

Scaling Finance for Slow Onset Events: Lessons from Nature-Based Solutions

Nature-based solutions (NbS) can play a critical role in supporting communities with mitigating and adapting to the impacts of **slow onset events (SOEs)**, i.e., long-term climate challenges such as increasing temperatures, sea level rise, desertification, and biodiversity loss. However, available climate finance for SOEs falls far below global needs, and scaling finance to overcome this gap will require policymakers to innovate and make the most impactful application of available finance. In recognition of this challenge, EDF and Pollination recently collaborated to review existing and emerging financial solutions at the intersection of NbS and SOEs with implications for loss and damage. **Below are summarized approaches for financing NbS for the specific SOE of biodiversity loss. These approaches can offer lessons to the new Loss and Damage fund, as it undertakes efforts to optimize the use of public resources and provide financing through diverse financial instruments.**

TABLE 1. FINANCE SOLUTIONS IN ADDRESSING THE LOSS OF BIODIVERSITY

FINANCING SOLUTION		DESCRIPTION	EXAMPLES
	PAYMENT FOR ECOSYSTEM SERVICES (PES)	Payment for Ecosystem Services (PES) incentivizes conservation by rewarding land managers who provide benefits by creating a market where beneficiaries pay for these services. PES schemes can range from private, voluntary transactions between private buyers and sellers to broader schemes.	Fund for the Protection of Water (Ecuador)
	SUPPLY CHAIN FINANCING	Sustainable supply chain finance reduces negative impacts through improved corporate policies, third-party sustainability standards, and the funding of sustainability improvements. It also promotes biodiversity impacts through sourcing initiatives and conservation-focused management of natural inputs.	Kering Fund for Regenerative Agriculture (luxury goods)
	CARBON MARKETS	Carbon markets provide a market-based mechanism for emissions reduction. These markets can simultaneously contribute to biodiversity conservation by incentivizing projects that protect forests, critical ecosystems for both carbon storage and diverse species.	Kasigau Corridor REDD Project – Rukinga Sanctuary (Kenya)
	NATURE-FOCUSED FUNDS	Nature funds encompass a diverse range of financial instruments, including debt, equity, real assets, and mezzanine financing. These funds attract a broad spectrum of investors, from specialist investment managers and foundations to development finance institutions, commercial banks, and individual high-net-worth individuals.	EcoEnterprises Fund
	GREEN/IMPACT BONDS	Bonds like green, sustainability-linked, and impact bonds are emerging tools to fund biodiversity efforts. They raise money from investors and tie returns to achieving specific conservation goals. Between 2015 and 2022, ~\$1.3 trillion in green/ sustainability bonds were designated for potential biodiversity-focused efforts like forest conservation & NbS.	GEF’s Wildlife Conservation Bond (South Africa)
	DEBT-FOR-NATURE SWAPS	Debt-for-nature swaps are financial mechanisms that enable emerging economies to restructure existing debt commitments at a lower interest rate or longer maturity in exchange for allocating a portion of the savings towards green or conservation-related activities that directly benefit ecosystems and biodiversity.	Ecuador (2023) Belize (2021)
	INSURANCE PRODUCTS	Biodiversity conservation and restoration needs both standard and new insurance products. Providers can create new risk-transfer methods, include nature impact in underwriting, price natural risk reduction benefits, apply nature-positive lens to investments, and insure nature itself.	AXA Climate TerraFirma Risk Retention Group LLC
	BIODIVERSITY OFFSETS	Biodiversity offsets are a form of financial compensation that are tied to governmental policies that mandate the mitigation of damage to biodiversity resulting from various development activities. Such offsets should only be used as a last resort, and only after all other measures have been taken to minimize negative impacts on biodiversity.	NSW Biodiversity Offsets Scheme (Australia)

SCALING FINANCE FOR SLOW ONSET EVENTS

LESSONS FROM NATURE-BASED SOLUTIONS

Nature-based solutions (NbS) can play a critical role in supporting communities with mitigating and adapting to the impacts of long-term climate challenges like increasing temperatures, sea level rise, desertification, and biodiversity loss. However, there are significant gaps in financing for NbS. For biodiversity conservation alone, there is a gap of around **\$830 billion** between current financial resources, estimated at **\$166 billion** per year, and the required funding to stop biodiversity loss by 2030. To bridge this gap, various public, private, and blended finance instruments are being developed and implemented, providing alternative and innovative financing solutions.

