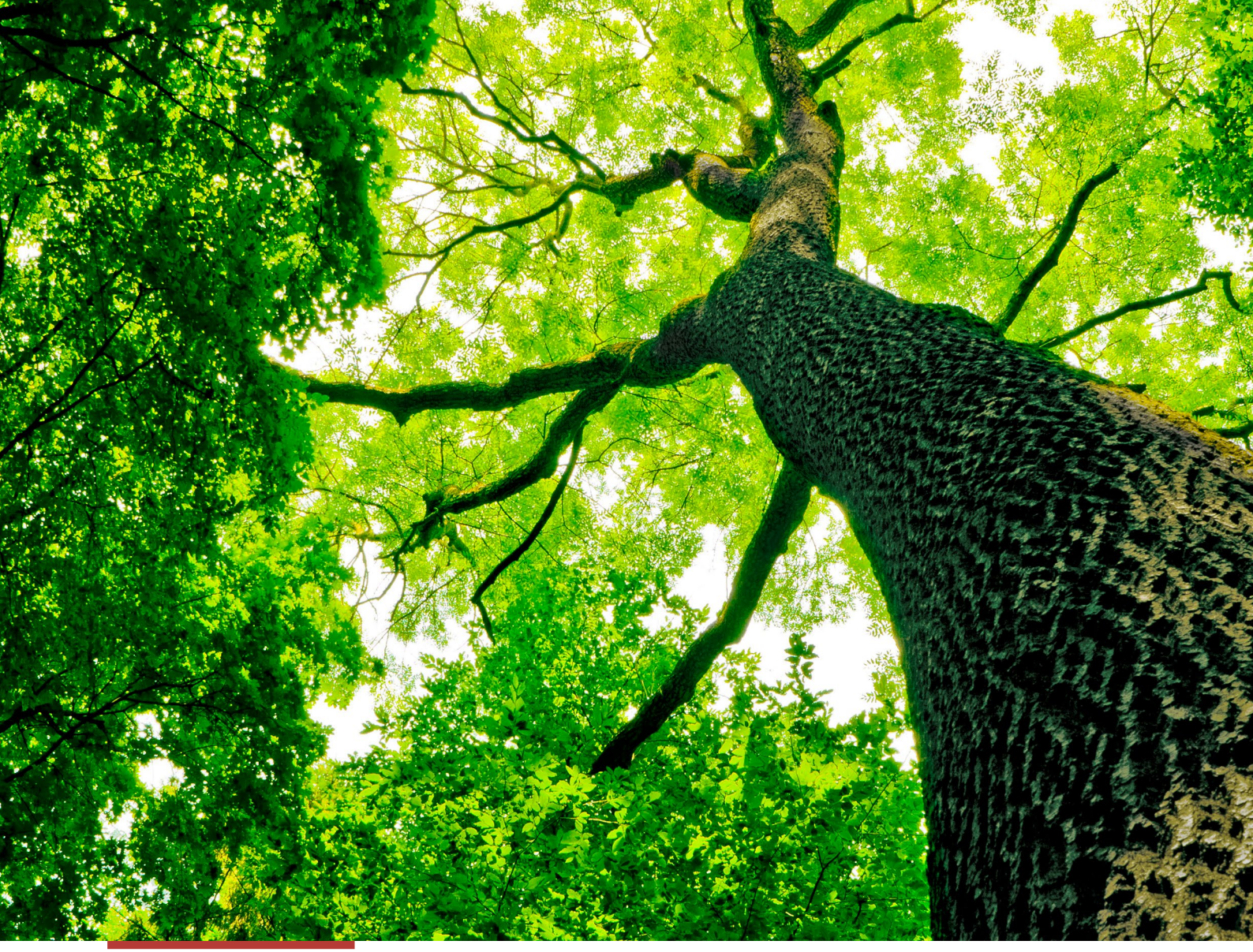


Toolbox on Financing Nature-Based Solutions

September 2024

CLIMATE POLICY INITIATIVE

iCS instituto CLIMA e SOCIEDADE

Authors

Amanda Brasil-Leigh
amanda.brasil@cpiglobal.org

Rosaly Byrd

Phillipe Käfer

Gaoyi Miao

Maria Ruiz-Sierra

Arthur Vieira

William Wallock

Acknowledgments

The authors would like to thank CPI colleagues Barbara Buchner, Benjamin Thomas, Kirsty Taylor, Giovanna de Miranda, Francisco Macedo, and Sam Goodman for advice, editing, and internal review, and Nina Oswald Vieira and Meyrele Nascimento for formatting and graphic design.

This project was made possible by support from Instituto Clima e Sociedade. We are also grateful for the valuable guidance and inputs from Maria Netto and Lucca Rizzo (iCS).

The authors would also like to acknowledge Ricardo Nogueira for his contributions to this project, the Sustainable Finance Working Group members for their input and guidance and the following organizations for their thoughtful contributions: Concito, Convergence, OECD, Institute of Finance and Sustainability, Nature Finance, FSD Africa.

About Climate Policy Initiative

CPI is an analysis and advisory organization with deep expertise in finance and policy. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has seven offices around the world in Brazil, India, Indonesia, South Africa, the United Kingdom, and the United States.

List of Figures and Tables

Executive Summary

To support the 2024 agenda of the G20 Sustainable Finance Working Group, this report presents case studies that have used blended finance to surpass barriers to investments in Nature-based Solutions (NbS).

The wide scope of NbS generates unique financing considerations. NbS is an overarching term for varied approaches spanning multiple sectors, such as fisheries, forestry, and agriculture. Nature—and the benefits of NbS—is considered a public good, which is often dispersed among a multitude of stakeholders and difficult to capture and monetize. As a result, financing NbS pose different considerations than other areas of climate action.

We can apply lessons from other sectors, but there is no one-size-fits-all financing approach for NbS. Blended finance has been used to mitigate various risks in mature sectors, such as renewable energy, with successful approaches being transferred from developed economies to emerging economies. While NbS-relevant sectors often face similar challenges—e.g., country, currency, and credit risks—markets for such interventions are at an early stage, requiring efforts to create and prove the viability of commercial investment at scale.

Private sector engagement in NbS is still far from mainstream, and an exclusive focus on this could divert attention from key actions required to help the market grow. Blended finance can use de-risking tools such as technical support, and concessional capital to drive private sector interest in NbS, but there are phases of implementation that should first be considered. While concessional capital providers often direct funds based on potential for private capital mobilization and capacity to achieve scale, a wider view NbS is needed.

Given their nascent stage of development, NbS require efforts on ecosystem building and fostering enabling conditions, which do not typically involve private capital. Support to build this ecosystem and thus de-risk investments is vital and can be provided through direct technical or financial assistance, with the most effectiveness coming from a combination of both approaches.

Investing in teams, educating investors, and piloting new approaches are essential to demonstrate NbS' potential for profitability. The focus should be on proving the commercial viability of NbS investments and the capacity of certain approaches to achieve returns, even if this requires efforts at a smaller scale to later be replicated.

Given its limited availability, concessional capital must be used carefully to create the greatest impact across NbS-relevant sectors. Based on the analyzed cases, we derived the key findings below.

Key Findings

Guarantees can be the most catalytic instruments to drive private capital to NbS. While many NbS still need to prove their revenue-generation capacity, guarantees can de-risk investments, creating a safer environment for testing new solutions. This can draw in investors and familiarize them with new sectors. At the same time, capacity-building support can improve a project's revenue-generation potential and decrease the likelihood of having to activate a guarantee. The same funds can be reused to fund guarantees for new projects in subsequent investment cycles. Case studies of the Galápagos Debt Swap, AGRI3 fund, Asia Climate-Smart Landscape Fund, Seychelles Blue Bond, and Food Securities Fund demonstrate how guarantees can drive investment to NbS in different geographies.

The public sector is crucial to supporting NbS's scaling. In addition to direct concessional funding and technical support, the public sector can also establish incentives for beneficiaries to engage with NbS, thus creating new revenue sources for NbS.

Governments can either enable or deter a sector's development. Creating a constructive regulatory environment to support financial solutions and developing a long-term NbS strategy are examples of policy measures that can unlock NbS potential. The public sector can also create an enabling environment by incentivizing new agents to engage with NbS, supporting the creation of new revenue streams. With time, this new source of income can enable a transition, where the need for public funding decreases in line with the increase in sustainable revenue flows.

One way to build NbS cashflows is to determine the value of an intervention in monetary terms and then find stakeholders who will benefit. This can be done by incentivizing engagement from beneficiaries such as social and community enterprises, utility companies, and insurance agencies with providers of NbS as observed in the Qiandao Lake Water Fund, the Forest Resilience Bond, and RISCO respectively. Supporting and regulating new markets—e.g., blue and carbon markets—can also generate new revenue streams for nature.

Contents

1. Introduction

Nature-based Solutions (NbS) have emerged as pivotal strategies to tackle climate change while delivering socioeconomic benefits aligned with the Sustainable Development Goals (SDGs). The United Nations Environment Assembly (UNEA) defines NbS as "actions to protect, conserve, restore, sustainably use, and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic, and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience, and biodiversity benefits"(UNEA 2023).

Under the 2024 Brazilian Presidency, the G20 Sustainable Finance Working Group (SFWG) has prioritized NbS financing as a core component of its agenda. The approach involves exploring innovative financial instruments that leverage risk-sharing to maximize private sector participation in NbS. Partnering with the Brazilian Presidency and the Institute for Climate and Society (ICS), CPI has developed a report featuring 12 case studies of successful capital mobilization for NbS.

1.1 Climate Relevance of NbS

While humans have affected natural ecosystems since the advent of civilization, the destruction of nature has now reached alarming proportions. According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, humans have significantly altered 75% of the earth's land surface, and over 66% of ocean areas experience impacts of human intervention. More than 50% of coral reefs and 85% of wetlands have been lost, 25% of animal and plant species are threatened, and over one million species are facing extinction (IPBES 2019).

Human livelihoods and our economic system are highly dependent on nature. Over half of global GDP is moderately or highly interlinked with nature, with sectors such as agriculture and food systems and construction most closely intertwined. The ongoing loss of nature contributes not only to climate change but also to increased systemic risk for the global economy (UNEP 2021).

NbS have the potential to address diverse challenges related to climate change mitigation and adaptation, food and water security, biodiversity loss, and threats to human health and well-being (UNEP 2022). NbS can provide up to one-third of the cost-effective climate mitigation needs for 2030, harnessing the power of nature, and play a key role in supporting cheaper and longer-lasting country adaptation needs, while also providing economic and social development benefits (Griscom BW et al. 2017).

1.2 Financing Nature-Based Solutions

1.2.1 Key Considerations for NbS Investments

It is crucial to have a common understanding of NbS, including the investment opportunities and challenges they present. The complexity and interconnectedness of natural ecosystems mean that each NbS intervention can have multiple effects. While many will be positive, there may be some unintended negative consequences, particularly when interventions are analyzed at a superficial level.

Additionally, NbS often span multiple sectors and appeal to more specific actors than other climate interventions. Taking two conservation interventions as examples, mangrove protection to prevent coastal flooding could engage adaptation-focused agents such as insurance companies, while reforestation may be more relevant to the agricultural sector or timber production industry. While these solutions face common investment challenges, what works in one case may not work in the other, as the market forces in the insurance sector differ from those for agriculture.

According to UNEP's State of Finance for Nature report (2021), approximately US$ 133 billion per year currently flows to NbS, mostly from public sources. This report also notes governments' growing recognition of the value of investing in nature, with 66% committed to restoring and protecting ecosystems as part of their Nationally Determined Contributions (NDCs) to the Paris Agreement, and over 100 including natural ecosystems in their adaptation plans.

Despite this positive momentum, nature-damaging expenditures still far outstrips NbS investment. Environmentally harmful subsidies for fisheries, agriculture, and fossil fuels are three to seven times greater than investments in NbS, with recent studies estimating that around US$ 1.8 trillion in subsidies go to activities that are harmful to the environment (Koplow D, Steenblik R. 2022).

The focus areas for this report are activities relating to: (i) restoration, (ii) conservation, (iii) oceans & water, (iv) bioeconomy, and (v) agroforestry. These thematic areas are not discrete, and, like nature, work in an intertwined way so that interventions will often touch upon more than one of these categories.

Restoration and Conservation[1]

From forests to marine ecosystems, the conservation and restoration of nature requires a two-pronged approach. It is important to stop financing environmentally destructive activities while also finding ways to attribute and reap value from nature in a sustainable manner.

Barriers to building scalable conservation and restoration solutions include challenges in quantifying and monetizing ecosystem services, scaling up and aggregating smaller regional initiatives, and tuning the risk profiles of investments to better match expected returns.

1 In this report, financing conservation is defined as funding activities that enable the "protection, preservation, and management…of natural environments and the ecological communities that inhabit them and financing restoration reflects funding for activities that 'assist in the recovery of ecosystems that have been degraded or destroyed."
See: https://www.hutton.ac.uk/sites/default/files/files/research/MERLIN_D.2.2_Restoration_vs_NbS.pdf

There are opportunities to scale funding for activities that contribute to sustainable management of land and oceans, and to develop innovative solutions to monetize either the intrinsic value of the natural environment, or the value of restoring it.

Oceans & Water[2]

NbS are critical for supporting climate-vulnerable coastal communities but are exceptionally challenging to finance, given the difficulties in capturing returns on such investments. For example, coral reefs offer storm protection and ecosystem services that support economic activities such as fishing. However, it is challenging for investors to capture the financial returns of such NbS because they are dispersed across multiple coastal stakeholders (Glavovic 2022).

Furthermore, many private investors are unfamiliar with blue economy opportunities and perceive high risks in the sector. This is compounded by the reality that the marine ecosystems with the greatest investment needs are often in emerging markets. Attracting capital to oceans and water NbS requires educating investors on the blue economy investment thesis and demonstrating projects' commercial viability.

Bioeconomy

Bioeconomy is a broad and evolving concept that includes three key areas: biotechnology, bioresources, and bioecology. Although all three use biological raw materials to produce goods and services, their pathways and focus differ (CPI 2022).[3] In this report, bioeconomy focuses on the financing of activities related to the collection, use, processing, and commercialization of non-timber forest products (NTFPs) that do not require the harvesting of trees. This includes the sustainable extraction of fruits, seeds, resins, and fibers (IFACC 2024).

These types of investments present unique challenges. Bioeconomy NbS require bridging gaps between Indigenous Peoples and Local Communities (IPLCs)[4] and investors unfamiliar with these types of activities and their complexities. The typically small ticket size of bioeconomy projects and the wide distribution of cooperatives and associations working in the space further compound these challenges.

IPLCs, often located in the world's most significant carbon sinks and biodiversity hubs such as rainforests, are often allies in protecting nature. Without them, illegal mining, logging, and other harmful activities can proliferate. However, the costs they incur in conserving forest areas are often not factored into the prices of final products. It is also important to ensure that communities' involvement in NbS is recognized as a powerful catalyzer for change and a way of guaranteeing the integrity of interventions, rather than a "good-to-have".

2 In this report, the financing of oceans and water refers to a range of NbS aimed at preserving and protecting marine and freshwater ecosystems with the goals of improving biodiversity, decreasing emissions, and increasing systemic resilience.

3 Biotechnology focuses on commercial applications of products derived from biotechnology, bioresources focuses on the processing and production of biomass, and bioecology on conservation and sustainable use of biodiversity and natural resources.

4 The authors of this report recognize the diversity and specificities around the indigenous peoples and local communities, their cultures, and different ways of living. In this work, we use the term only to simplify the mention of the local livelihoods dependent on the extraction of forest products without deforestation and degradation.

Financing Agroforestry

Agroforestry involves planting trees among crops and grazing fields. This can increase yields by establishing an ecosystem more closely related to the natural environment as compared to monocultures. Trees in agroforestry systems and their fruits can also provide income diversification as extra crops for farms. In parallel to this, agroforestry systems also increase resiliency while contributing to erosion, flood, and pest control (Karlsson L. 2018)

Agroforestry interventions require more patient capital—as trees require time to grow—better technical support on new means of production, and aggregators such as SMEs and cooperatives to stimulate this adoption and support the transition.

1.2.2 Barriers and Opportunities for Investment in NbS

NbS have been underfunded for several reasons. Although the real value of nature is extremely high due to the multitude of benefits it provides to health, livelihoods, ecosystems, and overall human well-being, current economic systems have little capacity to measure and monetize it. Many benefits from nature, such as clean air, are considered public goods in that they are widely available and can be enjoyed simultaneously by multiple stakeholders. Yet, these positive externalities are typically dispersed without generating capturable revenues for private entities, creating challenges for financing NbS, as there are little to no incentives for the private sector to invest in unpriced benefits (Chin M. 2021).

In response to this market failure, several initiatives have been developed to enable private institutions to value and price the benefits of nature. These include corporate disclosure frameworks and requirements, international agreements and treaties, and innovations in financial mechanisms (examples listed in table 1 of annex). Although the last decade has seen great progress in better valuing nature, private institutions still struggle to capture the benefits of nature and to finance its protection.

