The role of non-state actors in enhancing synergies between the Rio Conventions

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The COP28 joint statement on climate, nature and people provides a powerful platform for connected and collaborative action for the protection, management and restoration of our threatened ecosystems. Non-state actors have a critical role to play in delivering change, at speed and scale.

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1.Introduction

The role of non-state actors in the Rio Conventions

Climate change, biodiversity loss, and desertification are critical threats to the stability and sustainability of human and natural systems[1-3]. These challenges are formally addressed at an inter-governmental level by the three Rio Conventions, established in 1992 at the Earth Summit in Rio de Janeiro, Brazil: the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD). Traditionally, the implementation of these conventions has occurred in silos, potentially limiting the effectiveness of global efforts to achieve their collective objectives. Recent trends underscore the growing importance of non-state actors (NSAs) — such as businesses, financial institutions, regional governments, research institutions, civil society, and Indigenous groups — in fostering synergies between these conventions[4] (Figure 1).

By harnessing the potential of NSAs to protect, sustainably manage, and restore nature, it may be possible to develop more integrated and effective strategies for addressing global environmental challenges across all three Rio Conventions.

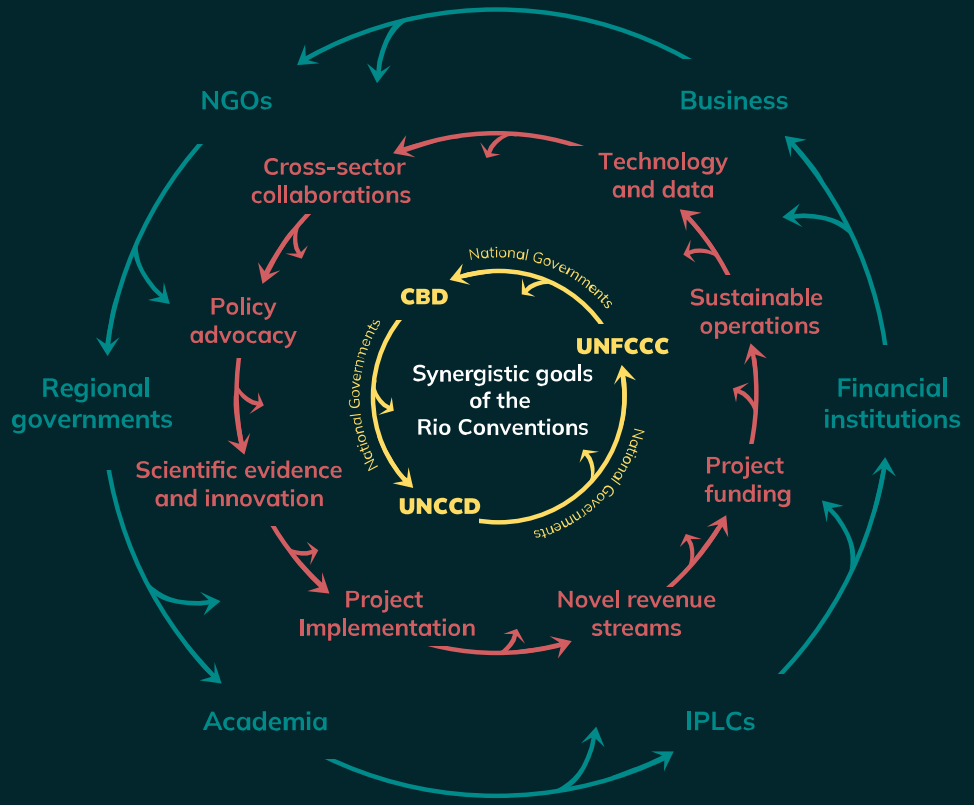


Figure 1. Recommendations for how NSAs can enhance synergies between the Rio Conventions.

Importance of building synergies among conventions for tackling climate change and biodiversity loss

Using case studies of ongoing initiatives, we demonstrate how NSAs are not only complementing state-led effort, but are also driving innovation and leadership in achieving the objectives of the Rio Conventions.

Nature-based solutions (NbS), also known as natural climate solutions, are actions taken to protect, sustainably manage, and restore ecosystems in order to address the dual crises of climate change and biodiversity loss[5,6]. There is clear scientific evidence that biodiversity loss, land degradation, and climate change are interconnected, and that NbS implemented by NSAs can address these crises simultaneously[7]. The COP28 Joint Statement on Climate, Nature and People declares "there is no path to fully achieve near- and long-term goals without urgently addressing [those challenges] in a coherent, synergetic and holistic manner, in accordance with the best available science". The statement outlines clear synergies in the strategies implemented under the UNFCCC, CBD and UNCCD, and stronger integration of the strategies to recuperate nature formed under and alongside these frameworks will encourage:

1. Better coordination and more efficient use of resources;

2. Greater scaling of finance and investments for climate and nature;

3. More equitable and inclusive representation of stakeholders;

4. A whole-of-society approach to planning and implementation; and

5. Coherence and interoperability of data, metrics, and reporting frameworks.

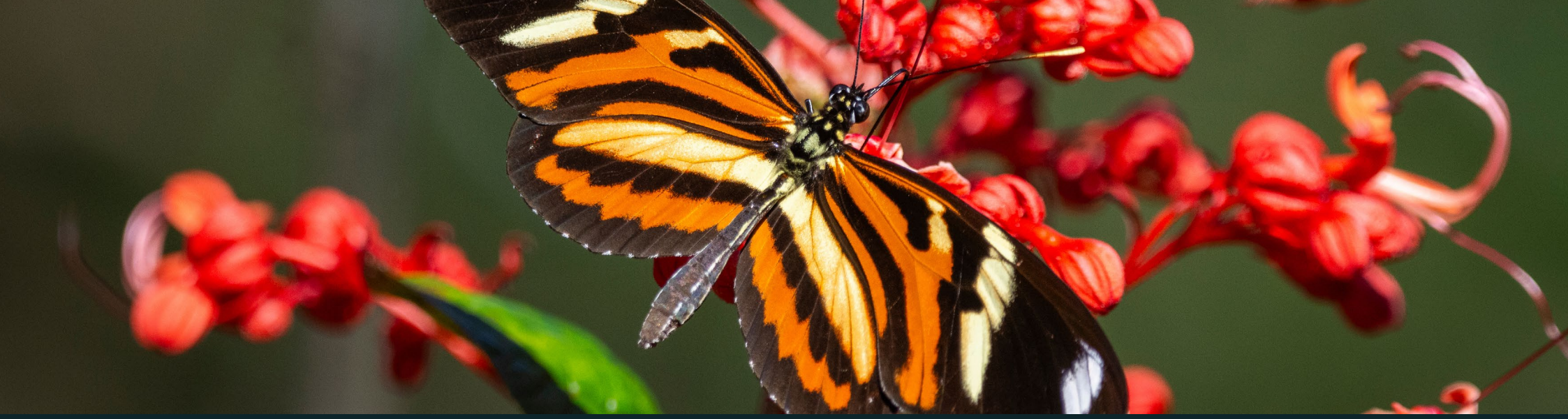
To achieve these goals, and to avoid potential perverse outcomes of NbS projects, it is imperative to find synergies and collaboration across the Rio Conventions.

Potential negative effects of climate change mitigation on biodiversity and local communities if the Rio Conventions are not considered jointly

The three Rio Conventions have traditionally been actioned separately, which not only reduces our ability to achieve shared objectives, but also can be counterproductive and drive perverse outcomes. Inappropriate utilization of NbS to reduce and offset greenhouse gas (GHG) emissions, especially by planting trees in non-forested areas, comes at the expense of reduced ecosystem resilience and biodiversity[8]. The benefits of planting low-diversity mixes of fast-growing trees to sequester carbon can be outweighed by negative impacts on native ecosystems, leading to loss of ecosystem services, decreasing endemic species richness, and altering long-term carbon storage dynamics[9]. To prevent unforeseen or overlooked negative impacts on biodiversity and ecosystem degradation, it is crucial to enhance the integration of efforts across the three Rio Conventions to ensure appropriate land protection, management, and restoration practices are applied at scale.

2. Background to the Rio Conventions

The core objectives of the Rio Conventions have different emphases, but all fundamentally relate to environmental protection and sustainable development, and substantially overlap in relation to ecosystem conservation and restoration. They also share several operational similarities, based on their common origin. The Rio Conventions are named after their foundational international treaties, which establish legal frameworks as well as binding obligations for the parties (i.e. countries that have ratified the conventions) to achieve their goals. Each convention holds regular meetings (Conference of the Parties; COP), which serve as the decision-making bodies for the conventions, and where the nation-state parties come together to assess progress, negotiate agreements, and make decisions on the implementation of the convention.



2.1 United Nations Framework Convention on Climate Change (UNFCCC)

The objective of the UNFCCC is to stabilize greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system[10]. This stabilization should occur within a time frame that allows ecosystems to adapt naturally to climate change, ensures food production is not threatened, and enables economic development to proceed sustainably. The UNFCCC aims to achieve this by encouraging countries to reduce GHG emissions and take preventative actions against potential climate change impacts.

The Kyoto Protocol (1997) was adopted to operationalize the UNFCCC by committing industrialized countries and economies-in-transition to limit and reduce GHGs, and represented a significant step forward in international climate policy by establishing binding emissions targets for industrialized countries. In 2015, the Paris Agreement was adopted by the EU and 196 nation-states. This is a landmark treaty that aims to limit global warming to below 2 degrees Celsius above pre-industrial levels, while pursuing efforts to limit the increase to 1.5 degrees Celsius. As of August 2024, the EU and 194 nation-states have ratified the Paris Agreement.