Introduction

Climate change isn't just about sudden disasters - it also causes gradual, long-term changes called slow onset events (SOEs). These include rising temperatures, increasing sea levels, desertification, and loss of biodiversity. While less dramatic than hurricanes or floods, SOEs can have devastating, long-lasting consequences.

SOEs place new pressures on communities to adapt through measures such as disaster preparedness and building green infrastructure, while also leading to losses and damages (L&D) - the impacts of climate change which occur despite mitigation and adaptation efforts.

The new L&D fund, launched in 2024, will serve as an important source of funding to tackle these challenges and complement other financial flows, especially as addressing SOEs is a priority for multiple multilateral agendas. For example, there is a growing understanding that efforts under the UNFCCC (climate change), CBD (biodiversity), and UNCCD.

Given these synergies, Nature-based solutions (NbS) are at the center of supporting communities with mitigating and adapting to the impacts of SOEs. By protecting and restoring

ecosystems, we can slow the pace of SOEs and build resilience against their impacts, creating significant co-benefits for the climate and biodiversity, as well as support the realization of sustainable development objectives.

However, available climate finance for SOEs falls far below global needs, and scaling finance to overcome this gap will require policymakers to innovate and make the most impactful application of available finance. In recognition of this challenge, EDF and Pollination recently collaborated to review existing and emerging financial solutions at the intersection of NbS and SOEs with implications for loss and damage, presented in Table 1. The analysis demonstrated that scaling up financing for NbS is critical to building resilience to SOEs, and warrants two key takeaways:

- 1. Existing NbS financing mechanisms can offer lessons and opportunities for addressing SOEs to the new L&D fund to help it reach its full potential.**
- 2. NbS should be an important component of the L&D fund's portfolio, given their cost-effectiveness and synergistic outcomes.**

With these findings in mind, the L&D fund's Board should draw lessons from existing, innovative nature-based solutions financing mechanisms to operationalize the fund as quickly as possible. These lessons will be critical, as the L&D fund will look to provide financing for SOEs through diverse financial instruments (Section VIII of the Governing Instrument), and success will require the blending of finance from different financial tools to optimize the use of public funding and benefit vulnerable populations and the ecosystems on which they depend.

The following are key mechanisms across sectors that have proven useful in financing NbS targeted towards SOEs, which can provide lessons for operationalizing the L&D fund.

Public funding at the center of SOE financing

Public finance, including grants obtained through donors and recipient countries via bilateral or multilateral channels, is critical to tackling SOEs through NbS and enabling all other financial instruments.

The L&D fund will primarily provide public finance through grants and highly concessional loans (Section VIII of the Governing Instrument). This is particularly important to meet needs that would not be supported through other finance channels, such as providing direct access to finance through rapid disbursement modalities and small grants for Indigenous Peoples and other vulnerable groups.

Enhancing complementarities can optimize the L&D fund's resources and unlock additional capital. Given limited resources, the fund must pursue complementarity between different public financing sources, particularly with other climate finance funds, including the Global Environment Facility (GEF), the Green Climate Fund (GCF), the Adaptation Fund, and the Climate Investment Funds (CIFs). Further synergies should be possible through the financing of NbS within the GEF and the Global Biodiversity Framework Fund (GBFF) – as the GBFF centered complementarity with the GEF in its strategic design, ensuring that both funds can engage in integrated, coordinated efforts.