In addition to the lack of incentives for investments, there are often challenges in holding private actors responsible for their negative environmental impacts. Difficulties in measuring the financial costs of environmental degradation and incorporating these into a company's decision-making contribute to this market failure. For example, a company that pollutes the air negatively impacts human health, in turn creating a financial cost through increased healthcare spending and reduced working hours. Yet, these costs are not factored into the company's decision-making because it does not bear them directly and they remain difficult to quantify (Chin M. 2021).

Public institutions are, therefore, the main protectors of public goods and must hold companies responsible for these negative externalities using tools like taxes. However, governments often fail to address a significant portion of negative externalities given the complexity and political nature of most accountability tools. It is thus crucial that the public sector aligns incentives and finds ways to drive investment to NbS. A market-based approach requires working with private actors to convert them from contributors to the problem to participants in the solution.

Innovative financial mechanisms and new business models can attract both private and public investors. Careful structuring can address some of the challenges to financing NbS, including the relatively small scale of projects and the need for locally led capacity to generate high-integrity environmental results.

From the private sector perspective, participating in NbS can support a company's reputation and purpose, generate new sources of revenue, increase resilience, and decrease risks to commercial activities. Meanwhile, the public sector is uniquely positioned to foster the growth of NbS as an investable area and, together with philanthropic capital providers, can provide concessional capital, support for ecosystem-building initiatives, and create an enabling environment to crowd in private capital.

To pilot and scale these new initiatives, it is paramount that the private and public sectors are closely engaged. Every instrument analyzed in this report has had to engage a multitude of stakeholders—capital providers, beneficiaries, implementation partners, and aggregators—to get to market. So, while collaboration is key, this coordination in itself can be a challenge. Initiatives that connect these stakeholders and support a collaborative environment can be transformational in streamlining the development of these financial instruments.

Finally, new financial vehicles that blend various sources of capital can help direct investments to NbS by leveraging concessional funds and crowding in private capital, but they do not represent one single solution to NbS financing. These instruments present a combination of approaches that can be used for testing, innovating, and finding the appropriate tools to finance NbS in different contexts.

1.3 Methodology

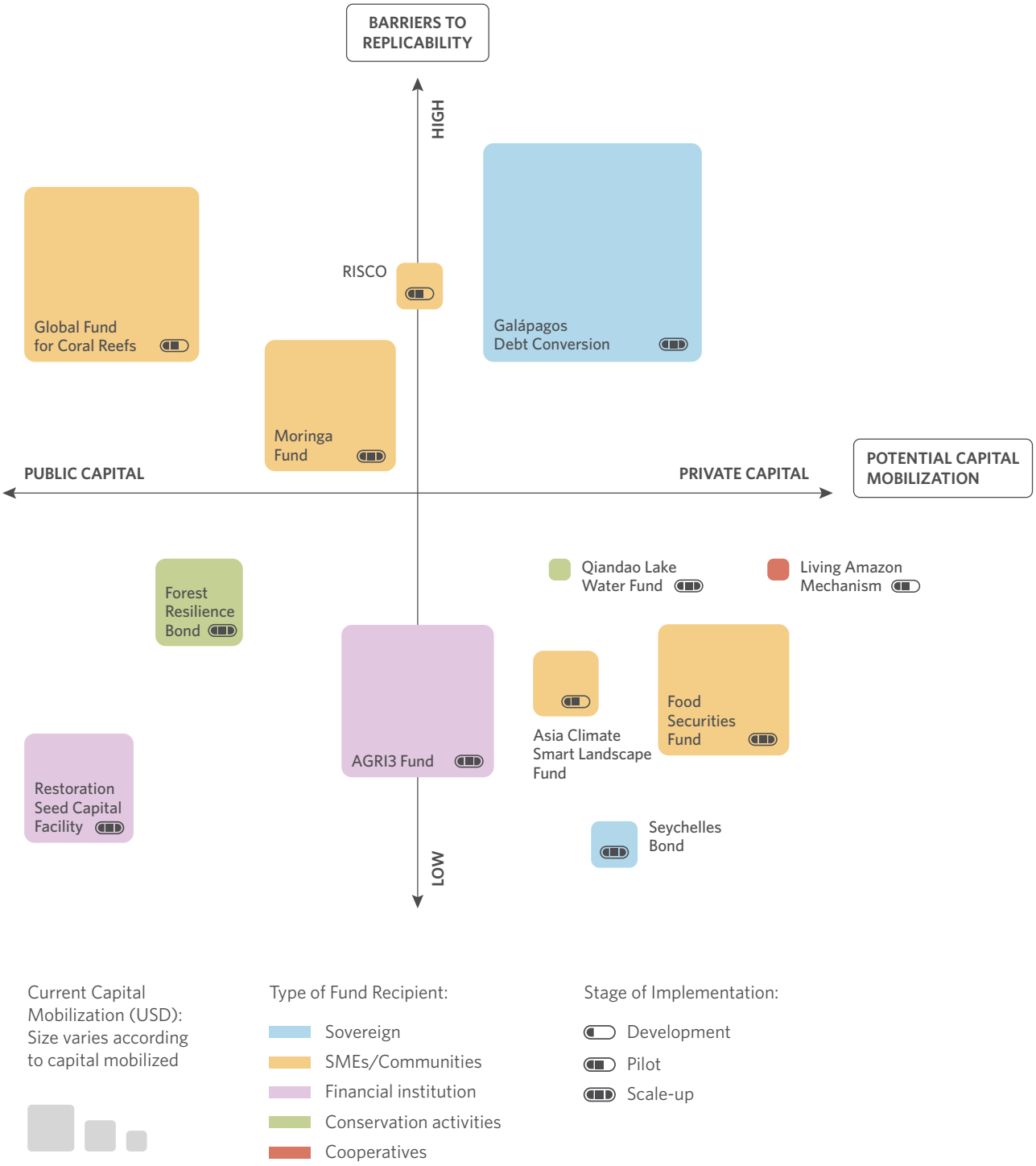
This report analyzes and distills learnings from financial instruments to attract finance for NbS. To achieve this, SFWG members, strategic partners, and technical advisers collaborated on an extensive mapping of financial vehicles targeting NbS. Over 60 active instruments were mapped and analyzed in relation to the priority themes they target, their stage of implementation, and geographic focus. We then shortlisted 12 cases, focusing on instruments that target one or more of the following activities: (i) restoration, (ii) conservation, (iii) oceans & water, (iv) bioeconomy, and (v) agroforestry. This report includes an in-depth analysis of the 12 cases to harness relevant lessons and better inform readers on the challenges and opportunities of financing NbS, as well as their potential for replication and expansion to other G20 countries.

2. Case Studies

The 12 cases were developed through analysis of each instrument's de-risking strategies and their success in driving investments with their envisioned structures. Different combinations of tools were used to achieve these objectives, with certain strategies observed across different instruments including: the use of concessional capital, the development of technical assistance (TA), and engagement with local stakeholders.

The case studies highlight each instrument's innovative aspects and other characteristics, such as financial sustainability, potential for replication and scale, and the capacity to mobilize other (private and public) sources of capital. Figure 1 charts these instruments' replicability and capital mobilization potential, with their size and color indicating their current capital mobilization and the type of entities they finance.

Figure 1. Summary of Case Study Analysis



Note: Stage of Implementation *understood as outlined in the methodology, with pilot encompassing instruments that are still not operational at full form and scale-up classified as instruments deployed at near or full capacity.* ***Suitability for Private / Public Capital*** *based on analysis of current capital mobilized and envisioned scale-up version of instrument.* ***Type of Fund Recipient*** *classified according to majority of the instrument's investment mandate focus.*

Table 1. Summary of Case Study Analysis on Barriers to Investment

Instrument	Key success factors	Main Barriers	How Barriers Were Addressed
Restoration Seed Capital Facility	▪ Concessional capital ▪ Technical assistance	Lack of concessional funding for new financial instruments for restoration projects	Ecosystem building by supporting new funds at different stages of development with aligned capital requirements.
Moringa Fund	▪ Technical assistance	SME processors lack access to funding, particularly non-debt and long-term funding	Equity committed to a long-term engagement, with TA to support smallholder agroforestry, helping to drive impact in the value chain.
Global Fund for Coral Reefs	▪ Concessional capital ▪ Technical assistance	Lack of pipeline creation support especially for early-stage initiatives for coral reef conservation	Concessional capital and TA support pipeline development.
Living Amazon Mechanism	▪ Local engagement ▪ Identifies direct beneficiaries ▪ Concessional capital	Lack of funding for cooperatives working with bioeconomy and challenging to source quality pipeline	Engaging offtakers as investors, with TA to support the ecosystem, building pipeline and de-risking investment.
RISCO	▪ Identifies direct beneficiaries ▪ Concessional capital	Challenges in creating revenue streams to ensure repayment for the financing of efforts for conservation or avoided destruction	Identification of insurance agencies as key beneficiaries of mangrove conservation and community enterprises as conservation allies.
Forest Resilience Bond	▪ Identifies direct beneficiaries ▪ Concessional capital		Engagement of utility companies and corporations to provide cashflow to fund activities.
Qiandao Lake Water Fund	▪ Identifies direct beneficiaries ▪ Concessional capital		Creation of a social enterprise positioned to benefit from conservation investments.
Food Securities Fund	▪ Identifies direct beneficiaries ▪ Leverages market partners	Agri-SMEs face a working capital funding gap	Large agribusinesses purchasing products from SMEs engage in pipeline identification and provide partial first-loss guarantees, de-risking, and drive capital.
Galapagos Debt Conversion	▪ Capital market approach ▪ Guarantees ▪ Concessional capital	Creating a sustainable capital flow towards conservation activities in a high indebtedness context	Debt capital markets approach using guarantees to eliminate country risk and unlock capital for conservation.
Seychelles Blue Bond	▪ Capital market approach ▪ Guarantees	SME processors lack access to funding, particularly non-debt and long-term funding	Equity committed to a long-term engagement, with TA to support smallholder agroforestry, helping to drive impact in the value chain.
Asia Climate-Smart Landscape Fund	▪ Guarantees	Lack of mid-long-term capital for SMEs supportive of bioeconomy	Guarantee mitigates transaction risks, making investment into agri-SMEs more appealing.
AGRI3 Fund	▪ Guarantees ▪ Concessional capital ▪ Engages local partners ▪ Technical assistance	Lack of capital for longer-term sustainable agriculture projects with conservation and restoration focus	Guarantees support tenor extension to better match projects' requirements, with TA to lower risk.

2.1 De-risking through Ecosystem Building

Building the NbS ecosystem requires multiple stakeholders to work together across different interconnected layers of the economy. These can be divided into four groups: i) government and public policy decision-makers; ii) capital holders and allocators; iii) investment pipeline (including projects, corporates, and cooperatives); iv) people and communities.

With the appropriate support, these stakeholders can each contribute to a robust ecosystem; on the other hand, if inadequately addressed, significant gaps may arise that prevent impactful results. For instance, policy and regulations (e.g., on land rights) can prepare the ground for investment in sustainable agriculture, but will amount to little if beneficiaries lack the appropriate tools or financing to adopt relevant practices. Support to build the NbS ecosystem and thus de-risk investments is vital and can be provided through direct technical or financial assistance.

Table 2. Relevance of Different Stakeholders in the NbS Financing Chain

Government	Capital holders & allocators	Investment pipeline	People & communities
Policies and regulations are required to ensure NbS adoption and leverage public financing. Policymakers can signal an attractive ecosystem for capital holders / allocators and beneficiaries to allow impactful NbS to flourish.	Key to building instruments that de-risk and directing capital towards NbS. Can also influence decision-making at pipeline level by including the correct incentives for financing like connecting them to environmental outcomes.	Pipeline receives investment and the business decisions that follow have direct consequences to impact generation. This group mainly comprises projects, SMEs, cooperatives and sometimes a larger corporate and sovereign which work as a vehicle for distributing capital to appropriate economic activities.	Ultimate beneficiaries of NbS can participate directly or indirectly as borrowers (i.e., smallholders), employees (working in agri-SMEs), or as communities benefiting from funds supporting sustainable livelihoods. IPLCs are especially relevant as the group with the most familiarity with and knowledge of NbS.
Tools to influence: • Public financing • Regulations (i.e. land governance)	**Use of technical and financial support:** • Investor education • Design and concept testing of new financial products	**Use of technical and financial support:** • Pipeline development • Transformation from 'business-as-usual' to nature positive • Business growth	**Use of technical and financial support:** • Health • Education • Trainings for the local community • Improvement to livelihoods

Each of the following four cases uses some type of ecosystem-building approach targeting one or several of the layers described above. They use a combination of techniques including (i) direct TA provided to pipeline and communities, (ii) patient and grant capital for pipeline development, and (iii) concessional capital for the development of new vehicles that direct investment into NbS.

Box 1. Key Learnings on De-risking through Ecosystem Building

The four ecosystem-building cases apply resources (e.g., TA and concessional capital) to different stages of the investment value chain to foster enabling conditions that can de-risk investments. They all support ecosystem building and target different layers of the economic system to surpass barriers to investment in NbS. Key lessons from these cases are presented below.

1. **Technical and financial support can be deployed through different layers and stakeholder groups to achieve investment objectives**. The Living Amazon Mechanism's Enabling Conditions Facility supports communities with services like health and infrastructure. Meanwhile, Moringa supports smallholder farmers to ensure that NbS interventions are applied effectively. The Global Fund for Coral Reefs directs support to move projects from early-stage to investment-ready, and the Restoration Seed Capital Facility supports new financial vehicles that can invest in an NbS-targeted pipeline.
2. **TA can take many forms and can be used to both ensure impact integrity and de-risk investment**. It is important to know what type of support is needed to generate the intended results. For example, the Moringa Fund deployed TA to support smallholder farmers to manage their land sustainably and produce products to sell to SME processors in which the fund had invested. However, despite many positive lessons and impacts, investees could not generate sufficient financial returns to meet the investor's objective and this Fund will not be replicated. Although the TA provided was key for the implementation of NbS, it was not sufficient to generate financial returns from the agri-SMEs involved in the value chain.
3. **Scaling NbS requires more than just directing capital to these initiatives but that these approaches are prepared to receive capital investments**. Channeling investment into pipeline that is not ready to receive it can contribute to frustration from capital providers and an idea that certain sectors are not investible. As the Moringa Fund shows, sometimes TA is not sufficient to fully de-risk investment and a blended capital structure approach is also needed. In this case, concessional capital might allow the Fund to invest in projects with lower return expectations and over a longer period. An approach similar to the GFCR where the tehcnical assistance provided is accompanied with concessional capital at an initial stage to later be followed by commercial capital might better aligned with the timeframe necessary for the TA interventions to generate the conditions for returns to be obtained.

2.1.1 Restoration Seed Capital Facility

The Restoration Seed Capital Facility (RSCF) enables private fund managers and investment advisers to set up dedicated investment vehicles that promote forest landscape restoration (FLR). Established in 2020 and funded by the German Federal Ministry for the Environment and the Luxembourg Ministry of the Environment, the RSCF co-funds support for fund, pipeline, and project development through a combination of outright and reimbursable grants. This helps to build strong pipelines of investable opportunities, and increase the number of investments that reach financial close.

Classification
Conditional Grant Facility

Priority Themes
Restoration, Conservation, Agroforestry

Region
Latin America, Africa and Southeast Asia

Relevant Stakeholders
UNEP, Frankfurt School of Finance & Management

Key Investors
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection of Germany, International Climate Initiative, The Government of the Grand Duchy of Luxembourg

Targeted SDGs
13, 15

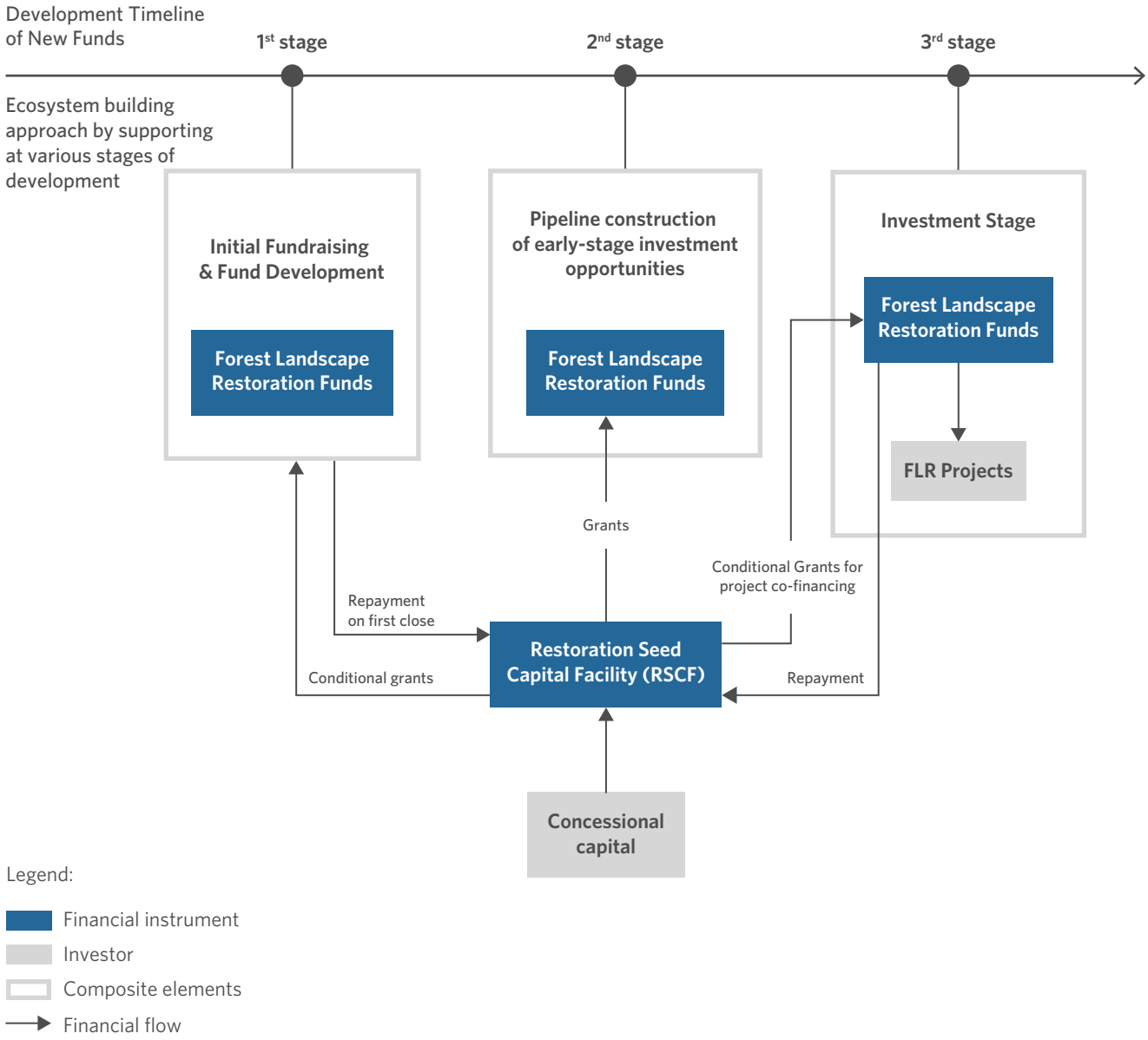
Context

Forest and sustainable land management play significant roles in mitigating climate change, preserving biodiversity, and supporting livelihoods, but face notable finance gaps, especially from the private sector. Finance barriers include sector novelty, prolonged profit realization timelines, complexities in project identification and development, and resource constraints of fund managers (UNEP 2023).