2.2 United Nations Convention on Biodiversity (CBD) - Reverse biodiversity loss

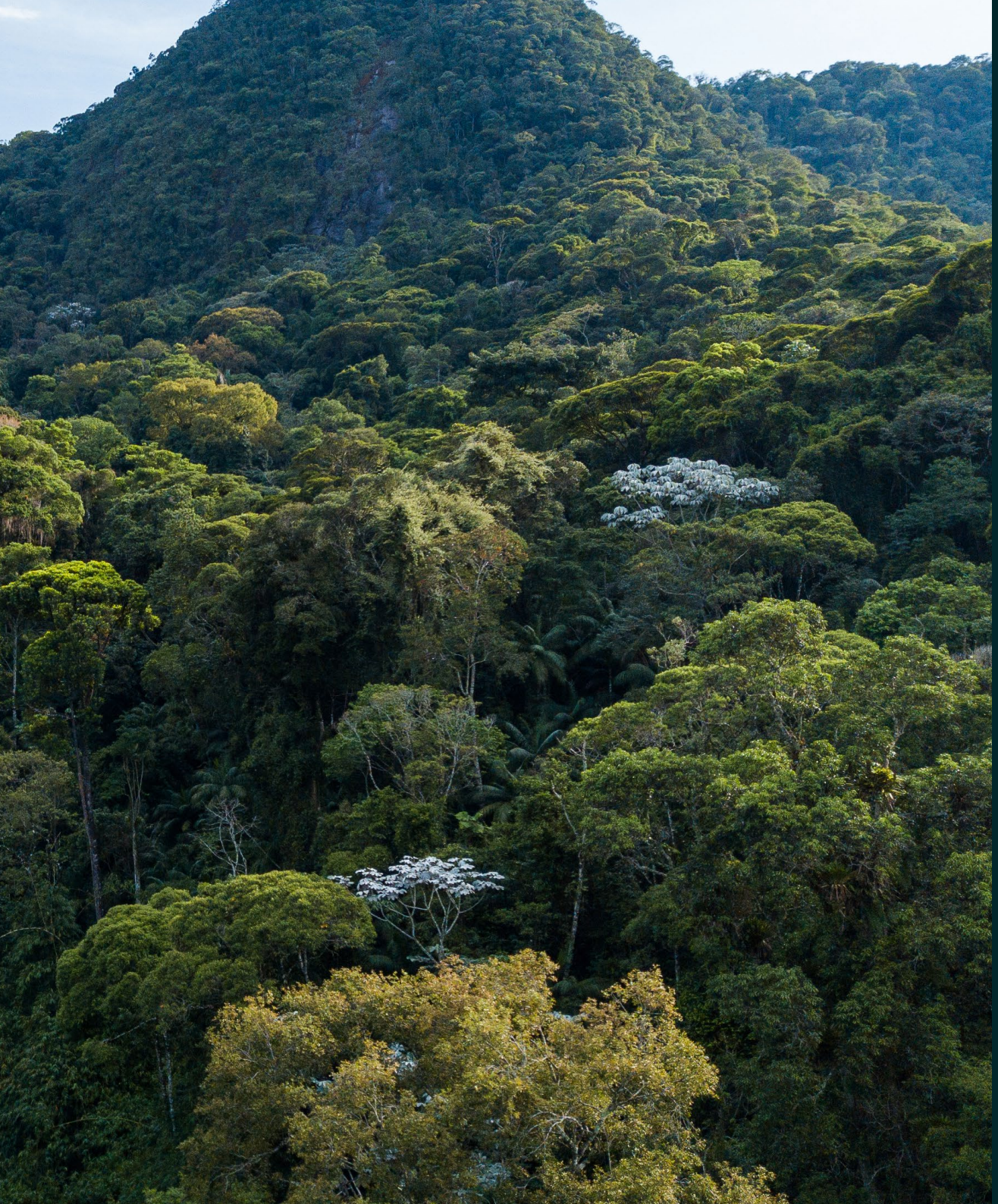
The CBD aims to conserve biological diversity, which encompasses the variety of life forms on Earth (including all plants, animals, and microorganisms) the genetic differences within these species, and the ecosystems they form[11]. It promotes the sustainable use of the components of biological diversity, ensuring that biological resources are used in ways and at rates that do not lead to long-term decline, thereby maintaining their potential to meet the needs and aspirations of present and future generations. The convention also focuses on ensuring that the benefits arising from the utilization of genetic resources are shared fairly and equitably.

2.3 United Nations Convention to Combat Desertification and Degradation (UNCCD)

The UNCCD seeks to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa[12]. This is achieved through effective action at all levels, supported by international cooperation and partnership arrangements. It aims to promote sustainable land management practices that prevent the degradation of land in arid, semi-arid, and dry sub-humid areas, which are particularly vulnerable to desertification. It seeks to ensure that land use remains productive, supports livelihoods, and maintains the health of the ecosystem. Finally, it seeks to enhance community resilience to desertification, land degradation, and drought, recognizing the vital role of local communities in managing and protecting land resources.

2.4 Synergies among the aims of the conventions:

Under UNFCCC Art. 4.1(d)[10], the parties commit to promoting sustainable management, conservation, and enhancement of sinks and reservoirs of all greenhouse gases, including ecosystems like forests, coastal ecosystems, and wetlands. Article 5(1) of the Paris Agreement further states that parties "should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases". Under Art. 10(a) of the CBD, "parties are encouraged to integrate biodiversity conservation and sustainable use into national decision-making, which includes land management practices"[11]. And under Art. 4.2(b) of the UNCCD, "parties commit to promoting sustainable land management (SLM) practices and conservation to prevent desertification and land degradation"[12]. Therefore, ecosystem-based approaches that protect, sustainably manage, and restore ecosystems (forests, wetlands, grasslands) simultaneously combat climate change (by enhancing carbon sinks), conserve biodiversity, and prevent land degradation. We discuss several case studies which highlight how NSAs can drive and contribute to these shared commitments.



