under the Convention on Biological Diversity (CBD). While there is growing recognition that climate and biodiversity protection are best addressed synergistically (Pörtner et al., 2021), the joint effort of these two UN Conventions could be improved (for further information, see Thematic Paper 1: Linkages and Synergies Between International Instruments on Biodiversity and Climate Change). One opportunity to effectively achieve the objectives of both conventions is through the joint mobilisation of financial resources.

A coordinated funding approach across the conventions' financial mechanisms can play a key role in avoiding aggravating biodiversity further and advancing the delivery of positive outcomes for both agendas. Each convention has established different financial mechanisms, including mandates, to provide and allocate funding to meet their individual objectives; some mechanisms have the potential for more coordinated funding. Under the UNFCCC, the Green Climate Fund (GCF), the Adaptation Fund, and the Global Environment Facility (GEF) (via the Least Developed Countries Fund [LDCF] and Special Climate Change Fund [SCCF]) serve as the primary financing channels to allocate funds to developing countries. The GEF also serves as the financial mechanism under the Rio Conventions, including the CBD (Picourt & Lecerf, 2021).

Given the current landscape of financial mechanisms, the GEF, as a mechanism that services both conventions, provides a strategic opportunity to promote a synergistic implementation of biodiversity and climate change action. This implementation could be accomplished by identifying programmatic priorities, setting aside funding for initiatives that jointly address biodiversity and climate change, or funding the development of criteria to strengthen integration (Picourt & Lecerf, 2021). Other existing financial mechanisms under the conventions could also be incentivised to build bridges (e. g., LDCF, SCCF) and set up co-financing mechanisms to ensure that biodiversity considerations and safeguards are mainstreamed into climate change projects and vice versa. A promising development is the exchanges between the CBD and the GCF about collaboration complementarities between different areas of work (i.e., National Adaptation Plans and National Biodiversity Strategy and Action Plans [NBSAPs]) and how to strengthen coordination between GCF and CBD focal points (GCF, 2017). At the 60th GEF Council, the *Long-Term Vision on Complementarity, Coherence, and Collaboration* between GCF and GEF was considered; at the UNFCCC's 26th Conference of the Parties (COP 26) in Glasgow, the GCF presented a report on the operationalisation of this vision (UNFCCC, 2021). Building on a joint COP 26 pavilion to support nature and climate solutions, further collaboration between the GCF and GEF is planned from 2022 onwards. Similar efforts could be undertaken by the LDCF and SCCF to strengthen the integration of biodiversity into climate change projects.

Moreover, the two conventions should further promote and encourage the development of other financial channels and sources of funding to harness synergies explicitly and integrate biodiversity safeguards ("do no harm" principles) into their funding criteria. These channels include entities such as development agencies, other bilateral funds, and multilateral development banks that should be encouraged to put aside specific funding for joint activities, ensuring coherence and advancing synergies through concrete work. For instance, under the European Union's Horizon 2020 Framework Programme for Research and Innovation, a BiodivClim COFUND Action was launched to support research on biodiversity and climate change (BiodivERsA, 2020).

Boosting cooperation and strengthening financing for synergistic approaches to climate change and biodiversity at the international level will be decisive for establishing more integrated climate–biodiversity governance at the national level. To see real change in favour of protecting global biodiversity and tackling climate change, it will be crucial for national governments to also apply these synergistic approaches to national planning and financing strategies.

The remainder of the paper will highlight examples of financing mechanisms delivering combined outcomes for climate change and biodiversity protection, as well as ways to enable synergies and the joint delivery of climate and biodiversity finance at the national level.

Joint Financing Solutions: Existing mechanisms to finance biodiversity and climate action

While the need for additional global funding for both climate change and biodiversity protection is clear, there are several options for leveraging and maximising the effectiveness of existing funding sources at the national level. For instance, identifying synergies among national climate change and biodiversity goals, integrating national goals into budgetary processes to ensure the consistency of goals, better harmonisation of donor funding, and greater involvement of the private sector can facilitate strategic investments, enable the smart use of resources, deliver joint benefits, and avoid duplication of efforts.

At the national level, many countries are already using their domestic financial systems as well as their budgeting and taxation policies to mobilise finance to deliver simultaneous positive biodiversity and climate outcomes. Likewise, countries are establishing enabling environments that can mobilise and leverage private finance to deliver joint climate and biodiversity goals.