How It Works

The RSCF deploys funds to foster sustainable land use and FLR. The Facility's operations and partner engagement are led by the Frankfurt School-UNEP Collaborating Centre for Climate & Sustainable Energy Finance (FS-UNEP Center) and UNEP steers the strategic direction and ensures accountability. The Facility provides support on a cost-sharing basis, with six selected partners from 2021 to 2023 mobilizing US$ 67 million in private capital. This represents a pivotal step in mobilizing private capital and overcome existing barriers in the restoration sector.

Figure 2. Restoration Seed Capital Facility Instrument Mechanics



The funding supports different stages of a fund's lifecycle (RSCF 2020):

- In the first stage (Support Line 1), the Facility provides fund managers in the FLR space with conditional grants of up to US$ 750,000 on a cost-sharing basis with fund managers to support the fundraising and fund establishment phase. This targets (first-time and existing) fund managers entering the FLR sector, with the aim of fostering innovation in the market. The grant aims to bridge the liquidity gap until the fund reaches first close and is repayable if/when first close is achieved.
- In the second stage of development the fund offers Support Line 2. The Facility assists fund managers in building a pipeline of early-stage FLR-aligned investment opportunities with the goal of encouraging fund managers to assess impactful early-stage project opportunities. Support is in the form of a non-reimbursable grant—available only in conjunction with Support Line 3—of up to US$ 2.5 million per partner (accounting for 30% of the total support volume).

- In the 3rd stage of development (Support Line 3) the Facility offers project-specific co-financing to bring identified FLR projects to financial close. This aims to de-risk the project development phase to unlock private capital for FLR projects. This support is provided as a conditional grant that must be paid back once the projects reach financial close.

Beyond financial support, the Facility also enhances partner development through advisory services, knowledge management, and increased visibility and networking within the industry, but does not offer a formal TA package.

The RSCF provides funding exclusively in US dollars, aligning with the operations of supported impact investment vehicles to simplify transactions and reduce currency conversion needs, with funds managing their own currency risk through internal hedging. The Facility's use of reimbursable grants that convert to outright grants if certain milestones are not met reduces financial risk for fund managers.

Analysis

The RSCF's unique form of support across the different stages of development is otherwise missing from the FLR market. Development finance institutions (DFIs) often provide capital to support transaction de-risking and attract private investment. However, their processes—including lengthy negotiations, due diligence, and approvals—are increasingly misaligned with the rapid pace demanded by private investors and the urgent need to tackle climate change and ecosystem degradation. The RSCF stands out by streamliningthese processes. By advocating for the harmonization of the complex and often contradictory requirements of concessional finance providers, the Facility aims to reduce compliance burdens and accelerate project development.

The RSCF replicates the function that the Seed Capital Assistance Facility (SCAF) has within the clean technology sector. Also implemented by UNEP and the FS-UNEP Center, SCAF provides early-stage finance and TA to renewable energy and energy efficiency projects in developing countries. This successful replication demonstrates the potential for adapting such mechanics to other NbS sectors and geographical regions. However, RSCF's experience highlights that NbS approaches often deal with complex natural systems and varying ecological conditions, with unique regulatory, technical, and economic complexities, especially in less mature markets like marine ecosystem management. The volatility and risk perception associated with ocean and water projects, coupled with a limited pool of experienced fund managers, pose obstacles to replication in this sector. Adapting operational guidelines to the sector requires a tailored approach, which may involve modifying existing frameworks and leveraging established RSCF infrastructure to address challenges.

The Facility implementing team is well-equipped to execute the initiative, with UNEP's detailed market assessment providing a strong foundation, identifying key investment opportunities and gaps in FLR (UNEP 2020). This is complemented by the FS-UNEP Center's experience in implementing similar complex financial structures. The Facility also has stringent partner selection criteria. RSCF Manager Martin Halle said in an interview that the Facility focuses on teams with the necessary resources and experience to implement their strategies and prioritizes partners that can expand their activities due to the Facility's support, maximizing both financial and impact additionality.

Importantly, the Facility is not intended as a commercial solution, but as an incubator for FLR Funds that have the potential to become market-ready. It does this by identifying funds that demonstrate financial sustainability and providing them with essential support for fundraising, pipeline development, and project development. These funds can then potentially operate on market terms and achieve financial sustainability.

Moreover, the Facility continues to unlock more investments, backed by ample capital from its funders. Overall, the Facility has demonstrated considerable strengths in its execution, particularly in offering well-targeted support to fund managers facing significant barriers in deploying capital.

However, the Facility needs to better balance its support windows, streamline its rigorous application process, and consider expanding services to assist with early-stage fund development.

2.1.2 Moringa Fund

Moringa Fund is a EUR 84 million (~USD 92 million) private equity vehicle that invests in agroforestry companies in Africa and Latin America, ranging from natural ingredient production to the processing of value-added end products. Launched in 2010 by ONF International and Edmond de Rothschild Private Equity, the Fund is the first first private equity fund exclusively targeting agroforestry projects. It provides financial and technical expertise to its partners, leveraging both its internal resources and third-party affiliates.

Classification
Private Equity Fund with TA

Priority Themes
Sustainable Agriculture and Agroforestry

Region
Latin America and Africa

Relevant Stakeholders
ONF International

Key Investors
Edmond de Rothschild, Global Environment Facility, Instituto de Crédito Oficial on behalf of the Government of Spain, Proparco, the African Development Bank, the Dutch entrepreneurial development bank (FMO), FinnFund, the Common Fund for Commodities, and a network of family offices.

Targeted SDGs
1, 5, 7, 8, 9, 10, 12, 13, 15, 17

Context

Moringa Fund's creation stemmed from a critical need to address the intertwined challenges of GHG emissions from the agricultural sector—which accounted for 17% of global emissions in 2018—and rural poverty in Sub-Saharan Africa and Latin America (Moringa 2021). Traditional agriculture in both regions struggles with lack of training and infrastructure, low access to consumer markets, and unfair distribution along the value chain. There is also a lack of financing and limited access to commercial lending to modernize practices. In Africa, less than 1% of commercial lending is dedicated to agriculture (Moringa 2021).

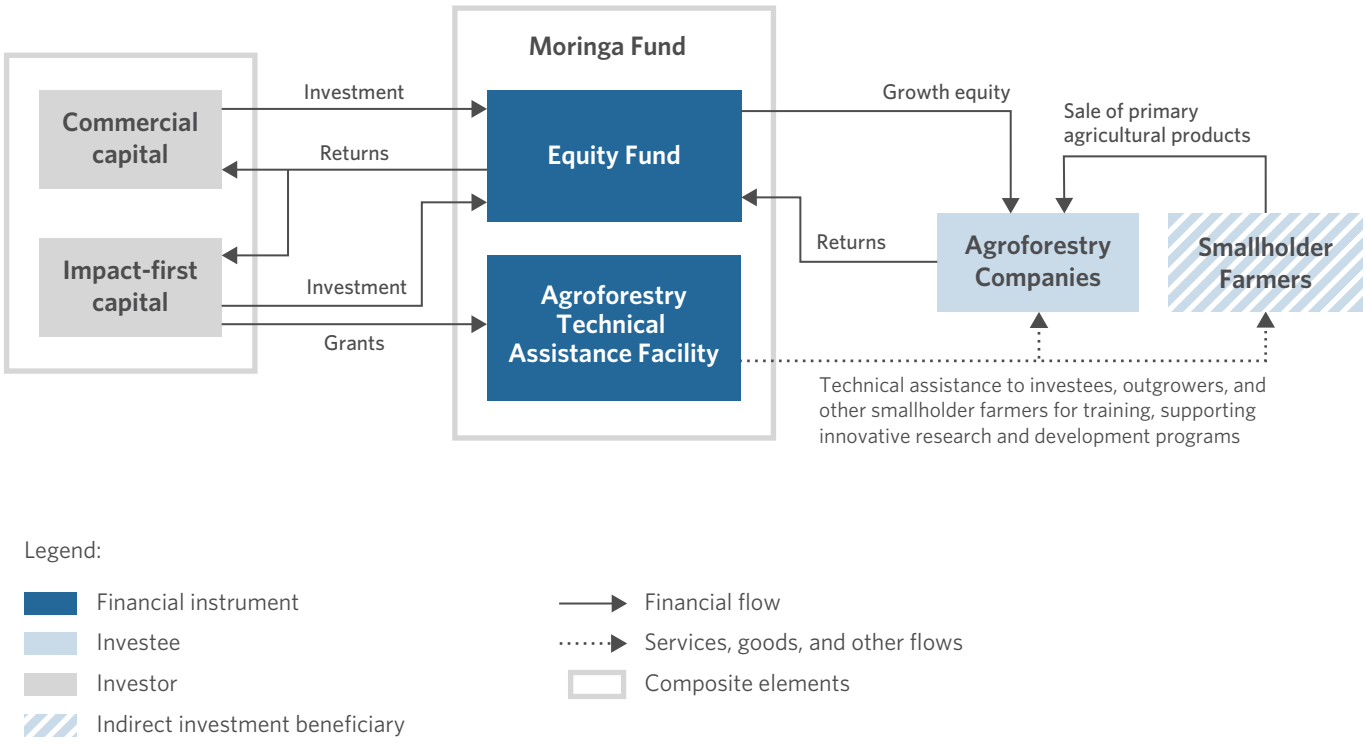
The Moringa Fund seeks to address these difficulties by securing equity investments for agroforestry projects and offering support through a grant-funded Agroforestry TA Facility (ATAF) to enhance their sustainable production and access to markets for their products. Thanks to Moringa's capital investment, (social) lenders have also offered trade finance and CAPEX financing loans.

The agrifood supply chain in emerging markets faces significant challenges to integrate smallholder farmers into sustainable production systems with high-added value. Processing facilities are often far from production sites. The Moringa Fund addressed these issues by developing expertise in key value chains such as coffee, tropical juices, and nuts. It structured large and sustainable sourcing networks based on smallholder farmers, ensuring certifications and traceability, building local processing plants, developing commercial bases in local and foreign markets, and providing TA to producers and aggregators. Moringa's ATAF allocated EUR 4 million across twenty projects to enhance their financial, social, and environmental impacts (Moringa 2021).

How It Works

The Moringa Fund is currently in the divestment phase after investing in ten businesses across eight countries. Its investments ranged from EUR 3 million to EUR 8 million per company, totaling an injection of EUR 54 million into local economies (Moringa 2021). Companies used these investments to develop crop diversification strategies, process production locally, and create products that meet consumer demands for health and environmental sustainability. The Fund's "triple bottom line" approach emphasized social and environmental impacts while generating returns for investors.

Figure 3. Moringa Fund Instrument Mechanics



Moringa worked as a private equity fund with investment from commercial and impact investors. After raising capital, it selected a portfolio of companies to invest in through a blend of equity and mezzanine debt, securing an equity stake as a majority or minority investor. Investments were typically in "farm-to-fork" projects, ranging from natural ingredient production to processing value-added end products, such as frozen fruit cubes and juices (Moringa 2021). The objective was to expand these ventures, creating stable and profitable enterprises for local and global markets, while producing financial returns for investors.

Moringa Fund's capital came from governments and DFIs, including AfDB, CAF, FINNFUND, FMO, Global Environment Facility (GEF), Proparco, and other impact investors. Market investors included Edmond de Rothschild Group and a network of family offices. Companies' investments were intended to last from seven to ten years.

Moringa's team also supported companies to develop corporate governance and sales networks abroad, improve industrial practices and certifications, and implement innovative agroecological techniques through the ATAF. Financed by donor grants, this offered capacity building to companies and smallholder farmers to support environmental and social standards, agroforestry models, and the development of new products.

Given its market and regional focus, Moringa's investments involved volatile exchange rates and businesses exposed to commodity price variation. One strategy to mitigate currency risk was to help companies to high-quality agricultural products that could be exported to markets with strong currencies (US$ and EUR). Promoting activities in the supply chain to add value locally and diversify production also helped make companies more financially reliable.

Analysis

Moringa faced challenges that offer valuable lessons for future initiatives. The main issue related to the Fund's structure, which did not include subordinated tranches and attempted to de-risk investments only through TA. This created a mismatch between investor risk appetite and agroforestry projects' riskier and longer-term investment needs and the Fund failed to deliver sufficient returns to justify its continuation for another investment cycle.

Moringa's focus on projects that add value to the agroforestry supply chain, such as local processing plants, encountered operationalization issues among local farmers and processors. In sub-Saharan Africa, for example, many farmers often rent their land and are therefore reluctant to implement practices such as planting shade trees, which need 15-20 years to mature. To address this, Moringa encouraged farmers to diversify their plots by growing annual crops to reduce their reliance on single agricultural products.

Local processing companies supported by Moringa also struggled to find qualified labor, particularly for factory management in West Africa, where crops are typically exported before processing. These companies also depended solely on selling final products for revenue. Diversifying income sources, such as through carbon credits and ecosystem service payments, could have enhanced their finances. They also lacked adequate financial and extra-financial reporting structures to ensure transparency between investors and investees.

The Fund's TA facility also proved too rigid to meet local companies' evolving needs. Projects were approved far in advance and did not necessarily correspond to the needs of the local context: long-term training (with programs that adapt to local needs), financing of salaries/ small equipment to facilitate the conversion of farms to agroecological practices, and pre-investment and post-investment support.

There were also lessons from Moringa's experience at the fund level, including the importance of building strong relationships with investee companies and maintaining a local presence. The asset management team must also have a strong technical background in the target sectors and region. And finally, that focusing on specific value chains can be one way to create economies of scale and make the most of a team's expertise contributing to a stronger network effect.

Ultimately, Moringa's journey highlights the importance of adjusting return expectations to match market realities in NbS investments across emerging markets and developing economies. The agroforestry sector demands longer investment horizons and may yield returns lower than those in conventional agriculture. Nonetheless, attractive returns for commercial equity investors are feasible if expectations are realistic and supported by structures such as blended finance mechanisms.

2.1.3 Global Fund for Coral Reefs

The Global Fund for Coral Reefs (GFCR) is a coalition investing blended finance in projects and companies that increase the resilience of coral reefs and the communities that depend on them in Africa, Asia Pacific, Latin America, and the Caribbean. Founded in 2020, this first global fund for coral reef protection uses both grant and investment financial instruments with a combined deployment target of USD 740 million over 10-12 years. It aims to address local drivers of coral reef degradation, unlock conservation funding, and increase communities' adaptive capacities.

Classification
Blended Debt and Equity

Priority Themes
Oceans & Water / Coral Reefs / Food Systems / Livelihoods

Region
Global

Relevant Stakeholders
BNP Paribas (investment manager), Pegasus Capital Advisors (asset manager), UN MPTF Office (grant fund manager)

Key Investors
GCF, Builders Initiative, and Minderoo Foundation

Targeted SDGs
14, 2, 5, 8, 11, 12, 13

Context

Coral reefs are vital for marine ecosystems but are under serious threat from climate change and other anthropogenic pressures like overfishing. Nearly half of the world's coral cover has been lost in the past few decades (Eddy, et al. 2021). The Intergovernmental Panel on Climate Change estimates that we are on track to lose an additional 70% to 90% of the world's remaining coral reefs by mid-century if decisive action is not taken (IPCC 2018).