3. Literature review of NSA potential contributions

3.1 Mitigation hierarchy; protect, manage, restore

Mitigation strategies that concern all three Rio Conventions and potentially implemented by NSAs can be categorized according to the mitigation hierarchy offering three NbS pathways - to protect, sustainably manage, and restore. This hierarchy offers a decision-making framework for NSAs to optimize the effectiveness of natural climate solutions in an environment in which resources are constrained, and time is short. The framework proposed by Cook-Patton et al.[13] focuses on GHG emission reduction. However, it can be applied not just for meeting the goals under the UNFCCC, but actions under this framework provide potential to create and foster synergies across the goals of all three Rio Conventions.

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Protection refers to management actions that reduce GHG emissions and biodiversity loss from ecosystem degradation. Over time, protection of intact ecosystems can enhance carbon storage, biodiversity and ecosystem stability within these areas. Protection is first in the mitigation hierarchy because this pathway offers high levels of mitigation that can be realized quickly, and it is also often the most cost-effective NbS pathway.

Sustainable or improved management refers to actions within working landscapes and seascapes, such as forestry concessions, agricultural, fishing, and grazing areas, that can reduce emissions, sequester additional carbon, enhance biodiversity, and reduce land degradation. This pathway is second in the hierarchy, as it is often more cost-effective than restoration, and actions to shift toward more sustainable management of ecosystems can enable countries to reduce emissions and biodiversity loss by adjusting the way they manage their land without completely changing how land is used (e.g., agricultural land is not transformed into a forest but instead a silvo-pastoral system is used to continue agricultural practices while enhancing carbon sequestration, biodiversity and soil health).

Restoration refers to actions that assist the recovery of ecosystems that have been damaged, degraded, or converted[14]. Restoration actions can lead to increased carbon sequestration within degraded areas, enhance resilience against climate change, recover aspects such as wildlife habitats and populations, and restore other critical ecosystem services. While restoration has the largest potential for climate change mitigation, it is third in the hierarchy because its benefits do not appear immediately, and it is the most expensive of the three approaches. Restoration can gradually increase carbon uptake and biodiversity, but it is no substitute for protecting intact ecosystems from conversion which must be prioritized first, to avoid emissions that might not be balanced for decades or centuries and loss of species that may be irreversible. Restoration also often requires shifts in land use from production systems to native ecosystems, which can displace agricultural activities to other areas (i.e., cause leakage), and it is often the most expensive and technically demanding of the three sets of actions. When the use of restoration is required, and it is done well it can restore valuable ecosystem services and support biodiversity goals.

Below we outline key case studies where NSAs have formed a critical part of the mitigation hierarchy and helped to catalyze ecosystem protection, management, and restoration. In doing so we hope to provide ecosystem-specific examples of local efforts that have potential to be scaled up with support of the Rio Conventions and country-level governance.

3.2 NSA case studies following the ambition loop

The following case studies have been framed within the ambition loop, which refers to a positive feedback cycle between government policies and business actions that accelerates progress toward achieving climate and nature goals[15]. This concept is based on the idea that strong, clear government policies encourage NSAs to make bold commitments to sustainability, which in turn drives further government action. We have adapted the ambition loop to emphasize the roles of NSAs as follows:

Non-State Leadership: When businesses and organizations adopt ambitious environmental practices—such as setting net-zero emission targets or investing in biodiversity conservation—they demonstrate the feasibility and benefits of such actions.

Governmental Response: Observing these successes, governments are more likely to enact supportive policies, regulations, or incentives that encourage wider adoption of similar practices.

Enhanced Non-State Action: Improved policy frameworks enable non-state actors to scale up their efforts, invest in innovation, and take on even more ambitious projects.

This cycle continues, progressively elevating the overall ambition and effectiveness of environmental initiatives. The following case studies illustrate how NSAs can break down silos between the Rio Conventions, accelerate implementation of solutions on the ground, foster collaboration through building networks and partnerships, and influence global agendas by showcasing successful models and advocating for ambitious, synergistic commitments.


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3.2.1 Forests:

Restoration and protection of the Brazilian Atlantic Forest (Mata Atlântica)

The hyper-diverse Brazilian Atlantic Forest (Mata Atlântica), one of the most threatened biodiversity hotspots in the world[16], was extensively deforested throughout the 19th and 20th centuries, leading to a dramatic decline in forest cover from 80 to 8% from 1854 and 1973[17]. Despite this widespread ecosystem degradation, a robust ambition loop has been built that makes this region a global model for the implementation of landscape-scale reforestation activities. This policy-driven process took time to come to fruition, built on forest protection laws initially passed almost a century ago[18]. This case study provides a prime example of how forward-thinking policies and synergistic activities implemented by NSAs have led to widespread ecosystem regeneration and climate change mitigation spurred by the creation of an economy built explicitly around ecosystem restoration[18].