Table 1 presents a high-level overview of financial mechanisms along with illustrative examples applicable to the field of biodiversity and climate finance. They differ in terms of their funding source (public or private) and the type of instrument or its underlying motivation (e. g., user fees, rewards, damage compensation, philanthropic contributions, and commercial investments). In addition, it is important to note that they vary in their vantage points. For example, some aim to protect biodiversity for its intrinsic value, while others seek to draw monetary value or tangible usage from nature. Some mechanisms put financial returns first, while others prioritise environmental outcomes. And some mechanisms aim to minimise biodiversity loss while others aim to achieve net biodiversity gains. Clarifying the aim and policy motivation will help to identify which financial mechanism fits the purpose, existing opportunities, and given context.

The financial instruments and mechanisms included in Table 1 do not represent a comprehensive inventory but rather serve to stimulate discussions and illustrate examples of instruments that could be used to finance NbS to deliver positive joint outcomes for both biodiversity and climate change. Each mechanism has its own nuances and can vary in complexity. For practicality, an attempt has been made to organise the presented financial mechanisms by their increasing complexity.

For a comprehensive overview of financial transaction frameworks for biodiversity, please refer to the BIOFIN Catalogue of Financial Solutions.

BIOFIN
The Biodiversity Finance Initiative

UNDP

Table 1. Financial mechanisms for combined biodiversity and climate solutions (adopted from Rendlen & Uzsoki, 2021; BIOFIN, 2021)

Name	Description	Example
Fiscal government interventions (e. g., taxes, levies, fees, transfer payments, incentives)		
User fees	User fees have long formed the basis for biodiversity funding. These schemes require users of biological resources and ecosystems to pay fees for the ecosystem services provided—for example, entrance fees paid by those who visit national parks. These fees can be used to mitigate and remediate any damage to ecosystems and contribute to their maintenance.	**Protected areas worldwide:** In Australia, the Botanic Gardens and Parks Authority of the City of Perth and the Royal Botanic Gardens and Domain Trust of the City of Sydney generated 7 % and 12 %, respectively, of their revenues from user charges related to events and functions in 2011–2012 (Searle, 2013).
Tax rebates	Tax rebates, tax breaks, or reductions in income or property taxes for conservation and active ecosystem and biodiversity management on private lands.	The **South African tax incentive**, section 37D of the Income Tax Act, gives landowners a tax break for their conservation commitments. The legislation allows landowners to deduct the value of a nature reserve from their taxable income (Stevens, n.d.).
Blended public funds providing capital in the form of grants, equity, and debt	Funds are pooled from the budgets of one or several public entities and used to fund or de-risk investments (e. g., as part of a blended finance scheme) in nature and biodiversity.	The **Green Exercise Partnership** in Scotland is a joint project between the Forestry Commission Scotland, Scottish Natural Heritage, and Health Scotland. It funds and invests in initiatives that demonstrate the health benefits that can be derived from investing in and maintaining natural spaces close to hospitals and care centres. The partnership has supported tree planting, woodland management, pathway improvement, and other actions. This gives local hospital staff and patients, as well as residents, the opportunity to benefit from exercise and time in nature (Forestry Commission Scotland, Health Scotland, & Scottish National Heritage, 2015).

Name	Description	Example
Carbon / pollution tax or price	A carbon tax is a levy on carbon-produced fuels and is often applied in the transport and energy sector. Such a pollution tax or green tax is often added to activities that are harmful to ecosystems. They can be an efficient way of generating funds for biodiversity conservation (Rendlen & Uzsoki, 2021).	Chile introduced a **carbon tax** in 2017 to reduce the impacts of fossil fuel use on public health and the environment. The tax is applied to all fossil fuels and emissions from different power and industry sectors (International Carbon Action Partnership, 2021).
Ecological-fiscal transfer (EFTs)	EFTs "increase the share of public funding going to regions that have high levels of biodiversity or ecosystem services, have set aside land for conservation, face pressing threats or incur high costs to maintain environmental quality, or are otherwise deemed to be particularly ecologically-sensitive" (Lazić, 2020, p. 15). In these cases, governments make use of environmental criteria to assess how much budget is shared with one region. Criteria can include "national parks or watershed management areas, biodiversity richness, or endangered species". Ecological transfers can offer a mechanism to incentivise decentralised conservation efforts, particularly in lower-income and more remote regions with a weak revenue base (Lazić, 2020).	**Portugal** became the first European Union member state to introduce EFTs. The "Local Finances Law now specifies that 5–10 per cent of the General Municipal Fund will be distributed to municipalities according to the size of territory under protected areas or land with Natura 2000 status." The EFT aims to compensate municipalities for expenses to provide public ecosystem goods and services, with the goal of improving the local management and conservation of ecosystems (Loft et al., 2016).