The dire consequences of coral loss include irreversible changes to marine ecosystems, loss of livelihoods for coastal communities, and weakened storm protection against coastal flooding. The global annual value of coral ecosystem services is estimated as up to US$ 9.9 trillion annually with over 100 countries and territories relying on reefs for food (Coral Reef Breakthrough 2023). However, reef protection requires an estimated seven times more funding than they currently receive (GFCR 2021). Limited finance has gone to coral reefs, which received only 0.01% of climate finance from development banks from 2010 to 2015 (Wright 2018).

How It Works

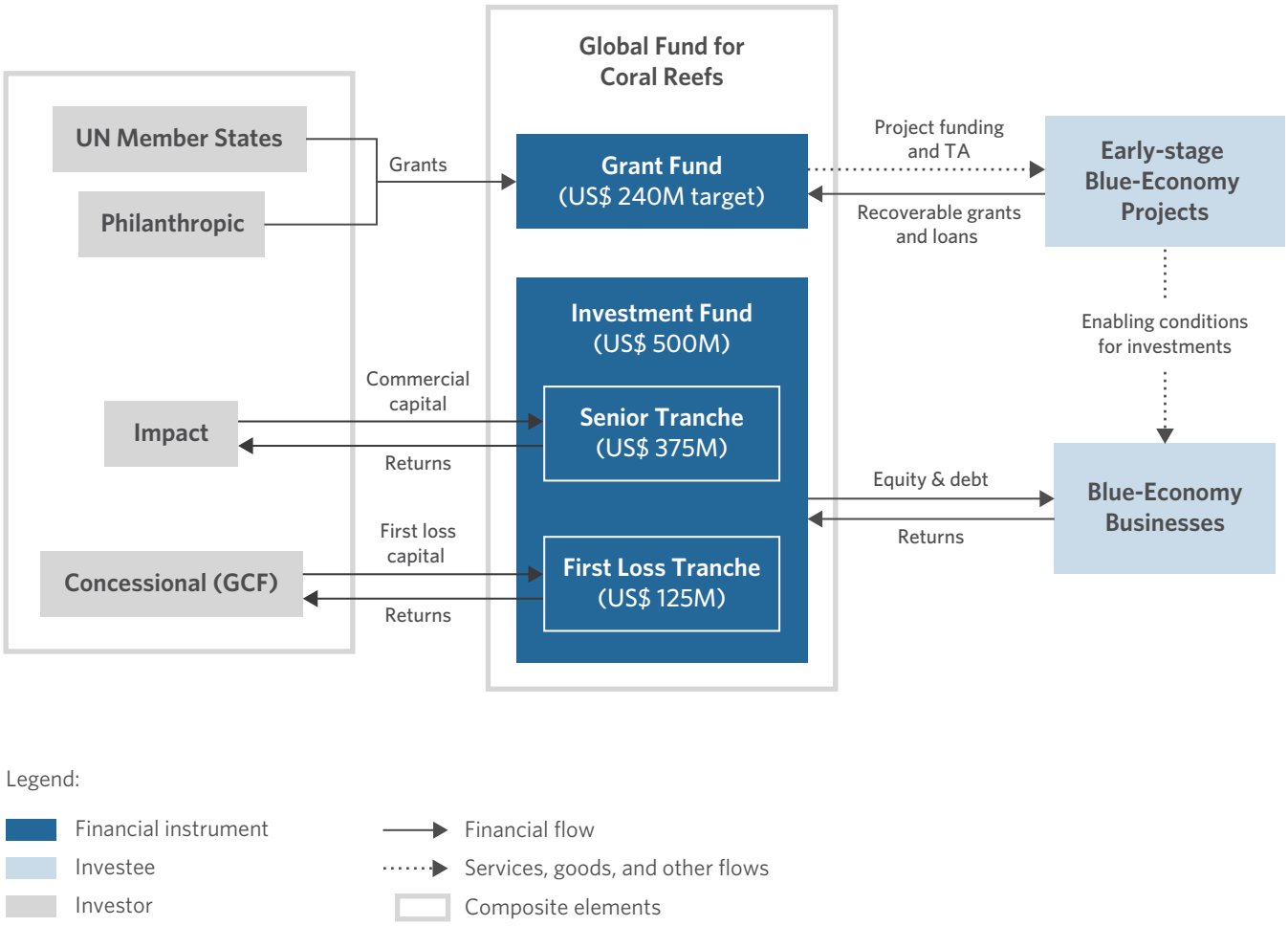
The GFCR invests in new, scalable solutions positioned for commercial capital investments. Founding members were the Prince Albert II of Monaco Foundation, the Paul G. Allen Family Foundation, and the International Coral Reef Initiative, in partnership with the UN.

The blended fund comprises a US$ 60 million Grant Fund and a US$ 135 million Investment Fund. Contributions to the Grant Fund come primarily from UN member states and philanthropic organizations. Commercial investors (Builders Vision and the Minderoo Foundation) have contributed US$ 10 million to Investment Fund, with the remaining US$ 125 million from the Green Climate Fund (GCF).

The grant and investment funds work in tangent to support projects strengthening coral reef resilience. The Grant Fund, administered by the UN Multi-Partner Trust Fund Office (UN MPTF Office), creates enabling conditions and incubates a project pipeline by developing the capacity of local communities, businesses, and governments through TA, recoverable grants, concessional loans, and guarantees.

The Investment Fund, managed by Pegasus Capital Advisers, invests in projects across the blue economy value chain with expectations of market-rate returns. The first-loss tranche from the GCF decreases the risk profile of the senior tranche.

Figure 4. Global Fund for Coral Reefs Instrument Mechanics



Investments go to greenfield projects and growth capital in GFCR's primary impact sectors including eco-tourism, sustainable fisheries, carbon sequestration, and waste management. The Fund intends to invest in a diversified portfolio of 10 to 20 companies with investments of between US$ 5 million to US$ 75 million. Private equity and hybrid debt are the Fund's primary instruments, but it is also exploring other vehicles with a fixed-income component like structured notes.

By the end of 2022, the GFCR had deployed capital in 12 countries, including for an eco-tourism lodge on the island of Grand Bahama and in regenerative biomaterials company Carbonwave. The GFCR is fundraising to reach its US$ 740 million target and scale up by 2030.

Analysis

The GFCR provides essential support for coral reef and wider marine ecosystem conservation, leveraging investments from both public and private sectors. As the largest SDG 14 coalition with a substantial fund, the GFCR can invest in growth-stage blue economy businesses previously neglected by impact capital, and provide TA and capacity building to achieve impact in the wider ecosystem.

Unlike most ocean-focused funds, the GFCR targets the critical intersection of people and nature in coastal waters, including coral reefs, mangroves, and seagrass beds. These ecosystems are vital for biodiversity, food security, and providing jobs for climate-vulnerable coastal communities. This holistic approach ensures environmental and socioeconomic benefits.

Despite its early success, the GFCR faces some challenges. Many commercial investors are new to the blue economy sector and do not understand its investment thesis. They have questions about the risk profiles and structures of instruments that allow them to invest in the blue economy. The GFCR addresses this by educating investors via conferences, panels, workshops, and webinars on the blue economy. While GCF's first-loss tranche has helped reassure commercial investors, capital invested with market-rate expectations has been below expectations, missing the initially proposed final close of Q1 2024.

Further deterrents for commercial investors include misconceptions that blended finance will be entirely concessional and uncertainty over corruption and currency risk in emerging markets. The GFCR addresses this by developing financial products that investors are familiar with (e.g., structured notes) while exploring the use of other instruments (e.g., blue bonds, guarantees, and risk insurance).

This aims to increase commercial investors' familiarity with the opportunities the sustainable blue economy. By the end of 2022, the GFCR had identified 89 investment-ready companies with a total value of nearly US$ 1 billion and was in active discussion with 24. According to Pegasus Capital, GFCR's broad sectoral and geographical approach allows it to review a robust pipeline of investable projects. Additionally, the wider GFCR coalition enables bankable project identification through grant fund programs spanning 23 coral reef states. It has become clear that there is pipeline either immediately available for investment or in the process of getting there. Sourcing this pipeline is more challenging when funds are seeking a specific conservation model in a constrained geography, which helps explain the relevance of the grant fund to the whole mechanism.

2.1.4 Living Amazon Mechanism

The Living Amazon Mechanism (LAM) is a blended finance instrument that aims to strengthen the socio-biodiversity of supply chains and IPLCs' territories in the Amazon. Backed by a major offtaker, it empowers Amazonian bioeconomy cooperatives and associations with the provision of credit coupled with a TA facility. This drives the creation of a thriving forest economy, resilient communities, and the protection of essential carbon stocks and biodiversity.

Classification
Private Debt/ Asset-backed securities

Priority Themes
Bioeconomy/ Land Use / Non-timber forest products

Region
Amazon region, Brazil

Relevant Stakeholders
Natura Cosmeticos SA, Vert Capital, FUNBIO

Key Investors
Natura Cosmeticos SA, Global Environmental Facility (GEF), Good Energies Foundation, and Fundo Vale

Targeted SDGs
8, 10, 12, 13, 15

Context

The instrument was originally proposed by Natura Cosméticos S.A. to the Global Innovation Lab for Climate Finance (CPI Lab 2021) to create a financial mechanism to prevent the conversion of native forest areas into areas for other economic activities and strengthen the supply chain for NTFPs, vital bioingredients for Natura's cosmetics.

"The blended finance mechanism is an innovative model for strengthening organizations, businesses, and supply chains of Amazonian socio-biodiversity because it promotes a development model in the Amazon that combines conservation, income generation, and the valorization of the traditional knowledge of the local populations, the true guardians of the standing forest."

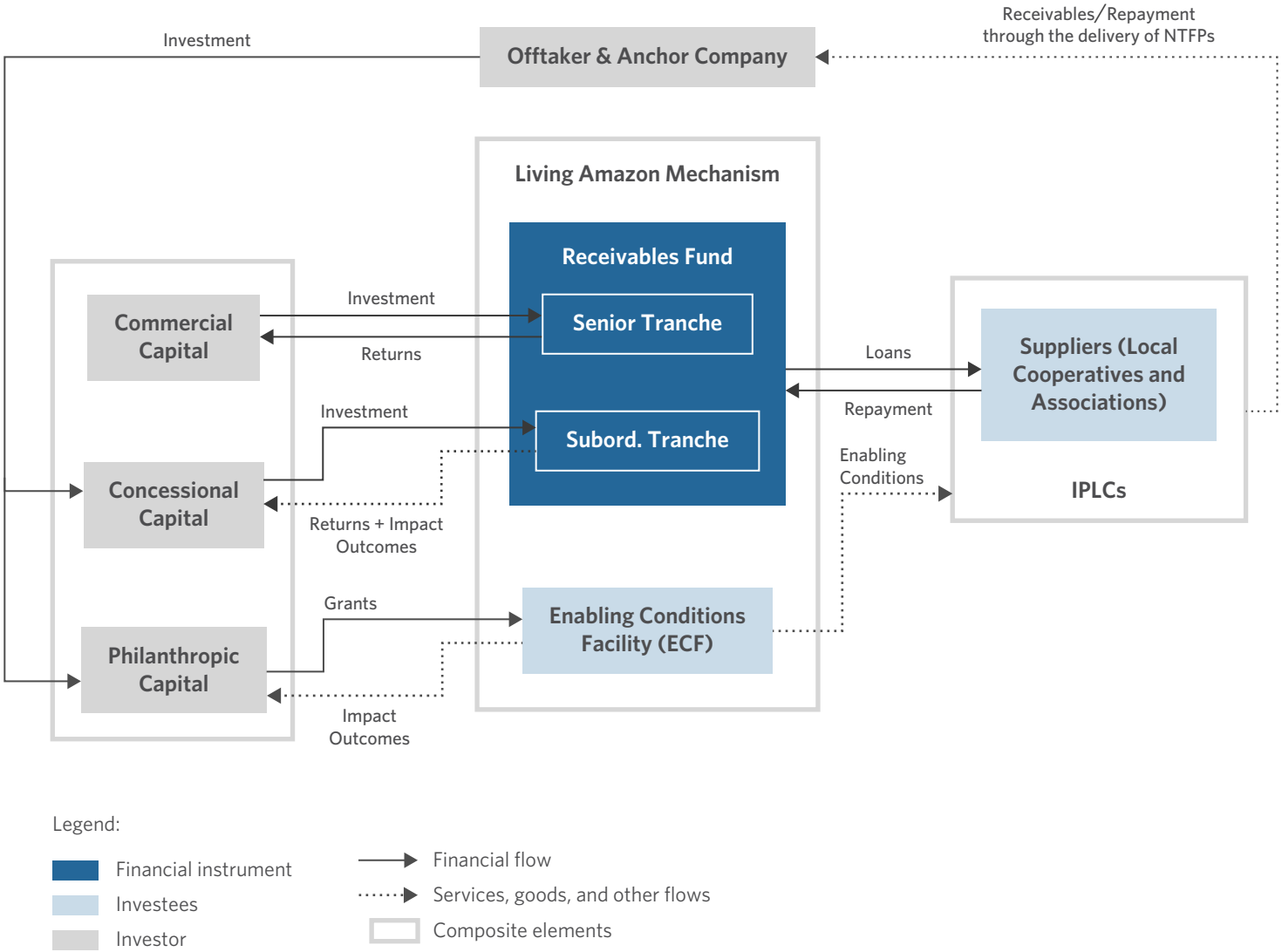
Angela Pinhati, Natura's Latam Sustainability Director

The LAM has entered its initial phase, mobilizing a mix of private and philanthropic capital. As it progresses, it aims to decrease the use of non-commercial capital with to reach full commercial viability for these instruments, though this poses a significant challenge in the short-term.

How It Works

The potential commercial mechanism comprises two key components: the Receivables Fund and an Enabling Conditions Facility (ECF), as shown below.

Figure 5. Living Amazon Mechanism Instrument Mechanics



The Receivables Fund provides a direct credit line to cooperatives and associations. The capital structure has a subordinated and a senior tranche, with offtakers and concessional investors participating in the subordinated tranche to absorb first-loss risks.

To complement the fund, there will be the ECF managed by FUNBIO to enhance suppliers' capabilities to deliver quality products and increase their productive capacity through technical, financial, and productive support to IPLCs cooperatives and associations. The ECF strategy focuses on strengthening the resilience and capacities of forest communities, their cooperatives and associations to address the challenges they face in responding to market demands and ensuring sustainable livelihoods for future generations.

The ECF also aims to offer a broader range of investments to communities engaged in forest-based economies in areas such as education, internet access, infrastructure, and forest restoration to foster sustainable development.

In a blended finance framework, Natura plays a pivotal role as LAM anchor, initial offtaker, and investor in the fund's subordinated tranche, as well as in the ECF. Natura's involvement serves as a catalyst for the participation of other stakeholders, including offtakers who can invest in both the receivables fund and the ECF.

Implementation – Phase I

In late 2023, Natura and Vert Capital structured the issuance of an asset-backed security by ten of the company's underlying suppliers. This debt instrument mirrored the structure of the Fund but replaced it with a single tranche. The total amount remained around BRL 12 million (US$ 2.5 million), divided between the financial part and the ECF (Valor Econômico 2024). The vehicle was a Brazilian Certificate of Agribusiness Receivables (CRA), a legal structure specifically designed for the agricultural sector, including NTFPs. Vert Capital, as a securitization company, issued this CRA, backed by the debts raised by referred local cooperatives and associations. The use of proceeds is allocated roughly 80% towards operational costs and 20% for long-term capital expenditures. The mechanism itself has a 36-month term with a single repayment at maturity. The single tranche does not have an ordinary remuneration, and current returns hinge on an extraordinary premium payment tied to the remaining amounts that can remain within the structure.

Despite its small size, this blended finance mechanism couples credit with philanthropic investments in complementary areas, demonstrating the innovative potential of mobilizing private capital for NTFPs focusing on forest livelihoods. It establishes a proof of concept that could attract larger investors and other offtakers to create a replicable model for scaling up conservation financing.

Analysis

The strategic use of offtake agreements and commercial relationships anchored by a large company, facilitates financing for sustainable ingredients in the Brazilian Amazon. The ECF component addresses barriers to the improvement of NTFP value chains while providing a revenue stream to obtain necessary financing.

This model could be a solution in regions like the Amazon where economic development must be carefully balanced with environmental protection and social improvement. Allowing access to credit for sustainable practices and making strategic philantropic investments in complementary areas can also enhance broader community conditions, tackling key challenges such as limited access to capital, technological gaps, and infrastructural shortcomings.

The fund has the potential to protect and support around 16 different territories, increasing production from over 40 agro-extractivist entities in the Brazilian Amazon, and benefiting 10,000 families. In April 2024, three additional cooperatives and associations joined the CRA totaling BRL 5.5 million (US$ 1 million) lent to 13 organizations. ECF has begun implementation with TA to strengthen the financial management of these entities, preparing them to access the financial mechanism and subsequently monitoring to ensure that the credit taken is used as planned. This priority for the start of the ECF's operations was established after consulting with cooperatives and associations during a workshop held in Pará in June 2023.