This start of this ambition loop is underpinned by a Brazilian Federal Constitution law known as the 'Forest Code,' created almost a century ago in 1934 and refined in 1965, which requires that a percentage of all private land is retained as natural vegetation. This legal framework created protected areas and guidelines for the amount of land area ('legal reserve') in specific ecosystems that can be used for sustainable wood harvest[19]. While initially designed to ensure access to fuel wood[20], this policy has since been modified and leveraged to both promote and finance ecosystem conservation and restoration as it serves a robust legal framework for land tenure that increases investor confidence in long-term investment in these activities[21].

Building on the foundation laid by the Forest Code, the Atlantic Forest Protection Law, passed in 2006[22], established the first federal-level land protection law in Brazil focused on a specific biome. This legal framework has led to a groundswell of reforestation action in this region, spearheaded by the Atlantic Forest Restoration Pact, a coalition of over 350 NSAs (mostly non-profit organizations) who aim to restore over 50 million hectares of the Atlantic Forest by 2050[23]. Overall, this policy has led to the implementation of ~300,000 hectares of restoration projects across the region[23], which have already yielded dividends in terms of biodiversity recovery[24].

Yet, stakeholders across Latin America emphasize the need to clarify the mandates legal frameworks focused on forest landscape restoration[25], and in this particular instance have highlighted a need to refine definitions such as forest successional stages at more biologically relevant scales than the Atlantic Forest Protection Law currently does[26].

The next step of the ambition loop has been realized through a groundswell of business interest and investment in restoration in this region, and targeted taxes on fossil fuels that fund an extensive payment for environmental services program across the country[27]. These activities have not only built an economy focused on ensuring that restoration leads to the recovery of complex and biodiverse native forest across the region (e.g., through building biodiverse tree nursery capacity[21], but also through the direct investment of for-profit business in large-scale reforestation projects in the region[28]. Over the past year, there have been historic investments by a for-profit company based in the United States (Microsoft) in reforestation projects in Brazil[28,29] both in the Atlantic Forest[30] and in the Amazon[31]. In addition to the reforestation projects themselves, a key focus of these investments is on building partnerships with for-profit reforestation companies focused on engaging with local farming communities and capacity building to improve sustainable land management. The ambition loop has come full circle with these large-scale investments in

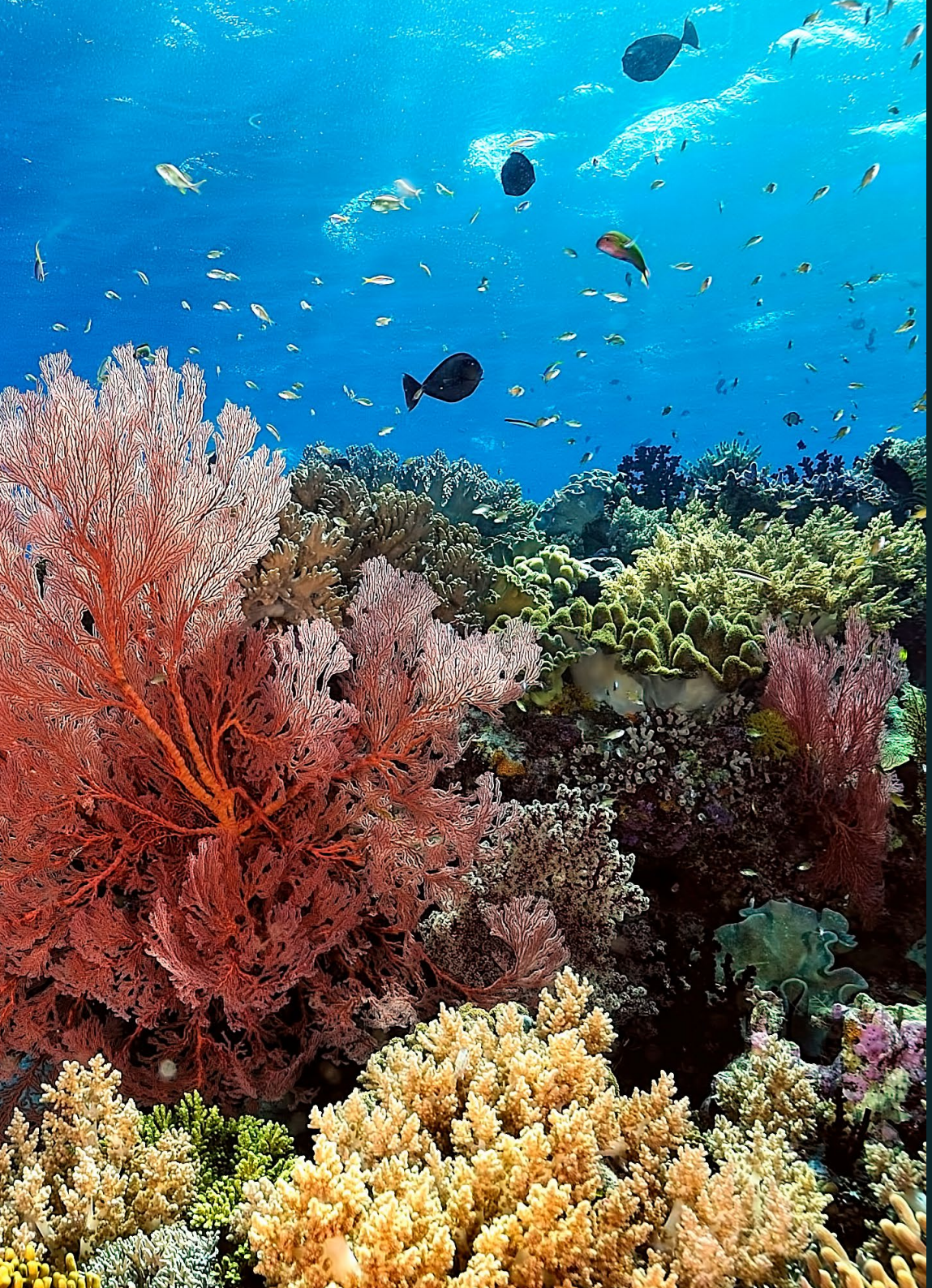
restoration across Brazil. There will most certainly be additional large funding commitments to the restoration of Brazil's forests in the near future, from a range of national and international businesses investing resources in 'high-quality' carbon offsets[32], aimed specifically at scaling up reforestation to accelerate climate change mitigation.