Name	Description	Example
Tax increment financing (TIF)	TIF is used to finance natural infrastructure projects using expected future tax revenues from the new development. "When a TIF district is established, the 'base' amount of property tax revenue is recorded using the status quo before improvements" (Rendlen & Uzsoki, 2021, p. 12). For example, as a result of a new public park, property values rise, resulting in additional property taxes for municipalities. The original amount of property taxes is used to fund the maintenance of the natural infrastructure, while the increase in tax revenue is used to pay for the upfront investment (National Housing Conference, 2021).	In the **City of Chicago**, revenue from the city's tax increment financing has been used for the city's Green Roof Improvement Fund, which incentivises property owners of commercial buildings that install green roofs to manage stormwater. Building owners can receive up to 50 % of the cost for placing a green roof on an existing building located in a specific district of the city (City of Chicago, 2020).
Developer contribution charges	Property and infrastructure developers make a one-time payment as part of a development approval application. These proceeds can then be directed toward preserving natural infrastructure, green spaces, and ecosystems (Trinomics & International Union for Conservation of Nature [IUCN], 2019).	The **City of Vancouver** charges property developers "a Development Cost Levy as a prerequisite for receiving the building permit. If the new development also involves rezoning, developers also pay a Community Amenity Contribution. The city uses the revenues to fund public facilities, including parks" (City of Vancouver, n.d.).
Betterment levies	Stakeholders who receive higher revenues or higher property valuations pay a levy that is directed toward maintaining the natural asset that generates these revenues (Trinomics & IUCN, 2019).	In parts of the **City of London**, residents who live near a large green space or park in Wimbledon and Putney Commons are subject to a levy (additional to council tax) to pay for the maintenance of these areas (Trinomics & IUCN, 2019).

Name	Description	Example
Payment for ecosystems services (PES)	Under PES schemes, beneficiaries pay for the benefits delivered to them by restoration and conservation actions. PES can be considered as revenue streams from nature-based assets that would otherwise not generate any income. This enables the structuring of a wider range of financial instruments. Nevertheless, beneficiaries might find it hard to accept that they have to start paying for an ecosystem service that previously has been free (Lazić, 2020).	As part of the **Swiss Agricultural Policy**, landowners, specifically farmers, can receive payments for the provision of public and ecological services. They have to provide proof of the ecological performance, nutrient management, and the allocation of ecological compensation areas (Swiss Federal Office for Agriculture, 2004).
Trading of stormwater credits	"Trading of credits to manage stormwater and the pollution of natural waterways from stormwater discharge are used to establish a secondary market to attract private investment to finance more substantive stormwater management measures" (Rendlen & Uzsoki, 2021, p. 17).	In Washington D.C., development projects are required by the municipality to retain 100 % of stormwater to avoid hazardous flooding. If not all of the required stormwater can be retained, developers can purchase stormwater credits when their projects do not comply with the set limit. Credits are sold and purchased among developers or redevelopers based on their capacity to meet the programme's limits (Metropolitan Planning Council, 2019).
Debt-for-nature swap	Nature swaps can take place in different forms. For instance, a "creditor government or business swaps repayment against the debtor's commitment to fund local conservation projects" (Rendlen & Uzsoki, 2021, p. 14). A different type of swap sees a non-governmental organisation or foundation purchase the debt and then exchange it against the debtor's pledge to fund conservation projects (UNDP & BioFin, 2017).	In Seychelles, the Leonardo DiCaprio Foundation donated USD 1 million toward funding a USD 22 million debt swap in exchange for the island nation creating two major marine reserves that helped the country achieve its goal of 30 % marine protection (Leonardo DiCaprio Foundation, 2019).