By strategically combining different capital sources and leveraging an established supply chain, the fund maximizes its impact across the region. This model offers a replicable blueprint for conserving high-carbon and biodiverse areas, particularly those with IPLCs in the Pan-Amazon, Congo Basin, and Southeast Asia.

The instrument's actionability is built on Natura's extensive experience with NTFPs in the Amazon, forming a critical part of the cosmetics value chain. Initial challenges included making the capital market instrument's complex language and documentation accessible to community businesses and overcoming skepticism associated with previous difficulties in accessing credit.

However, the project's successful launch marks an important first step. The plan is now to expand its presence by collaborating with more cooperatives and associations, as well as engaging new investors and offtakers to create a more balanced and competitive market environment for NTFPs, fostering greater economic and environmental sustainability.

The structure aims to offer market returns on private capital (based on the Brazilian base rate plus a fixed spread), modeled to have competitive interest rates aligned to the market and enable future scale. Natura's dual role as an originator and investor in the CRA significantly reduces risks for the investment instrument, attracting more investors. Additionally, efforts to improve IPLCs' activities and management capabilities help to further de-risk the investment.

The Fund aimed to mobilize BRL 60 million (US$ 12 million) in receivables, with a ratio of 50:50 of concessional to commercial capital, as well as BRL 134 million (US$ 25 million) for the ECF, over 10 years. In its initial pilot phase, the LAM raised BRL 12 million. Subsequent efforts will focus on securing additional capital from sources such as the Global Environmental Facility to better meet initial projections and enhance impact.

2.2 Engaging Beneficiaries

It is challenging to privatize the benefits of public goods and make a strong case for any one stakeholder to pay for them. Payment does not guarantee exclusive access to the benefits of public good interventions thereby failing to incentivize individual stakeholders to cover the costs. While this is the root of the challenge in financing NbS, there are specific interventions where it is possible to determine beneficiaries who will either profit or avoid large losses from these interventions.

The cases below demonstrate that NbS may benefit stakeholders including insurers, community organizations, and utility companies. Engaging with them to show the tangible value of NbS can enable the privatization of certain (though not all) benefits of nature and engage stakeholders to pay for them.

Box 2. Key Learnings on Engaging Beneficiaries

Engaging beneficiaries can create much-needed revenue streams for NbS, but deep local familiarity and place-based connections are needed to identify them. Positively engaging with beneficiaries can help show them the financial and environmental benefits of NbS, increasing their likelihood of contributing to these interventions.

Engaging multiple stakeholders in the same financial vehicle often generates complex structures. Forging the local connections and partnerships to implement NbS vehicles is time-consuming and resource-intensive. As a result, replicating NbS models requires long implementation timelines to secure new local partnerships. This was observed in the case of RISCO, described below, which has taken time to implement all its components. A modular approach can help to adapt to different contexts and implement solutions in stages, with instruments evolving over time to respond to the realities of their sectors, biomes, geographies, and regulatory environments.

Beneficiaries can be engaged in multiple ways, including by de-risking their loans to producers in their supply chain. It is important to clearly quantify and demonstrate the value of the investment for beneficiaries. In the case of the Forest Resilience Bond, valuations were key to engaging utility companies. Benefits may be strategic as well as financial. For example, the Food Securities Fund, engages offtakers in de-risking. Similar to the Living Amazon Mechanism, corporations offer guarantees or direct loans, generating supply chain integrity and consistent supply.

2.2.1 Restoration Insurance Service Company

Restoration Insurance Service Company (RISCO) aims to increase the material and financial resilience of vulnerable coastal communities across Africa, Asia, and Latin America. It does so by selling parametric insurance to individuals, municipal governments, and SMEs in coastal regions and investing these revenues in mangrove-positive businesses and green-grey infrastructure to reduce material climate risk and improve livelihoods. RISCO was launched in 2024 with the support of Conservation International, and it has been successfully piloted in the Philippines.

Classification
Social Enterprise / Insurance / Debt Facility

Priority Themes
Oceans & Water / Conservation

Region
Southeast Asia (Pilot: Philippines)

Relevant Stakeholders
Conservation International and Swiss Re

Early Investors
Convergence (design funding)

Targeted SDGs
1, 5, 8, 11, 13, 14, 15, 17

Context

Coastal communities across Asia, Latin America, and Africa are highly susceptible to climate-induced extreme weather events (IPCC 2019). Their vulnerability is exacerbated by a worldwide decline in mangroves, which serve as a critical barrier to coastal flooding. It is estimated that mangroves protect more than 18 million people and US$ 82 billion in assets across the globe (Spalding, et al. 2021). Additionally, mangroves are an important carbon sequester, storing ten times more carbon than terrestrial forests (NOAA 2023). Despite their importance for both climate adaptation and mitigation, an estimated 35% of the world's mangroves have been lost over the last 50 years (Lagomasino, et al. 2020).

The vulnerability of coastal communities to weather-related disasters is compounded by the problem of underinsurance. Many coastal communities, especially those most marginalized and dependent on mangroves for income, either do not have any insurance or lack policies that properly cover climate risk. This severely hampers the ability of these communities to rebuild after a weather-related disaster.

RISCO helps address these challenges by selling parametric insurance to coastal communities and using those revenues to support mangrove-positive businesses and other conservation efforts. These businesses can include eco-tourism, sustainable shrimp farming, and beekeeping. Mangrove-positive businesses usually struggle to access commercial capital, and business owners often lack the technical knowledge to effectively implement their projects. The RISCO structure accounts for these barriers by leveraging concessional capital from impact investors and additional profits from the sale of blue carbon credits and insurance. This allows RISCO to offer affordable loans and provide TA to mangrove-positive businesses.

RISCO was launched in 2024 after years of research and design led by Conservation International. RISCO received technical support from the Global Innovation Lab for Climate Finance and grant capital from Convergence and Swiss Re to support feasibility studies and a pilot program. In 2021, RISCO was piloted in the Philippines to support a seaweed business, with plans to expand to India and Thailand. These pilots aim to demonstrate RISCO's commercial viability and test assumptions regarding blue carbon credits and cost-saving sharing agreements.

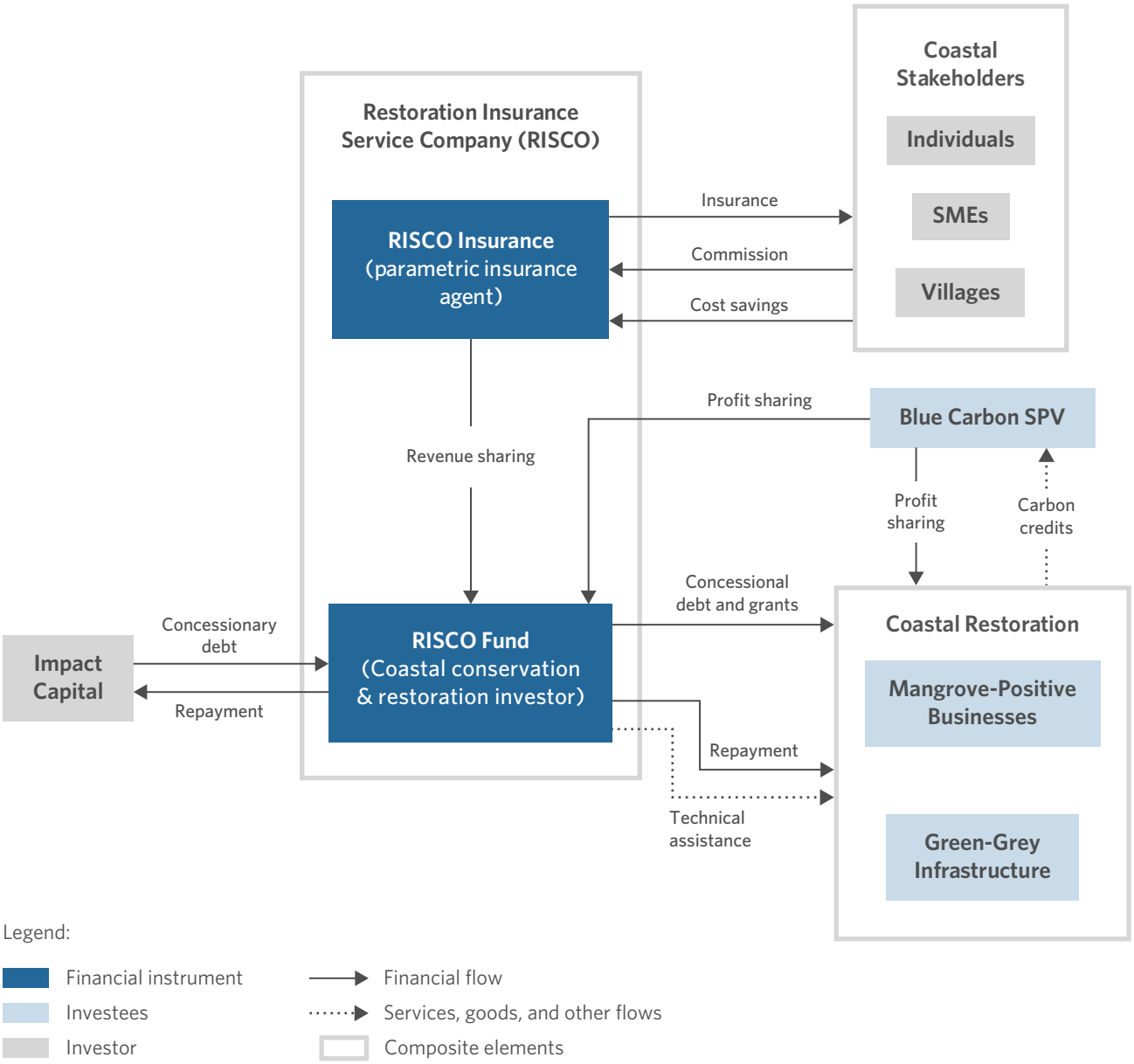
How It Works

RISCO's structure has changed over time to better address the realities of emerging economies. It was originally structured to generate revenues from annual fees paid by insurance companies for RISCO's mangrove conservation and restoration work. The underlying logic was that mangrove conservation and restoration reduces risks for insurance companies and that those savings could be shared with RISCO. However, it was difficult to convince insurance companies of this value proposition, given that RISCO did not have implemented results.

The company therefore split into RISCO Insurance and RISCO Fund. RISCO Insurance is not an insurance underwriter but an agent that sells parametric insurance to coastal stakeholders. Revenues from the sale of insurance are then shared with RISCO Fund which invests in mangrove-positive businesses and green-grey infrastructure. These projects help minimize the risk of material climate hazards by conserving and restoring mangroves while reducing the cost of insurance premiums paid by coastal stakeholders. RISCO Fund also provides venture-building assistance to mangrove-positive businesses in collaboration with local TA providers.

In addition to revenue sharing with RISCO Insurance, RISCO Fund will pilot three other sources of revenue. First, blue carbon credits can be generated through RISCO's mangrove restoration efforts and sold through a special purpose vehicle (SPV) that shares profits with RISCO Fund and the local community. Second, a portion of the cost savings from the reduction of the insurance premiums paid by coastal stakeholders can be shared with RISCO Fund. Third, RISCO Fund can receive investments from impact investors offering concessional debt for mangrove-positive businesses.

Figure 6. RISCO Instrument Mechanics



Although the structure of RISCO has changed over time, the RISCO team still considers the original instrument structure viable in certain contexts. Instead, the RISCO team believes in dynamically adapting RISCO to different contexts and is continuing to iterate the current structure to best meet the needs of its target markets.

Analysis

RISCO is one of the first financial vehicles attempting to align the insurance industry with projects that materially reduce the physical risk of climate change. Its novel approach to first selling parametric insurance to vulnerable communities and then using those revenues to increase the resilience of those communities helps reduce the cost of insurance provision which in turn increases coverage and creates a self-reinforcing cycle.

Additionally, the RISCO structure is modular and can be adapted to different geographies and sectors. A similar structure can be used to provide financing for other NbS that physically reduce climate risk and generate income. The RISCO team has identified wetland-positive businesses (e.g., sustainable aquaculture) as an alternative use case of the structure.

Despite its compelling structure, RISCO has had trouble scaling up and implementation of the instrument has been slow to progress for the following reasons:

First, the pipeline of investable mangrove-positive businesses is limited. It can be difficult to convince coastal communities to transition away from mangrove-negative sources of income like intensive fishing to mangrove-positive businesses. Additionally, the average ticket size of mangrove-positive businesses is quite small which means that the due diligence necessary for issuing a loan can be relatively expensive. RISCO is attempting to address these issues by conducting feasibility studies to locate markets with investable mangrove-positive businesses that have a sufficiently large ticket size.

Second, the perceived risk of providing loans to mangrove-positive businesses located in emerging markets is high. Most of the loans that RISCO will provide will be unsecured since coastal communities often don't have collateralizable assets that can be easily repossessed. Additionally, many investors lack experience investing in emerging markets and are unfamiliar with blended financial structures. RISCO's pilots attempt to address the issue of high perceived risk by demonstrating the commercial viability of investments in mangrove-positive businesses.

Third, it has been difficult to secure buy-in from the insurance industry. The original RISCO structure struggled to convince insurance companies to pay a fee for mangrove restoration and conservation efforts. As a result, the RISCO team created RISCO Insurance to be a seller of insurance and generate its own revenue independent of insurance industry buy-in. RISCO is now also exploring the possibility of sharing the cost savings from the reduction in premiums paid by coastal communities.

2.2.2 Forest Resilience Bond

The Forest Resilience Bond (FRB) funds restoration and conservation activities to reduce the risk of catastrophic wildfire in the Western United States, producing water and other environmental and social benefits at a zero-interest rate for implementation partners. Stakeholders, such as utilities companies, that benefit from the project outcomes contribute back through fixed cost-share payments.

Classification
Private debt / SPV

Priority Themes
Forest Conservation & Restoration

Region
United States

Relevant Stakeholders
Blue Forest, World Resources Institute (WRI), USDA Forest Service, National Forest Foundation

Key Investors
The Rockefeller Foundation, the Gordon & Betty Moore Foundation, Calvert Impact Capital, CSAA Insurance Group, Hall Capital, ImpactAssets, RSF Social Finance, Inherent Foundation, the Conrad H. Hilton Foundation, Alumbra Innovations Foundation.

Targeted SDGs
1, 6, 7, 8, 13, 15, 17

Context

The FRB was created in response to the increased risk of catastrophic wildfires in the Western United States, which seriously impacts forest conservation, air quality, watersheds, and local livelihoods. California has seen ten of the largest wildfires occur in the last 20 years—five of which occurred in 2020 (NOAA/MAPP 2023). The economic toll of wildfires in the US is substantial, with estimates placing the annualized costs between US$ 7.6 billion to US$ 62.8 billion, and overall annualized losses in the range from US$ 63.5 billion to US$ 285.0 billion (Thomas, et al. 2017).

Forest management in the Western United States falls short of meeting wildfire risk due to a lack of funding and operational problems. For example, insufficient funding is earmarked to cover the estimated US$ 50 billion needed to implement the Forest Service's 10-year Wildfire Strategy (Blue Forest s.d.). Additionally, most forest restoration on federal land is done by forest management providers who do not get paid until the work is complete. This considerably limits contractors' capacity to meet the demand for forest restoration services because they cannot cover upfront costs.

Recognizing the pressing need, Blue Forest launched Yuba I, in 2018, a pilot for the FRB, in Tahoe National Forest, California, in collaboration with the World Resources Institute (WRI), the National Forest Foundation, and the US Forest Service (USFS). This US$ 4 million private debt vehicle funded the upfront costs of forest restoration to protect 15,000 acres of forestland (Blue Forest s.d.). The Yuba I FRB wound down in December 2023 with all projects completed and investor capital returned in line with expectations. In 2021, Blue

Forest launched the Yuba II FRB, a second FRB to finance over 28,000 acres of treatment activities to protect nearly 48,000 acres of forest, scaling the Yuba I FRB to continue critical restoration efforts (Blue Forest n.d.). The Yuba II FRB raised market-rate and concessional investment to finance US$ 25 million of restoration works.