Ecological and economic outcomes of community managed forests in Nepal

Community-based forest management is a key mechanism through which NSAs have been integral in the management and governance of forests (CBFM;[33]), through a reliance on bottom-up management of forest resources[34]. This approach has gained significant traction in Nepal, whereas of 2017 35% of the population of the country was involved in CBFM, and 28% of the forested area is now governed by 'Community Forest Users Groups'[35]. Policy action was the first step in the ambition loop that led to this large-scale shift in forest governance and subsequent ecosystem regeneration. This was formalized by two federal legal actions, the Forest Act of 1993 and Forest Regulation of 1995, which built on the National Forest Plan of 1976 and Forest Act of 1977 that initially codified community involvement in forest management across the country[33,36].

There is evidence that these policies have contributed to the restoration of the forest cover over broad areas in the middle mountains of Nepal, by involving local stakeholders directly in the ambition loop. For instance, in the Kabhrepalanchok District in the Middle Hills of Nepal forest cover increased by 77% from 1978-1992 in community managed forests, compared to areas without community forests where cover only increased by 13% over this time period[37].

By contrast, other areas in the country experienced forest loss due primarily to policies focused on agricultural expansion[38]. Thus, CBFM must be aligned with other existing policies that promote intensive land use to realize the full benefits of this approach. Additionally, studies in Nepal have noted that the ability of households to realize livelihood benefits from CBFM can be tightly linked with household economic status (e.g., land and livestock ownership), with poorer households facing inequitable access to community forests that precludes their access to certain forest products[39]. The patterns of success of CFBM are therefore linked to a variety of factors including the creation of proper incentives towards municipal governments and ensuring that households have the ability to participate[34].



3.2.2 Coral reefs/ fishery systems:

Restoration and protection of Indonesian coral reefs

Indonesia is home to 16% of the world's coral reef area, which includes some of our most diverse ecosystems[40]. Like coral reefs globally, Indonesia's reefs are at risk and have been damaged by bleaching events linked to climate change, coastal development, overfishing and destructive fishing practices (e.g. dynamite fishing; [41,42]). Indonesia's large coastal population puts further pressure on the conservation and management of reef systems, with almost 25% of the 270 million population living less than 30 km from a coral reef[41]. In response, a combination of governmental policies and initiatives by non-state actors — including non-governmental organizations (NGOs), local communities, and private sector stakeholders — have played a critical role in driving coral reef restoration[43]. Government policy has explicitly driven NSA involvement specifically through a series of Indonesian marine restoration regulations that require community-driven management, initiating an ambition loop that helped to scale up protection and management of coral reefs across the country. These regulations promote local individual or community participation in restoration efforts, shared

ownership and responsibility between the government and local communities and reflect a decentralized governance model where regional authorities hold significant decision-making power[43].