Name	Description	Example
Concessional loans	Concessional loans are considerably more generous than other market loans. This is either accomplished through low interest rates, longer grace periods, or a combination of the two. Concessional loans are often issued by development finance institutions (Organisation for Economic Co-operation and Development [OECD], 2020a).	As one of its funding instruments for conservation and the enhancement of biodiversity, the **Natural Capital Financing Facility** also offers concessional loans. Specific projects include solutions to challenges related to "land, soil, forestry, agriculture, water, and waste inside the European Union" (Rendlen & Uzsoki, 2021, p. 21).
Market-based mechanisms (e.g., bonds, offset markets, loans)		
Green bonds	Green bonds raise funds to finance environment-related projects such as clean water, biodiversity conservation, and climate mitigation projects. They offer investors a way of lending money to governments or companies for a "specified period of time, earning interest as well as recouping their initial investment." In addition to returns on investment, they offer investors control over how the funds are used, such as for environmental purposes (GIZ, 2020).	In 2019, the Dutch government issued a **green bond** for EUR 6 billion to support "the establishment of a robust green capital market." The proceeds of the green bond will be used to finance "green or climate-related expenditures and investments undertaken by the government, such as renewable energy, energy efficiency, clean transportation, and climate change adaptation" (Crédit Agricole CIB, 2019).

Name	Description	Example
Resilience bonds	Similar to green bonds, resilience bonds are issued to finance projects that aim to climate-proof or pay for upgrades. The investment is being paid back through cost savings that result from lower insurance premiums. For example, coastal communities can use resilience bonds to "rebalance existing insurance portfolios and mobilise funding for municipal flood barriers and coastal protection measures" (Rendlen & Uzsoki, 2021, p. 18).	**New York City:** In 2012, after Hurricane Sandy inflicted damage totalling nearly USD 5 billion on New York's Metropolitan Transportation Authority (MTA), insurance prices for the MTA doubled (Adaptation Clearinghouse, 2015). To finance protections from future storm surges, the MTA sold a catastrophe bond worth USD 200 million to raise funds to manage flood risk to the system and offset any costs of future storm damage if the city is hit by another hurricane in the next 3 years. Due to the investments into upgrades, another major hurricane is unlikely to cause the same amount of damage. However, if one had occurred prior to the end of the bond (2016), it would have triggered the bond, and the 20 investors would have lost the USD 200 million they invested in purchasing the catastrophe bonds. The money would have been used to pay for any necessary repairs to the subway system. However, as no catastrophic storm or flooding occurred before the end of the bond period, MTA returned the USD 200 million from a trust, and the investors received a 13.5 % return. At the same time, MTA was able to receive lower insurance prices.

Name	Description	Example
Impact investments	Impact investments are structured on a "pay-for-performance" model, enabling public entities to transfer performance risks to investors who provide the working capital to an implementing agency to deliver specific outcomes. Investments are made with the intention to generate positive, measurable social and environmental impacts alongside a financial return (Global Impact Investment Network, n.d.). Impact investors invest in areas such as sustainable agriculture, affordable housing, accessible healthcare, and clean technology in innovative but commercially viable businesses. Investors only realise their principal and return if the outcomes are delivered (OECD, 2016).	The **Rhino Impact Investment Project** in Africa directs impact investment funds toward selected sites to finance management interventions for rhino conservation. The investor provides risk capital to on-the-ground service providers (in this case, protected area managers) on the basis that the investment will be repaid (potentially with interest) to a donor once pre-agreed performance targets (Key Performance Indicators) have been reached within the target population. **Peru** has committed to fostering the sustainable use of its biodiversity, thereby improving its competitiveness. The Peruvian Ministry of Environment aims to improve the public incentive systems and mechanisms and promote impact investment to encourage the private sector to invest in biodiversity-friendly companies (Deutsche Gesellschaft für Internationale Zusammenarbeit, n.d.). This includes identifying scalable biodiversity-friendly business models and supporting them with advice from the start of qualification measures to the finance-ready stage.