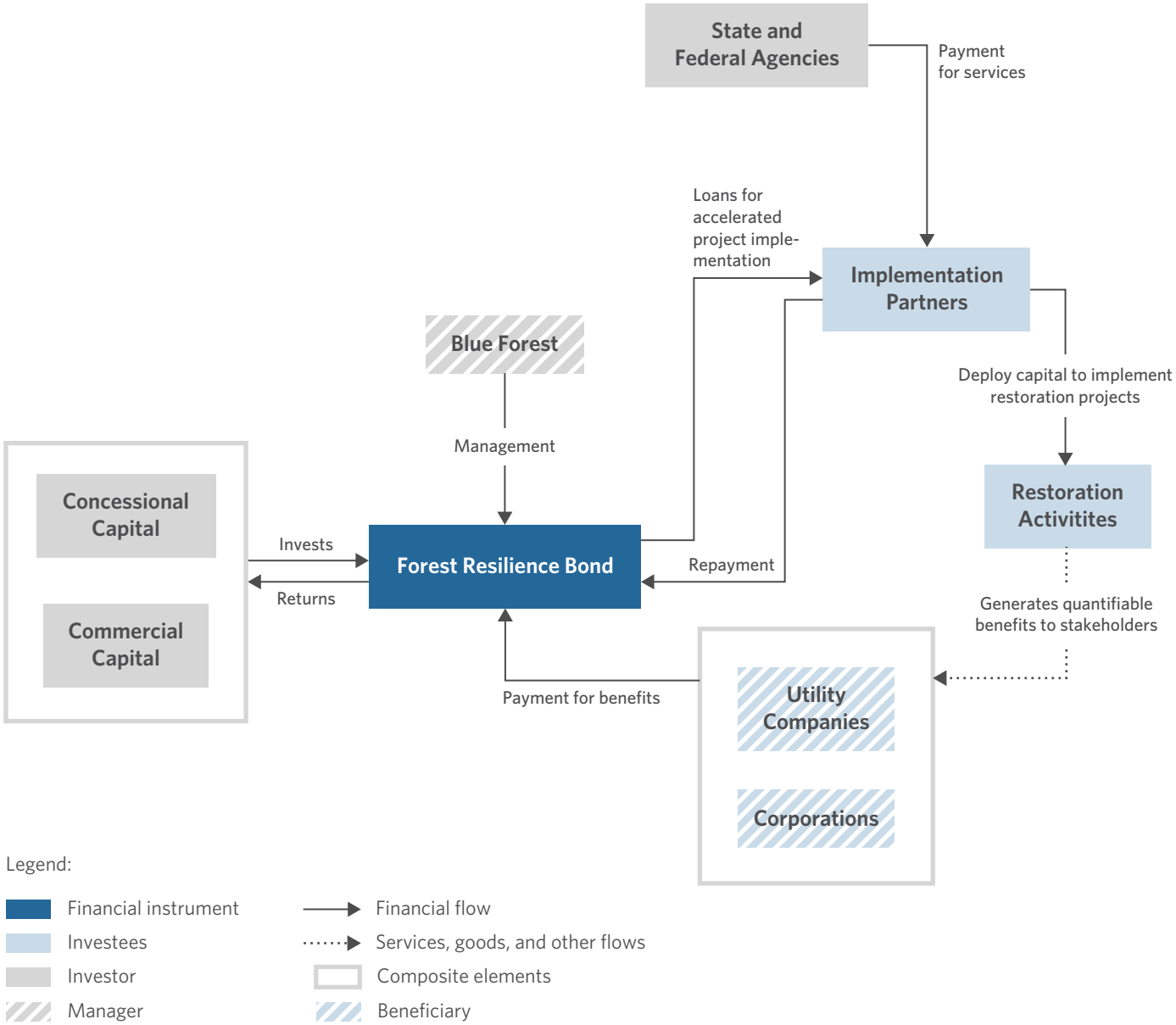
To accelerate restoration project financing, Blue Forest launched its first pooled investment vehicle for FRBs in 2022: the FRB Catalyst Facility. This aims to simultaneously finance projects in multiple geographies. The two initial projects are in the Rogue Valley, Oregon, and the Upper Mokelumne River watershed in California.

How It Works

The FRB SPV provides upfront investment from concessional and market-rate investors to implementation partners as zero-interest loans. These loans fund forest restoration activities such as ecologically based tree thinning, meadow restoration, prescribed burning, and invasive species management over approximately five years. The partners repay their loans when they receive payments for their environmental services from federal and state agencies responsible for the forest area. The FRB loan bridges the gap between the upfront costs of conducting forest restoration work and the payment for this work by state and federal agencies, which may take several months according to public agencies' schedules.

The accelerated and upfront implementation of restoration activities allowed by the FRB loan reduces the risk of severe fire, improves watershed health, and protects water resources, generating value for beneficiaries including utility companies, corporations, and state and federal agencies. In exchange, these beneficiaries contribute funding to the FRB, and this amount is used to repay investors with a modest return as well as expand overall project activities and impact.

Figure 7. Forest Resilience Bond Instrument Mechanics



The FRB Catalyst Facility has been designed to amplify the impact of the FRB model and reduce its risks by raising capital to finance a portfolio of FRBs simultaneously. As a pooled investment vehicle, investors provide loans to the Catalyst Facility, which in turn makes revolving loans to individual FRB entities. Each FRB then makes revolving, zero-interest loans to implementation partners to fund their upfront restoration services. Each FRB has distinct implementation partners and beneficiary funders. Individual FRBs are important because the restoration activities and their benefits are place-based. Each geography requires a different set of implementation partners and beneficiaries, who are usually interested in contributing to projects that directly impact them.

Over the next ten years, Blue Forest intends to finance a portfolio of FRB projects via the Catalyst Facility. As a revolving loan facility, the Catalyst Facility allows for its capital to be redeployed to the same FRB or another after full repayment. This fits with the short repayment cycles of the loans obtained by the implementation partners, sometimes just a few months long. Beneficiaries also periodically pay their contributions during the tenor of the FRB.

To date, Blue Forest has raised US$ 30 million from investors for FRB financing. The first two FRB pilots, Yuba I and II, had concessional and market-rate investors *pari passu*. Yuba I had US$ 2 million of commercial capital with a 4% return rate and US$ 2 million of concessional capital with a 1% return rate. Yuba II was slightly more complex, with US$ 8 million of revolving market-rate capital and US$ 3 million of non-revolving concessional capital. The Catalyst Facility, as it aims to develop a portfolio of pilot FRBs, currently works with only concessional capital. Blue Forest has closed investments for the Facility at the US$ 15 million mark after an initial goal of raising US$ 10 million. The overall interest of concessional capital in the FRB model has been bigger than anticipated, according to Blue Forest, and is well suited for financing pilot FRB projects that may have limited return potential but the highest long-term impact possible.

Most concessional capital for FRBs has come from private foundations in the US interested in below-market financial returns through officially designated program-related investments (PRI). PRIs are a great investment tool for foundations since they allow them to get their principals back with a small interest rate while advancing their charitable objectives, counting them towards their required annual charitable "payout" – which needs to sum at least 5% of total assets to retain compliance with tax codes (PRIMakers Network s.d.). Of the total capital invested in the Facility US$ a small share will work as a first-loss tranche as non-recoverable grants. According to Blue Forest, that tranche is nonetheless strategic.

Analysis

The FRB's key innovation lies in addressing the finance gap for forest restoration work with investment enabled by beneficiaries' contributions. This model works thanks to the quantification of forest restoration biophysical benefits that are used to attract funding from beneficiaries, including private sector actors. In pilots Yuba I and II, Blue Forest partnered with the WRI to perform a cost-benefit analysis of forest restoration services in the North Yuba River watershed (Convergence Finance 2020). They estimated US$ 8.8 million in avoided costs from wildfire and increased revenues from additional water flows for hydropower that ultimately led the Yuba Water Agency to commit to paying US$ 1.5 million to the FRB as a beneficiary of the financing (Marsters, et al. 2021).

FRBs have mostly financed restoration activities in public lands, such as national forests, and adjacent private lands, where the Forest Service and state and local agencies plan the restoration projects themselves. To establish an FRB, Blue Forest looks for projects planned by those actors either fully permitted or close to being fully permitted with significant benefits such as fire risk reduction and increased water outcomes. Once a potential project is identified, Blue Forest works to identify an implementing partner to execute the restoration project. Key considerations for such partners are an established relationship with the land manager; financial administrative capacity; experience working in the local area; and strong community and tribal engagement practices. Blue Forest's project development team plays

then engages with potential beneficiaries to demonstrate the calculated benefits of the restoration work. As a cost-sharing mechanism, the FRB enables beneficiaries to fund a small portion of the project cost while benefiting from the overall outcomes.

Blue Forest is also exploring FRB projects internationally. While the FRB has proven replicable in various parts of the Western United States, showcasing its adaptable financial structure despite its place-based nature, using the model in other markets involves nuanced challenges. Robust (concessional) capital markets and established legal frameworks can make it easier to launch FRBs in developed countries. However, there is significant blended finance innovation experience in developing countries across different industries, even if not specifically in natural infrastructure. While wildfire risk provided a straightforward context to launch the FRB, the approach can extend to other contexts such as riparian restoration and reforestation.

2.2.3 Qiandao Lake Water Fund

The Qiandao Lake Water Fund (QLWF) is a pioneering financial instrument in China, developed to enhance water resource protection through a unique charity trust structure. Launched in 2018, the Fund aims to secure clean drinking water for local communities by promoting sustainable land management, agricultural practices, and ecological ditches (TNC 2018).

Classification
Charity trust and social enterprise

Priority Themes
Restoration / Water

Region
China

Relevant Stakeholders
The Nature Conservancy

Key Investors
Alibaba Foundation, Minsheng Insurance Foundation

Targeted SDGs
3, 6, 13

Context

Qiandao Lake provides drinking water to around 10 million residents in China's Zhejiang Province (Jin Tong et al. 2021). However, the quality of this crucial water source is threatened by land degradation, overuse of fertilizers and pesticides, and livestock waste. Urgent action is needed to reduce land-based pollution affecting the water supply.

Significant public resources have been allocated to ecological compensation, but more sustainable approaches that mobilize social capital, such as social philanthropic funding and impact investing, are lacking. QLWF was established to create sustainable governance and financial mechanisms, securing conservation funds from social capital and non-governmental organizations for water conservation activities.

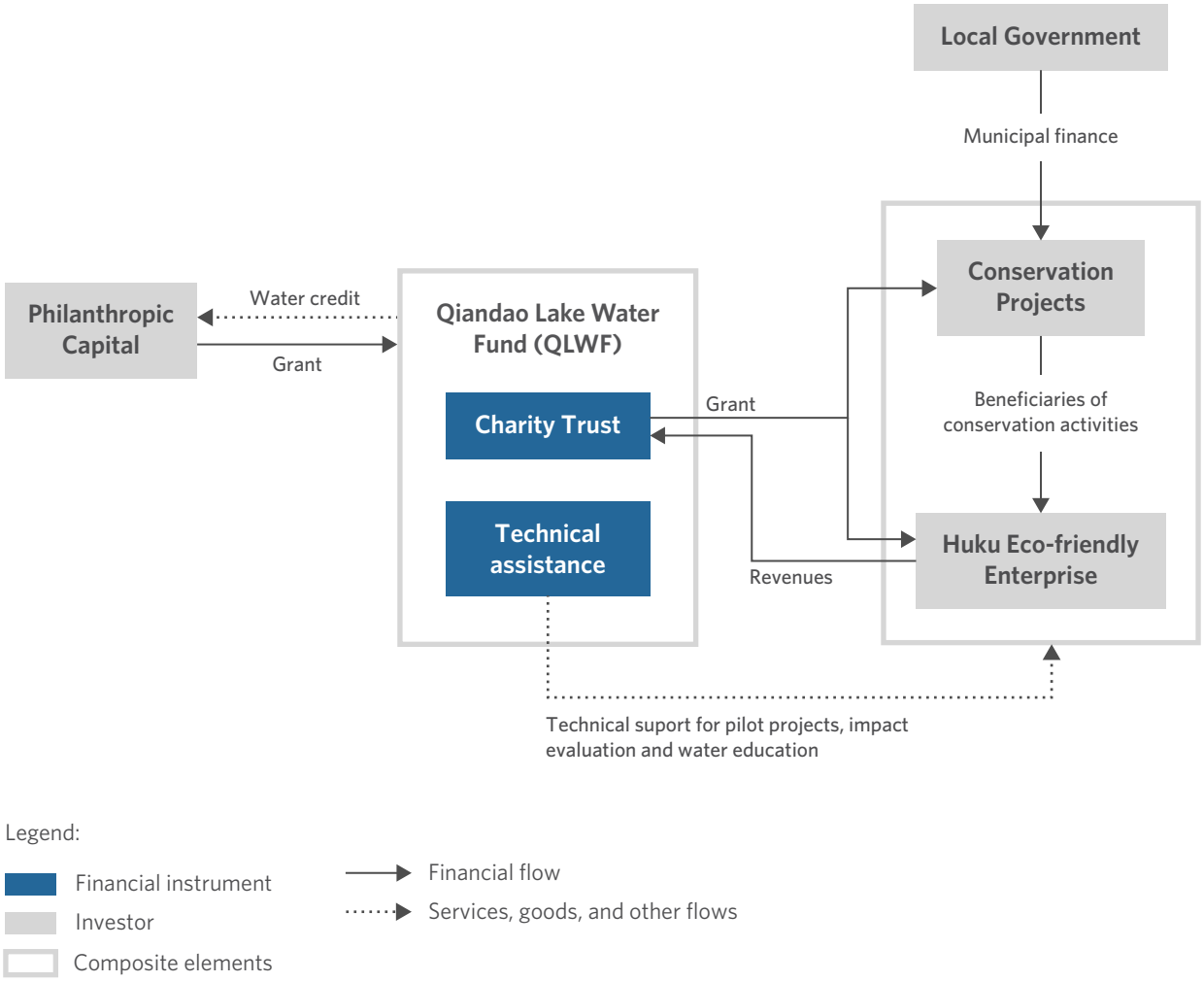
The Fund has been operational for six years and is ready to scale up and be replicated in other water crisis contexts. The Fund explored an innovative funding structure during Stage I (2018-2021), tailored to the Chinese market: the Water Fund Charity Trust. This trust provides a new channel for social funds and NGOs to participate in natural conservation projects. In Stage II (2021-2024), the Fund continued to optimize the trust structure to encourage more social capital. It has partnered with well-known enterprises including Starbucks (Starbucks 2023) and Coca-Cola to develop joint water compensation projects. The Fund will start Stage III next year and plans to replicate this funding structure and governance mechanisms in the Yangtze River Delta Integration Demonstration Zone.

How It Works

The Fund received initial philanthropic capital of RMB 10 million (US$ 1.4 million) from Alibaba Foundation and Minsheng Tonghui Public Foundation. The fund comprises two key components, as illustrated below: the Charity Trust Facility and the TA Facility. Wanxiang Trust, serving as the trustee, manages and operates the trust fund, while TNC, acting as the scientific adviser, formulates and guides the watershed protection efforts and evaluates their impact.

Simultaneously, the local government contributes to relevant Qiandao Lake Water Resources Protection projects through municipal financing, primarily supporting the construction of related infrastructure such as water diversion projects and wetlands. However, these funds are not directly incorporated into the Water Fund.

Figure 8. The Fund Instrument Mechanics



The Fund supports non-point pollution prevention and water conservation projects. Initially, it targets selected watersheds as pilots, implementing agricultural NbS such as precise fertilizer application, cover crops, and ecological prevention and control. These efforts focus on rice fields and tea gardens, which are primary sources of non-point pollution. Based on these initiatives, the Fund has identified effective water protection measures for local contexts and compiled a toolkit of guidelines for implementing these measures.

Additionally, the Fund supports eco-friendly industries. It has established a social enterprise called Huku, which invests in eco-friendly agricultural products, nature education, eco-experiences, cultural and creative projects, and environmentally friendly industries in the watershed that benefit water source protection.

In recent years, the Fund has continued to explore and optimize its funding mechanics. It has also received over RMB 15 million (US$ 2.1 million) in philanthropic funding from well-known enterprises, primarily used for water replenishment projects to offset water used in operations.

Analysis

The Fund has pioneered a groundbreaking approach to water conservation funding in China through a charity trust structure that integrates multiple stakeholders and social capital. Due to regulatory issues and lack of experience, water conservation projects in China have traditionally relied on government funding, with minimal involvement of social capital. Despite TNC's global experience in designing diverse water fund architectures, integrating public and private funds within China has remained challenging. To address this, the Fund has adopted a unique charity trust approach. Jin Tong, the Scientific Director of TNC, noted that ecological conservation trusts are still in their infancy in China. To bridge this gap, TNC collaborated with Wanxiang Trust to develop its innovative trust structure, which accommodates both philanthropic funding from private actors and supports commercial activities, enhancing the Fund's self-sustainability.

Moreover, the Fund has demonstrated considerable potential for replication across other G20 countries. TNC has developed the Water Fund Toolbox, comprising various scalable and adaptable methodologies and technologies, and can support replication efforts (TNC 2024). Additionally, the QLWF has offered insights for other G20 countries on establishing water funds, especially in crafting financing structures suited to their specific financial landscapes. Where blended financing models are unsuitable, charitable trusts offer a viable alternative for funding.

Furthermore, the Fund has proved actionable due to the expertise and experience of its stakeholders. As one of the most experienced organizations in establishing water funds, TNC's global experience has provided a solid foundation for the creation of the QLWF. Meanwhile, Wanxiang Trust brings experience in philanthropic funding through trusts. Since 2016 it has become the trustee of 295 charitable trusts in China, managing a total of RMB 1.5 billion (~210M US$) (Wanxiang Trust 2024). TNC also has on-the-ground experience in China. In 2015, TNC set up China's first water fund, the Good Water Fund, which marked the beginning of TNC's global watershed protection and conservation program (TNC 2020). The success of this small reservoir project laid a foundation for replication in the medium-sized reservoir Qiandao Lake.

Additionally, the Fund showed its capability to mobilize follow-on capital, initially receiving two grants before attracting additional contributions from various corporate foundations for its second phase. The ability to convert the lake's ecological benefits into economic advantages through "water credits" has proven to be a solution for companies looking to compensate for their water use. Investments from Starbucks, Microsoft, Disney, and Coca-Cola have led to the second phase grants surpassing the initial amounts.