Financial instruments and slow onset events

While the new L&D fund will center on the provision of public finance, there is recognition of the need to deploy additional financial instruments, including private and blended instruments, to augment and complement public resources (Section VIII of the Governing Instrument). Accordingly, it is critical to draw lessons from financing mechanisms for NbS, which can be applied within the fund to maximize its potential

The use of financial instruments leveraging capital from different sources has a distinct advantage in that it allows flexibility in exploring a variety of sector-specific options,

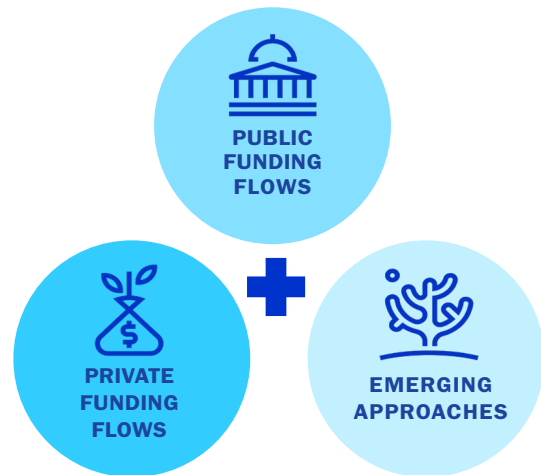


FIG. 1: BLENDED FINANCE TO ADDRESS SOEs

considering different scopes, sizes, and objectives. within the context of preserving biodiversity. Nature-focused funds, for example, can bring together different financial instruments to attract more resources and scale up investments, while insurance can offer new risk transfer methods that apply a nature-positive approach to other sources of investments.

There are several enabling conditions which can help these financial instruments effectively support the implementation of NbS to address slow onset events:

- **Clear objectives and metrics:** Well-defined climate goals and biodiversity targets, with measurable and verifiable metrics to assess impact.
- **Robust monitoring and reporting:** Transparent and reliable monitoring systems to track progress, and regular reporting to ensure accountability and maintain investor confidence.
- **Risk management:** Mechanisms to identify, measure, mitigate, and share risk financial and climate risk.
- **Enabling policies and regulations:** Supportive policy environments and frameworks that encourage efforts to protect nature.
- **Stakeholder engagement:** Clear processes for the meaningful participation of local stakeholders and communities, and collaboration between governments, the private sector, and civil society.

The following table elaborates on approaches for financing NbS for the specific SOE of biodiversity loss, providing multiple options for consideration of the L&D fund. key mechanisms across sectors that have proven useful in financing NbS targeted towards SOEs, which can provide lessons for operationalizing the L&D fund. critical to tackling SOEs through NbS and enabling all other financial instruments.