Unlike countries like Australia or the USA, which centralize their restoration permitting processes[44], Indonesia's regulations are governed regionally. This decentralized and participatory approach is a cornerstone of Indonesia's strategy, promoting inclusivity and diverse stakeholder involvement. The decentralized policy framework has driven diverse restoration methods, continuing the ambition loop by promoting the engagement of a wide range of NSAs who have initiated projects. A recent review documenting 533 reef restoration projects across 29 Indonesian provinces[43] found that 62% of projects were led by NSAs including private sector companies, NGOs, communities and dive clubs. Thus, commitments to inclusivity and the diversity of participants in policy is reflected in the wide range of practitioners actively involved in establishing restoration programs. The number of restoration projects has significantly increased in recent years, with many large-scale projects initiated in the past decade. Increasingly intersectional collaborations appear to be key to project success and enable communities to work with larger NGOs or private sector entities to develop larger projects. The rehabilitation of Pulau Badi, Indonesia provides an illustration of a cross-sector collaboration[45] that restored coral diversity and ecosystem function in an area severely damaged by dynamite fishing[46]. From the outset, this project was a collaboration between Pulau Badi island residents and Mars Symbioscience (a private sector company and a division of Mars Inc.[47]), demonstrating the completion of the ambition loop in this case study with engagement of additional NSAs, in this instance for-profit companies. The island community, supported by Mars Symboscience, transplanted coral fragments using novel modular structures or spiders to stabilize rubble created from blast fishing and support regenerating corals, leading to dramatic increase in mean live coral cover in the area from < 10% to > 60% over 2013-2017[45]. To ensure recovery of local fisheries and livelihoods, the islanders had established a small no-take zone on the reef in 2007. This prior commitment to broader-scale ecosystem and fisheries management in combination with the effective coral reintroduction ultimately drove long-term ecosystem rehabilitation that not only increased biodiversity, but also proved very resilient to bleaching during the 2014–2016 El Niño–Southern Oscillation event[48]. In summary, Indonesia's government policies to promote NSA involvement and collaboration in reef restoration has initiated the development of a large number of restoration projects by a diversity of NSAs using different approaches, that often illustrate a collaborative whole-of-society approach. Though it is important to note that the long-term success of many of these projects will require sustained collaborative effort to ensure extended ecological monitoring and ongoing management.

3.2.3 Mangroves

The global strategy of the Mangrove Breakthrough project

Mangrove ecosystems provide critical extreme weather protection, support fisheries and local livelihoods, and are some of the world's most biodiverse and carbon dense ecosystems[49]. Thus, mangrove conservation, management and restoration are central to all three Rio Conventions and combating the climate and biodiversity crises[50]. However, relative to the biodiversity and carbon benefits that mangroves provide, the restoration and protection of these systems has been critically underfunded; mangroves receive ~1% of climate finance[51]. The Mangrove Breakthrough is a call for accelerated action and investment from governments, the private sector, and other NSAs to enable restoration and conservation of one of our most valuable but under-protected ecosystems[52]. The Mangrove Breakthrough provides a framework for state actors and NSAs to work together towards ensuring large scale mangrove conservation, management and restoration, formalizing the ambition loop for mangrove protection, sustainable management, and restoration around the world.

The Mangrove Breakthrough was launched at UNFCCC COP27 in Sharm el-Sheikh, Egypt, led by the United Nations High Level Climate Champions and the Global Mangrove Alliance, together with a coalition of supporters and potential partners[52]. Over the subsequent year, the group secured support from 49 governments and established a formal partnership with the Mangrove Alliance for Climate, which represents 23 countries home to almost 60% of mangroves globally. Specifically, the Mangrove Breakthrough will collaborate with 57 NSAs (including Global Mangrove Alliance members, the Ocean Risk and Resilience Action Alliance, and Salesforce) to implement a global mangrove program that aims to protect and restore 15 million hectares of mangroves by 2030. The program aims to stop mangrove deforestation and disturbance, restore half of recent mangrove losses, double the protection of mangrove areas globally, and secure sustainable long-term finance via an investment of 4 billion USD by 2030. More broadly, the program is building momentum and unlocking the financing required to enable global-scale mangrove action. As Razan Al Mubarak, President of IUCN, stated, "Achieving the goals of the mangrove breakthrough will catalyze policy changes and financial investments necessary to meet biodiversity and climate targets."

3.2.4 Drylands/reversing desertification

Altiplano Estepario (Spain)

The Altiplano Estepario in southeastern Spain used to be covered in vast dry Mediterranean forests. After being farmed for thousands of years, the increase in intense farming practices, soil erosion, compaction and pollution became widespread, and the area faced high rates of unemployment and rural depopulation. In 2014 the NSA Commonland, an NGO, initiated a pilot project to promote reforestation and regenerative agriculture across tens of thousands of hectares by bringing together farmers and other stakeholders[53]. From this initial group, they formed the AlVelAl Association in 2015 using the 4 Returns framework[54] to bring together farmers, conservation organizations, local government, businesses, and researchers. This alliance initiated the ambition loop, during which AlVelAl reforested and implemented agricultural practices to enhance soil, water resources, and biodiversity in a 25,000-ha biodiversity corridor that would connect protected areas and allow iconic species such as the Iberian Lynx to travel across the landscape.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By 2022, membership had expanded to more than 450 people, regenerative agriculture was practiced on 10,500 ha of land, and more than 400 ha of trees and forests had returned to farms and public lands through planting and natural regeneration.

This case study is a strong example of how NSAs can initiate, build capacity to scale up, and drive a successful restoration project in close collaboration with other NSAs. Commonland engaged with motivated farmers from the beginning of the project onwards, who participated in a workshop with entrepreneurs, researchers, and the local government to "create the dream for 2035 for this territory". Farmers then formed AlVelAl, an association of a diversity of stakeholders, who are continued to be supported by Commonland through training and capacity building in business, restoration and regenerative farming techniques. AlVelAl integrated celebrations of cultural heritage, festivals and intergenerational engagement to inspire the community and promote ecosystem restoration. The momentum of the initial group inspired other farmers to engage in regenerative farming throughout the course of the project. By creating an economic case for regenerative farming and developing businesses to process and market regenerative goods and progressing to the next stage of the ambition loop, novel economic opportunities were created in the region that led to the return of young people and families.