However, it is important to note that the Fund has not yet engaged in commercial investments aimed at financial returns. Huku, the enterprise it funds, has invested in environmentally friendly industries, with its annual income increasing from roughly RMB 200,000 (US$ 28,200) initially to around RMB 1 million (US$ 100,000). These revenues have not yet offset the initial investment costs but show promising signs of future self-sufficiency and growth.

2.2.4 Food Securities Fund

The Food Securities Fund (FSF), developed by Clarmondial, is an open-ended investment fund that uses blended financing to de-risk investments in sustainable agriculture. By working with global agriculture companies and their suppliers and providing loans conditional on metrics related to sustainable development, the FSF supports smallholder farmers while strengthening the entire value chain.

Classification
Open-ended Investment Fund

Priority Themes
Agriculture / Agroforestry

Region
Global emerging markets (Africa & Latin America focus)

Relevant Stakeholders
Clarmondial (fund design & advisory), Vistra Fund Management (fund management)

Key Investors
ASN Impact Investors, GEF family offices, endowments, and a reinsurance company

Targeted SDGs
2, 8, 13, 14, 15

Context

Smallholder farmers are typically connected to global markets by aggregators, such as local traders, processors, and cooperatives. Given their strategic role in linking farmers to consumer-facing brands, such aggregators are uniquely positioned to create change across agricultural supply chains. However, they often have insufficient access to credit, including working capital. For instance, agri-SMEs in Sub-Saharan Africa face a working capital financing gap of approximately US$ 65 billion a year (Aceli Africa, 2021). Moreover, loans are rarely structured to fit the agricultural cycle. Most credit products are available post-harvest, whereas aggregators increasingly require pre-harvest credit—for example, to facilitate access to appropriate inputs, provide TA to address increasing climate-related impacts on crop yield and quality, or implement traceability and certification programs. Without adequate pre-harvest capital, aggregators and the businesses that rely on them will struggle to meet sustainable sourcing requirements, including the EU Deforestation Regulation and Corporate Sustainability Reporting Directive, as well as corporate targets on climate, biodiversity (nature) and livelihoods.

Enhanced access to financing that covers the full agricultural cycle enables aggregators to scale their operations, procure more from farmers, encourage sustainable agricultural practices, and consequently, benefit entire rural communities. The FSF is designed to address challenges associated with transitioning agricultural supply chains by providing financing to aggregators at moments where capital is the most limited. The loans provided are contingent upon meeting various sustainable development criteria, including in relation to nature and climate impact (such as the adoption of climate-smart agriculture and deforestation-free supply chains), supply chain transparency, gender equality, and rural sustainable development. One of the fund's defining characteristics is its de-risking mechanism: the fund leverages value chain linkages and lends to aggregators that supply larger regional and international companies, who face increasing sustainable supply chain obligations.

These corporates de-risk the fund's loans through guarantees. The fund leverages these relationships, as well as supply chain accountability, regulations, and disclosure trends, in its origination, due diligence, and loan renewal processes, to ensure that durable impact can be created, and to mitigate credit risk.

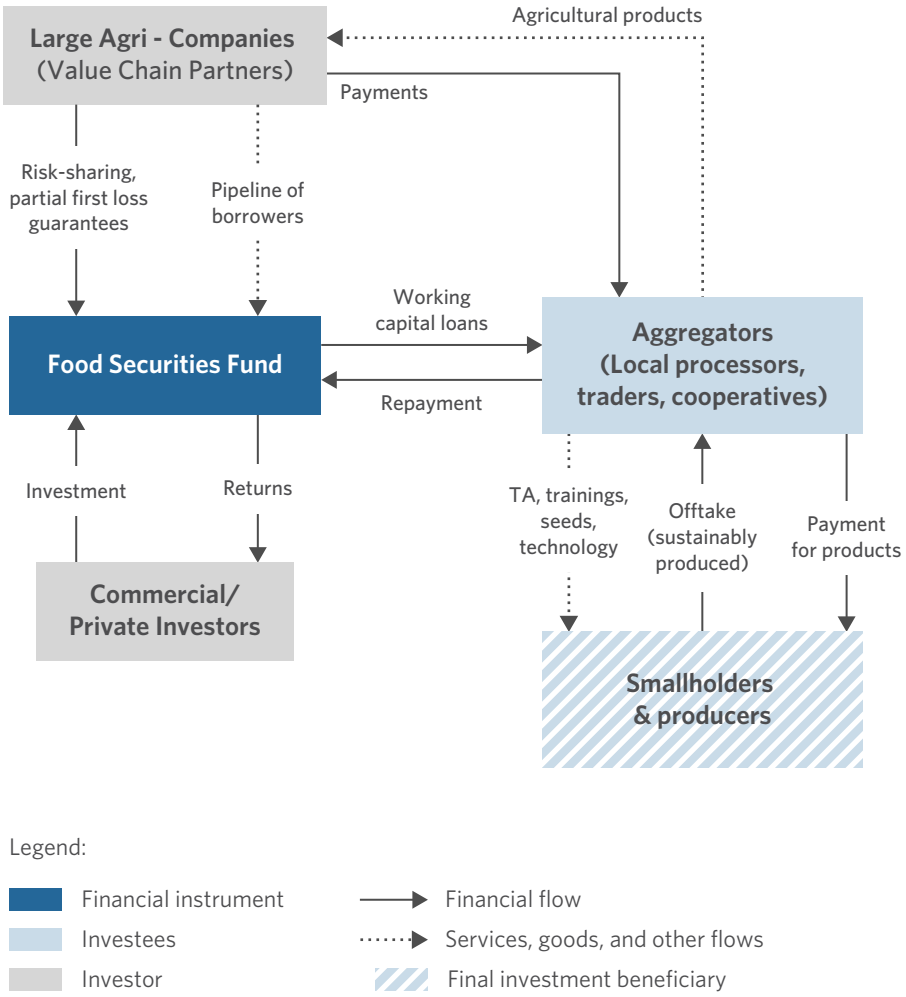
Structured and launched by Clarmondial with input from leading institutional investors, agribusinesses, and conservation organizations, the FSF is managed by Vistra Fund Management with Clarmondial serving as the investment adviser. Conservation International and WWF are founding members of FSF's Impact Advisory Board, supporting its environmental impact thesis. The Fund is designed to attract institutional and commercial investors and investors include ASN Impact Investors (part of ASN bank), family offices, endowments, and a European reinsurance company (ASN, 2021). It is attracting growing interest from a range of other private institutional investors, including private banks and asset managers.

The FSF made its first investments in 2021, and is scaling based on a successful 3-year track record. Through its borrowers, the fund has already reached over 92,000 smallholder farmers (19% women), supporting sustainable practices (including agroforestry systems and use of organic and regenerative practices) on over 189,000 hectares across 13 landscapes in seven Sub-Saharan African countries. Coffee, cacao, and cashews are some of the cash crops being produced. The borrowers have created jobs in rural areas with over 1,800 employees (58% women) and supporting farmers through trainings on climate-smart and regenerative agriculture, agroforestry, as well as helped them become organic and Rainforest Alliance certified. The fund is on its third loan cycle with some borrowers, meaning that it has demonstrated that loans are regularly being repaid and renewed, creating the basis for quarterly reporting, subscriptions, and redemptions.

FSF also recently made its first loan in Latin America (Clarmondial 2024). The objective is to further scale the fund, deepening and creating impact in new and existing supply chains, countries, and sectors. Given its strategy and structure, the fund has significant economies of scale and can effectively leverage the working capital gap to drive climate action through sustainable chains and land management, as well as promoting important environmental and social co-benefits.

How It Works

Figure 9. Food Securities Fund Instrument Mechanics



FSF offers working capital loans that cover the entire agricultural season to aggregators operating in developing countries. These are extended in collaboration with larger supply chain companies ("value chain partners" or VCPs) that have established trading relationships with borrowers. This allows VCPs and borrowers to expand and deepen trading and meet sustainable sourcing requirements. This supplementary working capital also facilitates aggregators to make pre-payments to farmers, pay for sustainability certifications, and provide faster payments, which facilitates more responsible practices. The Fund has full visibility on the specific supply chain that is financed. An accompanying TA facility is being designed and discussed to provide further support on good agricultural practices to farmers, strengthen farmers groups, and collect additional primary data on climate and biodiversity metrics. Such a facility can now be effectively designed, given that the TA needs of the farmers and borrowers are known.

The local SMEs then purchase sustainably produced crops from the smallholder farmers, which are sold to global agricultural corporates. Payments are used to repay the loans. Considering most borrowers sell to global corporations and receive in dollars, these lending agreements are completed in hard currencies such as US dollars, euros, or in local currency hedged back to US dollars. Lending agreements are one-year terms with the possibility of renewal. To date, many of the borrowers showed interest in renewing their agreements for additional loans.

The risk mitigation features of the FSF come from partnerships and risk-sharing agreements with larger regional and global companies (value chain partners). These entities, with strong trading relationships with the borrowers, have committed to guaranteeing partial first loss on non-performing loans or overdue repayments. The fund also benefits from a partial credit guarantee of US$ 37.5 million from the US International Development Finance Corporation (DFC), supported by USAID. This agreement is coming to an end and will not be renewed, demonstrating the financial viability of the fund.

In terms of other forms of catalytic capital, the GEF (via Conservation International) has committed US$ 15 million, under equal commercial terms. In 2017, the fund also received a design funding grant from Convergence to support structuring work, as well as support from Good Energies Foundation, Sall Family Foundation, and Climate KIC, among others.

Analysis

The FSF's innovative approach addresses a key financing need in emerging and developing market agriculture. This in effect also de-risks the fund and has allowed for actionability and successful implementation. For instance, pipeline and deal origination can be difficult and may prevent a financial vehicle from taking off or scaling. The fund's value chain corporates provide the fund with a supply of quality and bankable enterprises with whom they have strong ties. This also makes deal origination more efficient and cost-effective, reverberating efficiency throughout the fund. Furthermore, the fund is not dependent on traditional collateral from the borrower, which allows the fund to address a large and growing pre-harvest financing demand.

The FSF is an open-ended fund designed for institutional investors and is in due diligence with several such private sector investors. It is structured as a fixed-income fund offering quarterly liquidity, making it suitable for investors and thus delivering impact at scale. The FSF is a fully regulated investment fund domiciled in Luxembourg, classified under Article 9 of the Sustainable Finance Disclosure Rule.

Given the known difficulties in financing and encouraging sustainable land management, the FSF is an exemplary vehicle making significant change. Its innovative structure is designed to finance SMEs and smallholder agriculture in developing countries, while the strategy of working with global agricultural corporations and their supply chains drives scalable impact. Making loans conditional on sustainable agricultural practices and leveraging beneficiaries' connections to markets (often where they can receive premiums on sustainably produced crops) has demonstrated to not only be a proven pathway to improved land use, but also to strengthen rural communities.

2.3 Catalytic Role of Guarantees

Guarantees are a key means of mobilizing private resources. An OECD study found that they leveraged 26% of all mobilized private finance from 2018 to 2020. They are a preferred risk mitigation tool for private investors for local and foreign currency risk, project finance shortfalls, and external risks.

Guarantees can employ limited concessional and donor capital to leverage private investment for NbS by increasing liquidity, reducing borrowing costs, extending loan tenors to match project needs, and mitigating risks.

Box 3. Key Learnings on Guarantees

Guarantees can mitigate political, currency, liquidity, and credit risks for investors. As observed in the cases in this section, such tools can take the form of sovereign, corporate, and financial guarantees. The Galápagos Debt-for-Nature Swap and the Seychelles Blue Bond have helped to mobilize capital markets investors through the use of guarantees. Guarantees can also lengthen loan tenors, as in the case of the AGRI3 Fund. They can also mitigate pipeline credit risk, as for the Asia Climate-Smart Landscape Fund.

The Galápagos Swap used credit enhancement tools to reduce risks for private investors and lower the cost of capital, enabling conservation financing and fiscal savings. Nevertheless, debt conversions require close coordination and dialogue among multiple actors and are highly context-specific. While the Inter-American Development Bank (IDB) and DFC were well-positioned to provide the guarantees in this case, new partners would need to be involved in other jurisdictions.

Guarantees mainly come from a handful of institutions, limiting capacity for scale. CPI has mapped 52 types of cross-border guarantee, with less than 15% of these having a climate focus. With the exception of the Green Guarantee Company, disbursement of these instruments is mainly by multilateral development banks and DFIs, which can lead to slower implementation. These actors can be highly intertwined with political interest and, though they can provide scale, the factors necessary for their roll-out suggest that replication could be challenging.

2.3.1 Galapagos Debt Conversion

As of 2024, The Galápagos' Debt-for-nature Swap was the world's largest transaction of its kind, by which the Ecuadorian government restructured USD 1.6 billion of outstanding debt and generated resources to advance marine conservation efforts in the Galápagos Islands.

Classification
Debt-for-nature swap / Debt conversion

Priority Themes
Marine Conservation

Region
Latin America (Ecuador)

Relevant Stakeholders
Government of Ecuador, IDB, DFC, and Oceans Finance Company (OFC), Credit Suisse

Key Investors
Legal and General

Targeted SDGs
8, 13, 14, 17

Context

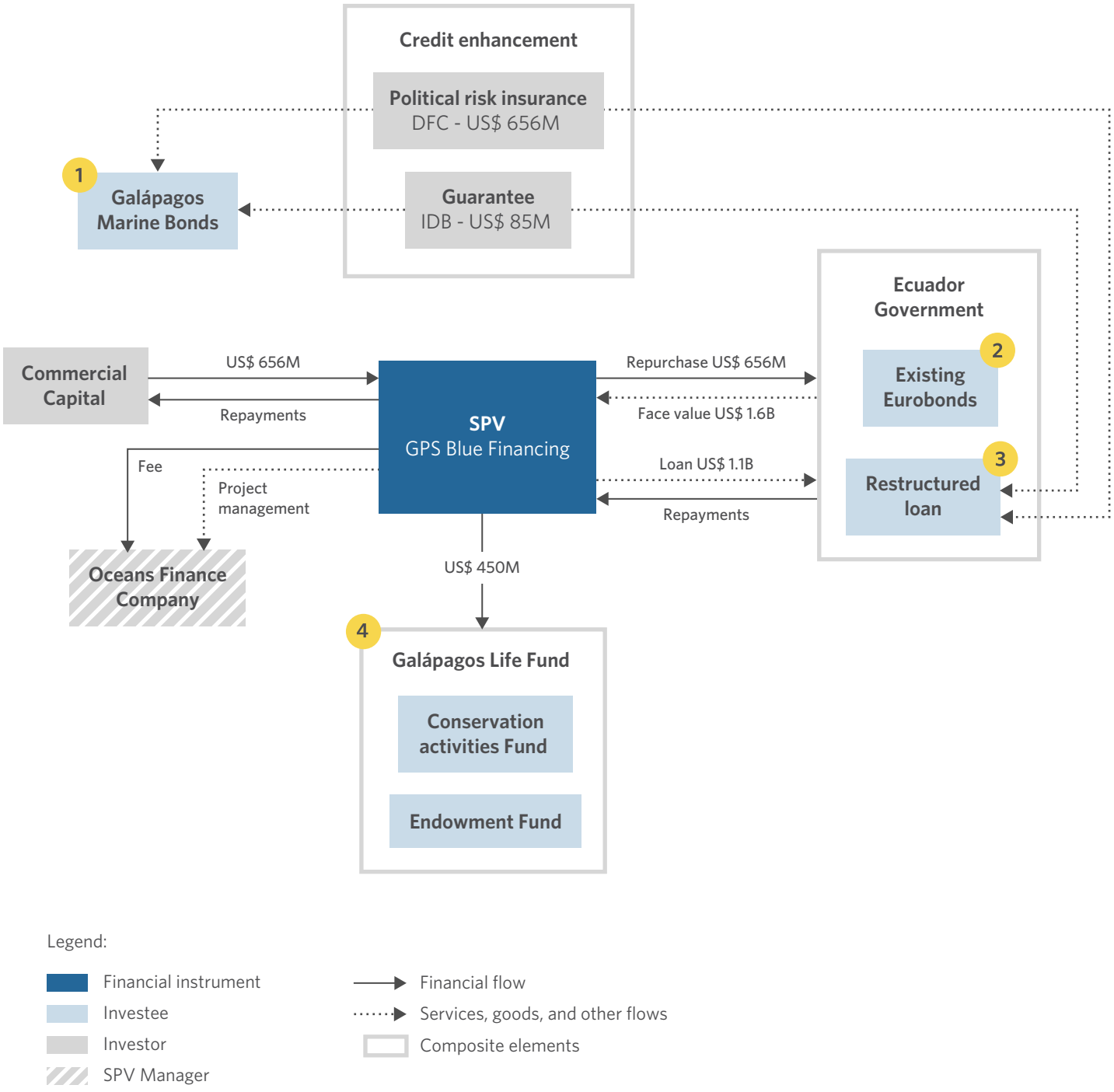
Located nearly 1,000 km off the coast of Ecuador, the Galápagos Islands have unique and rich ecosystems. The 13 large islands surrounded by a marine reserve form a global biodiversity hotspot home to over 3,500 species, including 25% endemic marine organisms (). The islands are threatened by illegal fishing, pollution, invasive species, and the effects of climate change. These pressures compromise the health of marine and terrestrial ecosystems, endangering the diverse fauna that inhabits these islands.