TABLE 1: FINANCE SOLUTIONS IN ADDRESSING THE LOSS OF BIODIVERSITY

Financing solution	Description	Example
Payment for Ecosystem Services (PES)	Payment for Ecosystem Services (PES) incentivizes conservation by rewarding land managers who provide benefits by creating a market where beneficiaries pay for these services. PES schemes can range from private, voluntary transactions between private buyers and sellers to broader schemes.	Fund for the Protection of Water (Ecuador)
Sustainable supply chain financing	Sustainable supply chain finance reduces negative impacts through improved corporate policies, third-party sustainability standards, and the funding of sustainability improvements. It also promotes biodiversity impacts through sourcing initiatives and conservation-focused management of natural inputs.	Kering Fund for Regenerative Agriculture (luxurious goods)
Carbon markets	Carbon markets provide a market-based mechanism for emissions reduction. These markets can simultaneously contribute to biodiversity conservation by incentivizing projects that protect forests, critical ecosystems for both carbon storage and diverse species.	Kasigau Corridor REDD Project Phase I – Rukinga Sanctuary (Kenya)
Nature-focused funds	Nature funds encompass a diverse range of financial instruments, including debt, equity, real assets, and mezzanine financing. These funds attract a broad spectrum of investors, from specialist investment managers and foundations to development finance institutions, commercial banks, and individual high-net-worth individuals.	EcoEnterprises Fund
Bonds (e.g., green, sustainability-linked, and impact bonds)	Bonds like green, sustainability-linked, and impact bonds are emerging tools to fund biodiversity efforts. They raise money from investors and tie returns to achieving specific conservation goals. Between 2015 and 2022, around \$1.3 trillion in green and sustainability bonds were designated for potential biodiversity-focused efforts, such as forest conservation and NbS.	GEF’s Wildlife Conservation Bond (Rhino Bond) (South Africa)
Debt-for-nature swaps	Debt-for-nature swaps are financial mechanisms that enable emerging economies to restructure existing debt commitments at a lower interest rate or longer maturity in exchange for allocating a portion of the savings towards green or conservation-related activities that directly benefit ecosystems and biodiversity.	Ecuador (2023) Belize (2021)
Insurance	Biodiversity conservation and restoration needs both standard and new insurance products. Providers can create new risk-transfer methods, include nature impact in underwriting, price natural risk reduction benefits, apply nature-positive lens to investments, and insure nature itself.	AXA Climate Terrafirma Risk Retention Group LLC
Biodiversity offsets	Biodiversity offsets are a form of financial compensation that are tied to governmental policies that mandate the mitigation of damage to biodiversity resulting from various development activities. Such offsets should only be used as a last resort, and only after all other measures have been taken to minimize negative impacts on biodiversity.	NSW Biodiversity Offsets Scheme (Australia)

Challenges implementing NbS for SOE action

There are several key challenges towards implementing NbS that build resilience to SOEs that the Loss and Damage Fund should take into account for its work forward:

- Lack of awareness of the risk and solutions:** There is limited awareness of the risks of SOEs, primarily due to the gradual and incremental nature of these events, their complex causes and impact, and the perception that they are distant threats. Collaboration and knowledge-sharing among experts from different fields will be essential to overcome this challenge. Using existing platforms, like the Santiago Network, to bring climate science, ecology, economics, and finance, together to develop innovative solutions that address the complex challenges posed by SOEs can help address this barrier.
- Challenges in attracting finance:** Financing NbS remains difficult, given the lack of investment-grade data and standardized measurement frameworks to assess the risk reduction potential and return on investments. Additionally, NbS investment is not properly incentivized by existing policy and regulatory environments.
- Limited technical capacity:** In many developing countries, policy solutions towards SOEs are biased towards traditional engineering approaches, while there is less expertise and capacity on NbS. In addition, a lack of cooperation among relevant government entities creates a siloed approach to problems that can be better solved through a sharing of knowledge and systems thinking.
- Solutions vary across contexts and ecosystems:** Slow onset events have diverse intrinsic dynamics, meaning there is no one-size-fits-all solution to finance them. The effectiveness of NbS depends on the specific ecosystem in which they are implemented. Solutions that work well in one ecosystem may not be as effective in another. Therefore, it is essential to consider the unique characteristics of each ecosystem when designing and implementing NbS.