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Overall, the case of regenerative farming and restoration of the Altiplano Estepario highlights the importance of engaging and empowering communities and stakeholders at all levels of the project. It provides a framework through which NSAs drive and collaborate with state-actors to ensure effective large-scale landscape-level restoration of degraded landscapes, addressing various goals across the Rio Conventions. This approach was key for achieving positive outcomes for nature and socio-economic wellbeing in the long term and counteracted known challenges for the successful implementation of dryland forest restoration 53,55.

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4. Recommendations for catalyzing NSA contributions

Recommendations for how NSAs can contribute to synergies across the Rio Conventions

Many of the case studies above were catalyzed by either specific national policy or synergistic activities across NSAs that built novel partnerships to protect, manage, and restore ecosystems in a socially and ecologically sound manner. This highlights the crucial role of national governments in establishing the right conditions for NSAs to drive successful outcomes. Nevertheless, there are actions that NSAs can take to meaningfully support the ambition loop by pushing national governments to implement those very kinds of enabling policies.

Advocate for policy coherence: Civil society organizations and advocacy groups can play a crucial role in lobbying for policies that align the objectives of the Rio Conventions, ensuring that national and international policies support integrated and intersectoral action. For example, by influencing national policy using evidence and case studies that demonstrate the benefits of integrated NbS approaches for both nature and human livelihoods.

Align Investment Strategies with Sustainability Goals: Financial institutions and businesses can integrate sustainability into their investment portfolios by prioritizing companies or projects that contribute to climate mitigation, biodiversity conservation, and land restoration simultaneously.

Creating novel revenue streams and economies built around ecosystem management and restoration: Improved ecosystem management (i.e., agroforestry, regenerative agriculture) can lead to new forms of revenue that not only improve local livelihoods, but also lead to a virtuous circle of improved ecosystem management and recovery. Additionally, restoration activities have spurred the creation of novel economies led by NSAs focused explicitly on enabling and improving ecosystem restoration practice (e.g., upscaling native tree species nurseries), which have in turn improved economies of scale that promote more ecosystem restoration.

Empower Local Communities and Indigenous Peoples: NSAs, particularly NGOs and community-based organizations, can work directly with Indigenous peoples and local communities (IPLCs) to develop and implement projects that reflect traditional knowledge and practices, which often naturally align with the objectives of the Rio Conventions.

Create and Support Public-Private Partnerships: Businesses can collaborate with governments and other NSAs to form public-private partnerships that pool resources and expertise for large-scale environmental projects. This includes actively collaborating with national governments to ensure that their climate actions are reflected in Nationally Determined Contributions (NDCs) and Biennial Transparency Reports (BTRs)[56].

Leverage Technology and Data for Integrated Reporting: NSAs, particularly those in the technology sector, can develop and utilize advanced data management tools to monitor and report on progress across the Rio Conventions, ensuring that activities contribute to multiple environmental goals[56]. There are many existing platforms that track carbon sequestration, biodiversity indicators, and land restoration outcomes (Restor[57], Net Zero Data Public Utility[58], GBIF[59], Trase[60], GEO BON[61], Global Forest Watch[62], Naturebase[63]). It would be feasible to make these datasets interoperable, to provide integrated reports that demonstrate how a single project contributes to all three conventions. Such a resource would also assist governments, especially those with limited resources, to efficiently monitor their progress under the Rio Conventions and guide future interventions.

Promote Cross-Sector Collaborations: NGOs and civil society organizations can initiate and lead collaborative projects that bring together multiple stakeholders, including governments, private sector players, and local communities, to implement large-scale NbS projects.

Implement Integrated Approaches in Operations: Corporations, especially those in sectors like agriculture, forestry, and energy, can adopt integrated management practices that address the objectives of all three conventions. This includes sustainable sourcing, regenerative agriculture, and ecosystem restoration in their supply chains. The EU Deforestation Regulation is designed to ensure that products consumed in the EU are not linked to deforestation and forest degradation[64]. It achieves this by requiring companies importing, exporting, or producing seven types of commodities in the EU to conduct rigorous due diligence to ensure that the goods are not linked to deforestation or forest degradation. Once companies have established the due diligence mechanisms required under this regulation, it would be feasible to expand them to cover other products or locations currently outside the scope of the regulation.

5. Conclusions

The examples above highlight the significant role NSAs can play in protecting, managing, and restoring nature, thereby creating an ambition loop that promotes positive outcomes for nature across the Rio Conventions. It is now critical to scale up these actions. In 2024, the global gatherings for the three Rio Conventions will be critical milestones to ensure that both governments and NSAs are moving ahead with their commitments to addressing climate change, biodiversity loss, and land degradation.

This report is drafted by named authors only, as a contribution to the debate and to showcase good practice examples. The views and statements are by named authors only and does not necessarily reflect the full position of the UN Climate change High-Level Champion or her team.

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