Name	Description	Example
Insurance solutions	A parametric insurance product pays for the restoration of an ecosystem (for example, a coral reef) to protect a certain area or region in case of a storm or hurricane. The insurance premiums are covered by land and property owners who benefit from the flood protection provided by the reef. While these solutions can be customised and location-specific, the schemes can be expensive to set up and usually require multistakeholder involvement (Markovic & Harry, n.d.).	The **Swiss Re Group** has supported the development of a parametric insurance solution "designed to help the conservation of the coral reefs and beach sand against the impacts of major hurricanes." The new insurance policy insures a stretch of the Mesoamerican reef and beaches along the Yucatan Peninsula in Mexico. This policy has been purchased by the State Government of Quintana Roo's Coastal Zone Management Trust and aims to help to restore and protect the health of the coral reef and at the same time function as flood protection to coastal communities. The funds for the insurance premiums and trust fund are being collected through tourism taxes and additional government resources (Reinsurance News, 2018).
Carbon market	Carbon markets are marketplaces through which entities obtain and surrender emissions permits (allowances) or offsets in order to meet predetermined regulatory targets. Carbon offsets may become a large source of conservation funding. However, current schemes often rely on avoided deforestation or avoided forest degradation (McKinsey & Company, 2020).	**Carbon Tanzania** works with a wide range of stakeholders on land and forest restoration initiatives that are being funded by selling carbon credits into voluntary carbon markets. These credits are being made available by avoiding forest loss and degradation (Carbon Tanzania, n.d.).
Biodiversity offsets	Biodiversity offsets can be used for large-scale industrial and infrastructure projects that produce adverse and unavoidable impacts on biodiversity. Biodiversity offsets are measurable conservation outcomes designed to compensate for these impacts. Globally, 16 countries currently have biodiversity offset schemes (Rendlen & Uzsoki, 2021).	**Mozambique:** The Government of Mozambique (2016) is currently implementing a new biodiversity offsetting scheme that will be applied to all infrastructure and large industrial projects.

Name	Description	Example
Public–private partnerships (PPPs)	A PPP includes an arrangement under which private counterparties raise capital and provide infrastructure services, including maintaining natural assets and natural infrastructures. They are remunerated by the users of the natural asset, the public sector, or both (OECD, 2020b).	**African Parks:** An example includes a safari lodge investing in the protection and maintenance of public wildlife and recouping finances for these activities through its tourism clients. African Parks, a non-governmental organisation focused on conservation, works with governments to develop long-term PPP agreements to manage and operate conservation areas.

Source: Adapted from BIOFIN, 2021; Rendlen & Uzsoki, 2021.

It is worth noting that while market-based solutions are efficient policy instruments that address climate change and biodiversity loss, their effectiveness is still being debated (Rosenbloom et al., 2020). To implement any market-based solution, stringent guidelines and strong monitoring, verification, and compliance mechanisms need to be established in order to avoid leakages (climate and biodiversity benefits in one area leading to an increase in emissions or further biodiversity degradation in another area), double counting (credits not accurately transferred from the creditor to the recipient), and reversal (climate- and biodiversity-positive infrastructure reverses back to status quo due to human or natural disturbances after the credit is extended).

Ways to Advance Joint Financing of Biodiversity and Climate Solutions at the National Level

Jointly financing biodiversity and climate protection involves more than just determining the right financial mechanisms. To be effective and attractive, financial measures and incentives must be embedded in robust policies and regulatory frameworks that advance greater domestic coordination in climate and biodiversity policy implementation and budget planning to maximise synergies and minimise trade-offs. These steps are a clear pathway to reducing the amount of needed financing. This section highlights enablers and supporting policies that facilitate effective joint financing of biodiversity and climate protection.

Consolidate efforts for joint policy implementation. Mapping synergies between existing government policies can further help to reduce financing needs. Identifying overlaps between measures included under nationally determined contributions, Low-Emission Development Strategies, National Adaptation Plans, and NBSAPs early on will prevent unnecessary duplication across national administrations. Taking stock of what has already been included under various national commitments could increase efficiency, help to prioritise synergistic actions, facilitate monitoring and reporting, and ensure mutually supportive targets. For instance, new or updated NBSAPs submitted after 2021 and before 2025 should align with the strategies submitted as part of the first nationally determined contribution's revision cycle (Picourt & Lecerf, 2021).