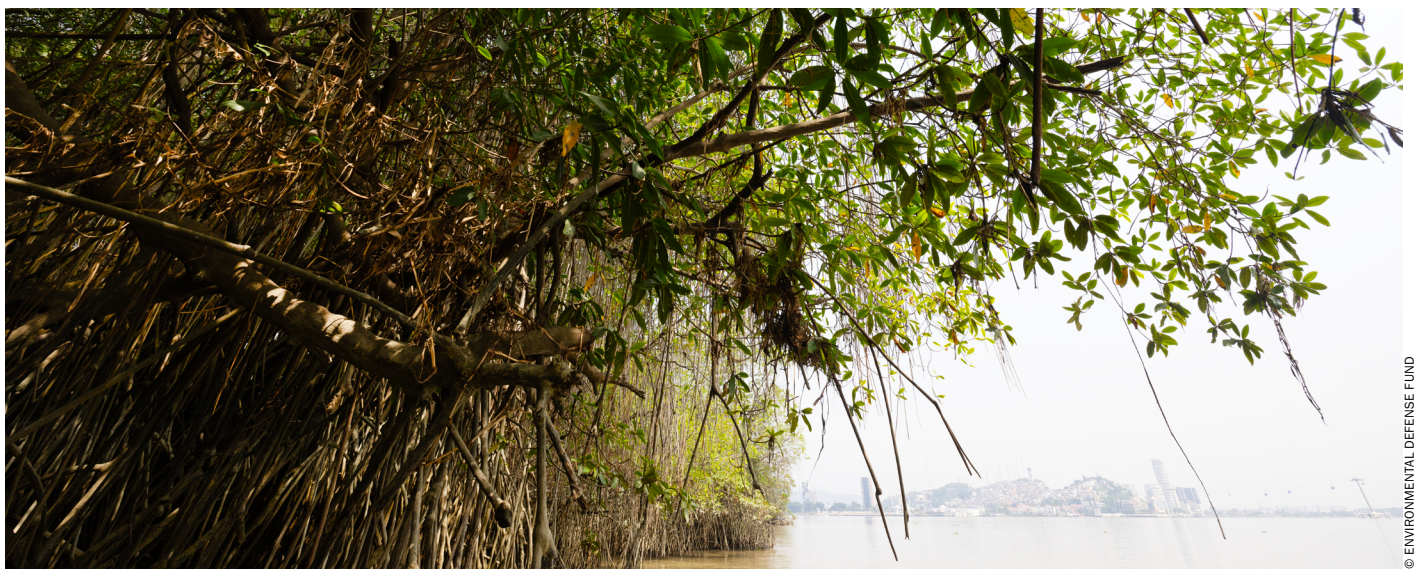
Opportunities for the Loss and Damage fund

Despite these challenges, opportunities exist to increase NbS financing towards SOEs, especially as the new L&D fund works to deploy a range of financial instruments in a complementary manner:

- **Incentivize NbS in solving SOEs:** The Fund can support countries to set in place incentives to encourage the use of NbS approaches, such as engaging in stronger risk management practices, improving governance structures to ensure proper oversight, and eliminating barriers posed by land-use regulations and permitting policies.
- **Cost-benefit analysis:** Integrating proper cost-benefit analysis into funding decisions can improve the attractiveness of NbS projects, by better accounting for the short and long-term benefits that NbS provide – especially as NbS may require significant upfront costs, and there may be a lag period before seeing benefits. Cost-benefit estimates of NbS must more accurately capture the ‘avoided costs’ resulting from heightened resilience.
- **Proactive financing:** To more effectively address SOEs, proactive financing approaches can help to avoid or minimize potential impacts. This can involve utilizing various mechanisms such as bonds, loans, debt-for-nature swaps, credits, and tax policies.
- **Streamlined approach:** Efforts are underway to streamline the process of addressing the financial gap for SOE adaptation and L&D.

There is vast potential through numerous financing mechanisms to support NbS for SOEs.

- **Repurposing existing solutions:** Public and private actors can significantly improve the situation by repurposing existing solutions, adapting existing financial tools to address L&D and NbS projects, and identifying effective NbS and tailoring their solutions to different regions’ specific social, economic, and ecological needs.
- **Exploring effectiveness:** It is crucial to examine in more detail what the most effective NbS could be to build resilience in SOEs. This exploration should consider different social, economic, and ecological contexts of countries and communities.
- **Collaboration is key:** The newly established L&D Fund presents a platform for collaboration, and the complementarity of funding sources will be crucial in addressing these challenges. As seen, establishing the L&D Fund can serve as a platform to create and test hybrid and innovative financial approaches that utilize nature-based solutions to advance objectives in multiple agenda.
- **Comprehensive approaches:** Embracing comprehensive approaches to financing and implementing NbS will unlock the needed capital, though it may require a challenging mindset shift and thought leadership will be needed. Such comprehensive approaches must examine how mitigation finance can be better leveraged to deploy towards adaptation for SOEs and how policy engagement could strengthen the coherence of NbS projects and mitigation goals at the national level.



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