Harmonise financing strategies to advance joint implementation. Effective ways to bridge climate and biodiversity include joint analyses of financing requirements and the identification of co-financing opportunities and corresponding funding mechanisms for the pursuit of both aims; such an approach can promote coherent planning and enable the smart use of limited resources. From a practical point of view, this could include prioritising and combining financing for solutions with biodiversity and climate change benefits, earmarking climate funding to NbS, and ensuring that climate-related initiatives also benefit biodiversity to promote their true integration. Further, some countries have established dedicated national climate funds, biodiversity funds, or similar mechanisms, which may operate in silos. Increasing cooperation between existing financial entities should be promoted to identify potential joint activities and complementary initiatives. Communicating and promoting the implementation of mutually supportive actions should also be articulated in ways that could attract and harmonise finances from external sources and donors.

Reform subsidies. Subsidies to key sectors such as agriculture, oil and gas, fisheries, and mining contribute directly to climate change as well as biodiversity and ecosystem loss. Subsidy reform represents an important tool for national governments to redirect funds toward biodiversity and climate protection and eliminate incentives for actions that harm both biodiversity and climate. For comparison, potentially harmful subsidies

outweigh government finance flows for conservation, sustainable use, and restoration of biodiversity by a factor of 10 (OECD, 2019). Several countries have acted in this regard. In 2016, Indonesia introduced major reforms that saw the elimination of subsidies for gasoline (except for distribution costs outside of the country's central islands). The reforms freed up significant public financial resources for alternative investments and increased budgets for ministries linked to special programmes to boost economic growth and reduce poverty (Inchauste & Victor, 2017).

Mainstream NbS. Economic development and processing sectors such as energy, mining, infrastructure, and manufacturing can have significant impacts on biodiversity and climate. Most of these sectors are expected to grow and are at the core of many economic development forecasts. The adverse impacts of this growth can be reduced by conducting robust impact assessments and mainstreaming joint long- and medium-term biodiversity and climate objectives into these sectors and related projects. Approaches for mainstreaming include strategic environmental assessments and environmental impact assessments that capture potential negative impacts and develop strategies to mitigate them (European Report on Development, 2015). It is not feasible to avoid development, but governments should make the protection of the most carbon- and biodiversity-rich natural ecosystems a priority and ensure that the use of NbS is considered as an equally viable infrastructure option where possible.

Mobilise and stimulate private sector investments. The public sector has a key role to play in mobilising the potential of private enterprises and private financiers to support the implementation of joint biodiversity and climate solutions, especially through filling the gap in revenue streams for NbS projects. For instance, public sector co-financing in the form of risk guarantees, concessional loans, or equity can improve the risk–return ratio of such projects. These improvements can enhance the returns to the private sector or absorb possible losses and thereby upgrade the project's attractiveness on capital markets. Credit guarantees are an additional instrument to reduce investors' risks and improve their access to capital markets, particularly for small and medium-sized enterprises (European Report on Development, 2015). In addition, blended finance is a key lever to mobilise additional finance from the private sector toward sustainable development that provides benefits for both communities and capital investors.

Enable the shifts needed through policy and regulatory frameworks: Government-backed regulatory frameworks, along with commitments and sound policies, are the foundation of effective biodiversity- and climate-related finance. These frameworks can include the promotion and adoption of sustainable procurement rules, sustainable supply chains, avoidance of funding for deforestation and other activities that harm ecosystems, clear and secure property rights, inclusive consultation processes, and fair distribution of benefits. The right mix of policy tools to reduce pressures and enable the protection of biodiversity and climate can contribute to enhancing the effectiveness of financing, secure capital from international funds, and facilitate investment in NbS.

Conclusion

This paper illustrates the importance of a concerted approach to financing both biodiversity and climate actions—which is at the heart of enabling a synergistic approach to tackling both environmental crises. It shows that there exists an opportunity for the financial mechanisms under both the UNFCCC and the CBD to explore synergies and linkages between the two Rio Conventions and advance the mainstreaming of NbS. This approach allows better coordination at the national level to reach both climate and biodiversity objectives while ensuring proper safeguards for ecosystem integrity and communities' resilience are integrated within projects. The 12 fiscal interventions and seven market-based tools presented herein could be used to finance NbS to deliver positive joint outcomes. While the list is not exhaustive, it provides knowledge and practical examples of different tools' implementation. At the same time, this paper highlights the need for suitable institutional arrangements that create the enabling environment for realizing joint financing. The recommended strategies outline the importance of consolidating different workstreams and financing plans at the national level, as well as creating the shift needed for policy and regulatory framework reform to mobilise private sector investments, decrease subsidies to high-emission and biodiversity-negative industries, and mainstream NbS.

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