In 2022, the government of Ecuador established the to protect a vital corridor for migratory species between the Galápagos and Costa Rica, enhancing conservation efforts across national borders and safeguarding diverse marine life. Its conservation strategy includes scientific research, promotion of sustainable fisheries and tourism, and increasing climate resilience. However, the country's high debt levels and high-risk credit profile present challenges to mobilizing these resources. In this context, Ecuador emerged as a suitable candidate for a debt-for-nature swap.

How It Works

The instrument's structure is illustrated in Figure 10 and described below.

Figure 10. Galápagos Debt Conversion Instrument Mechanics



1. **Galápagos Marine Bond**: A blue bond was issued through a SPV (GPS Blue Financing), raising US$ 656 million. This was supported by **political risk insurance provided by the DFC**, of equal value, effectively shifting the underlying risk of the issuance from Ecuador to the US, and significantly lowering the cost of capital. The insurance will cover payments to investors in the event of a credit default or a breach in a series of established marine conservation commitments from the government. In addition, a US$ 85 million **guarantee from IDB** is designed to provide liquidity and ensure repayments to investors for up to 18 months in the case of default, while DFC insurance is arbitraged and executed (2023). These mechanisms contributed to a bond rating of AA2/AA.

2. **Repurchase of existing Eurobonds**: Proceeds from the Marine Bond were used to repurchase and retire part of Ecuador's outstanding debt from capital markets. Due to economic challenges and political instability, Ecuador's sovereign bonds had depreciated in value, trading at an average of 40 cents on the dollar (2023). This devaluation, which reflected investor concern over potential deeper losses, allowed the government to **repurchase US$ 1.6 billion of existing debt** (face value) with the available US$ 656 million.

3. **Restructured loan**: The US$ 1.6 million in sovereign bonds were converted into a restructured impact loan to the Ecuadorian government, aiming to both guarantee sufficient financial flows for conservation activities and to alleviate the country's debt levels. The result was a **US$ 1.1 billion loan** for 17 years which included binding commitments in terms of the implementation of the Galápagos conservation strategy. The payments from the restructured loan are used to repay the investors of the Marine Bonds and to direct financial flows to conservation activities. The loan, therefore, is de-risked through DFC's political risk insurance and the IDB's guarantee.

4. **Galápagos Life Fund (GLF)**: After paying Marine Bond holders, the remaining government repayments are directed to the Galápagos Life Fund. This surplus in payment is generated by a difference in interest rates and nominal value between the bond and the loan. This is a non-profit trust established to lead the allocation of funding in conservation programs, with the advice and oversight of both government and non-governmental representatives, including from artisanal fisheries, local tourism, and academia (2023). The GLF will receive a total of **US$ 450 million**, including annual disbursements of US$ 17.4 million to finance conservation activities and the valuation of a permanent endowment created to ensure future financial flows. Conservation activities include the management and enforcement of the Hermandad and Galápagos marine reserves, support for sustainable fisheries, and strengthening of climate resilience for local ecosystems and communities. Additionally, the endowment was established to sustain the financing of conservation activities in perpetuity, following the full repayment of the government's debt.

This transaction led to total fiscal savings of US$ 1.126 billion for Ecuador (including nominal value and interest) and ensured alignment between environmental and financial objectives. Non-compliance with the defined marine conservation activities would represent a default, trigger the insurance policy, and be detrimental to the country's creditworthiness and debt savings.

Analysis

Debt-for-nature swaps are an innovative mechanism for countries to unlock finance for NbS in the context of high fiscal burdens, by leveraging—and potentially reducing—countries' existing debt.

The Galápagos debt conversion's unique structure was enabled by several factors. First, the devaluation of existing Ecuador sovereign bonds in the market allowed for the repurchase of part of the debt at a discount. This, in turn, enabled scale and removed the need to negotiate directly with lenders, common challenges in this type of deal. Second, the DFC and IDB provided cost-effective credit enhancement, which facilitated the capital necessary for debt retirement at a significantly lower cost.

These factors helped to unlock resources from the difference between the amount raised and the nominal amount of debt purchased, as well as the spreads in the interest rates received and paid. These resources arebeing used to fund conservation activities and restructure the government's debt at favorable terms that translate into significant fiscal savings for Ecuador. The restructured loan, in turn, included stringent environmental commitments linking conservation activities to financial covenants and creditworthiness, aligning incentives in the long term.

The debt-for-nature swap and the underlying conservation strategy were possible due to close coordination among actors with strong and complementary capabilities. Ecuador's commitment to protecting the Galápagos Islands set the enabling conditions and institutional capacity. Internal alignment between the environment and finance ministries was also key to executing the debt conversion, linking environmental results and budgetary savings.

DFC's contribution of political risk insurance was a cornerstone of the debt conversion. The IDB also played an key role as a technical adviser and provider of the guarantee to complement DFC's insurance. The Oceans Finance Company (OFC) leads the ongoing execution and project management of the instrument. In addition, the Pew Bertarelli Ocean Legacy program provided TA and early-stage capital to develop the GLF and overall project.

"The Galapagos debt conversion demonstrates that market dynamics can be leveraged for conservation objectives and that under the right conditions, you can meet both environmental and financial objectives."

Erik Wandrag, CEO of the Oceans Finance Company

The OFC is also validating a complementary structure to further increase capital mobilization and conservation in the Galápagos. This follows a similar logic to the swap (harnessing the differential between the market and nominal values of existing Ecuador bonds) but without the insurance and guarantee. The OFC has secured US$ 90 million from Climate Fund Managers' Climate Investor 2 (CI2) to purchase an additional US$ 240 million of Ecuador sovereign bonds to hold to maturity. With the payments from the government, OFC will repay CI2 and the additional US$ 81 million in funds go to marine conservation activities.

2.3.2 Seychelles Blue Bond

The Seychelles Blue Bond, issued in 2018 as the world's first sovereign blue bond, was issued to support the country's ambitious marine conservation strategy and the development of value chains in the blue economy. This aimed to safeguard key ecosystems that the country depends on and bring sources of prosperity for its people.

Classification
Fixed Income – Bond

Priority Themes
Oceans & Water / Marine Conservation

Region
Africa - Seychelles

Relevant Stakeholders
Seychelles Government, World Bank, Global Environmental Facility (GEF)

Key Investors
Calvert Capital, Nuveen, Prudential

Targeted SDGs
2, 8, 13, 14, 17

Context

The Seychelles archipelago is a Small Island Developing State off the coast of East Africa. It is a biodiversity hotspot, with high rates of endemic species of up to 85% for some animal groups (CBD). The territory is 99% ocean, and its population depends on healthy, thriving marine ecosystems.

The Seychelles' main economic activities of tourism and fisheries are highly vulnerable to climate-induced extreme weather events and slow-onset events. Coastal regions are increasingly experiencing intense storms and rising sea levels. Warmer oceans are diminishing fish populations, while elevated carbon levels are raising ocean acidity, causing significant harm to coral reefs. This underscores the urgent need for marine conservation and the relevance of the Seychelles Blue Bond.

The Seychelles has demonstrated leadership in marine conservation, setting ambitious goals and pioneering innovative financing tools to develop its blue economy. One important step includes the Seychelles committing to declaring up to 30% of its ocean territory as a marine protected area by 2020 as part of a comprehensive marine conservation strategy encompassed in the Marine Spatial Plan.

In 2015, the Seychelles structured a debt-for-nature swap for marine conservation and climate adaptation with support from The Nature Conservancy. This allowed the repurchase of US$ 21.6 million of foreign debt at a discount and the refinancing of the loan at more favorable terms. It also involved the creation of the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), which uses government payments from the refinanced loan to finance marine conservation programs (Commonwealth 2020).

In 2018, as part of the same comprehensive ocean conservation strategy and leveraging lessons learned in the first years of SeyCCAT, the country decided to issue the world's first sovereign blue bond. This aimed to provide additional financing to promote sustainable fisheries and the development of blue economy value chains.

How It Works

The sovereign bond is used exclusively to finance the country's marine conservation and blue economy strategy, thereby kick-starting blue bonds as a new type of debt mechanism. The transaction, structured with the support of the World Bank, raised US$ 15 million from international investors, demonstrating the potential of blue bonds to mobilize capital markets for ocean conservation (Benzaken et al. 2024). The bond had a maturity of 10 years and a 6.5% coupon, with repayments of US$ 5 million in 2026, 2027, and 2028 (CABRI nd).

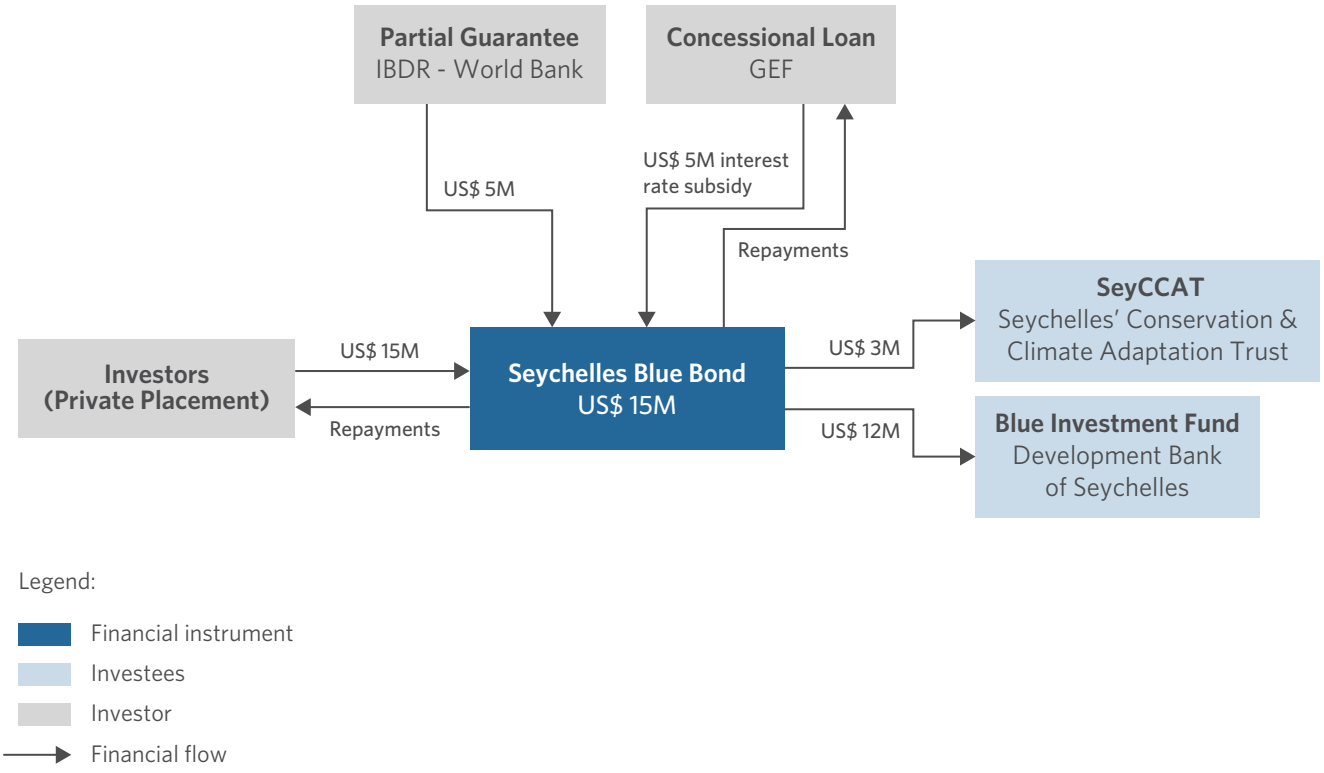
One issue addressed in the structuring phase was high country risk, captured by a BB credit rating. This would have led to a higher cost of capital, putting pressure on the country's fiscal landscape, meaning that the bond could have difficulties in meeting investors' liquidity needs. In order to address this, the blue bond included two credit enhancement mechanisms:

- **A US$ 5 million partial guarantee** from the World Bank's International Bank for Reconstruction and Development (IBRD).
- **A US$ 5 million concessional loan** from the GEF to subsidize the bond's interest payments. The loan had a term of 40 years and included a grace period of 10 years and a significantly low interest rate of 0.25%.

The IBRD guarantee lowered borrowing costs by at least 2% a year, supported by the IBRD's AAA credit rating (World Bank 2019). The GEF loan further reduced the interest rate from 6.5% to an effective rate of 2.8%, which in turn also decreased the risk of default (IFRL 2019).

The structure of the blue bond instrument is shown in the figure below.

Figure 11. Seychelles Blue Bond Instrument Mechanics



The bond was issued through a private placement with three institutional investors: Calvert Impact Capital, Nuveen, and Prudential each providing US$ 5 million senior debt. The proceeds went to the Blue Grants Fund managed by SeyCCAT (US$ 3 million) and the Blue Investment Fund managed by the Development Bank of the Seychelles (US$ 12 million).

SeyCCAT deploys resources as grants to local projects that advance marine conservation and Marine Protected Areas. The Blue Investment Fund offers loans (at a below-market rate of 4%) to medium-sized local businesses that support sustainable aquaculture value chains through solutions such as cold storage facilities and fish processing plants.

Analysis

The blue bond was the world's first and, together with the earlier debt-for-nature swap, positions Seychelles as a leader in innovative financial mechanisms for conservation. The bond leverages a fixed-income asset well-known to institutional investors, while also attracting new investors with a higher impact appetite.

The issuance aimed to support Seychelles' comprehensive marine conservation strategy to develop a diversified blue economy as a competitive advantage for the country, aligning environmental and economic objectives. Such high-level government commitment is essential, as it recognizes the interdependence of the country's prosperity with a thriving marine and coastal ecosystem and sets the required enabling environment.

An institutional framework conducive to implementing this long-term vision was also critical. This included developing the country's Marine Spatial Plan, setting up the SeyCCAT, designing environmental regulations in collaboration with local authorities, and communities, fisheries, and small- and medium-sized businesses.

Although it increases the country's outstanding debt, it raises new capital at a low interest rate. The guarantee and the concessional loan also allowed the instrument to be financially sustainable, given that the invested capital can generate sufficient resources for the bond's repayment. Although the loans provided by the Blue Investment Fund have concessional terms, the interest rate of 4% offered to businesses is greater than the effective interest rate of 2.8% the government had to pay to bondholders.

While the US$ 15 million bond may be small in market terms, it is significant in relation to the value of Seychelles fisheries and aquaculture value chains and consistent with the loan absorptive capacity of targeted local entrepreneurs. Moreover, it unlocks flows of up to US$ 200,000 per year for conservation activities.

This points the way for other countries, particularly island states. Belize, Indonesia, and Ecuador have also issued blue bonds. Such bonds can be adapted to the priorities, capabilities, and needs of issuing countries. They can also be combined with other instruments, such as debt-for-nature swaps, as in the Galápagos Islands' 2023 transaction described above.

Climate Bonds Initiative estimates an investment opportunity for ocean-related sustainable activities of over US$ 3 trillion until 2050 (CBI 2024), with the market having already reached a blue and water debt of around US$ 17 billion by 2023.

2.3.3 AGRI3 Fund

AGRI3 is a blended finance fund that aims to mobilize USD 1 billion of public and private finance towards forests, farming, and food systems in emerging economies. The Fund also houses a TA Facility (TAF) focused on accelerating the development of investable opportunities and maximizing their impacts. Launched in 2020, it offers credit enhancement for financial intermediaries to finance sustainable agriculture and forest conservation. To date, the Fund has deployed around USD 80 million in guarantees, mobilizing more than USD 200 million in private capital.

Classification
Credit Enhancement / Guarantees & Debt Facility

Priority Themes
Sustainable Agriculture / Land Conservation & Reforestation

Region
Global

Relevant Stakeholders
UNEP, Sustainable Trade Initiative (IDH), FOUNT, Cardano Development

Key Investors
Netherlands Ministry of Foreign Affairs, Rabobank, GEF

Targeted SDGs
2, 13, 15

Context

Unsustainable agriculture and deforestation are large sources of GHG emissions, with a lack of finance for shifting to sustainable practices. Studies estimate that agriculture and forestry have driven over 70% of tropical forest loss in the last decade (Conservation International 2022). This process has been linked to biodiversity loss and land degradation of agricultural land, pasture, and forests. Transitioning to sustainable agriculture is estimated to require US$ 200 billion per year by 2030, yet, currently, only US$ 6 billion to US$ 8 billion is allocated annually (Conservation International 2022).

Sustainable agriculture projects' perceived and actual risks and need for longer-term finance often do not match commercial banks' investment preferences. Short-term industrial-scale crops offer higher returns and lower risk profiles. This makes capital for transitioning to more sustainable farming practices prohibitively expensive or with restrictive terms and conditions (Conservation International 2022).

AGRI3 helps to bridge the finance gap by providing technical expertise and sharing and transferring financial risks associated with these investments. For instance, it uses tools to extend loan tenors to meet sustainable land projects' longer repayment cycles or compensate for non-cash-generating activities, bringing the risk profile of projects closer to commercial capital needs. AGRI3's TAF also reduces investment risk by supporting borrowers to implement solutions and develop bankable sustainable business models to unlock value (Conservation International 2022).

How It Works

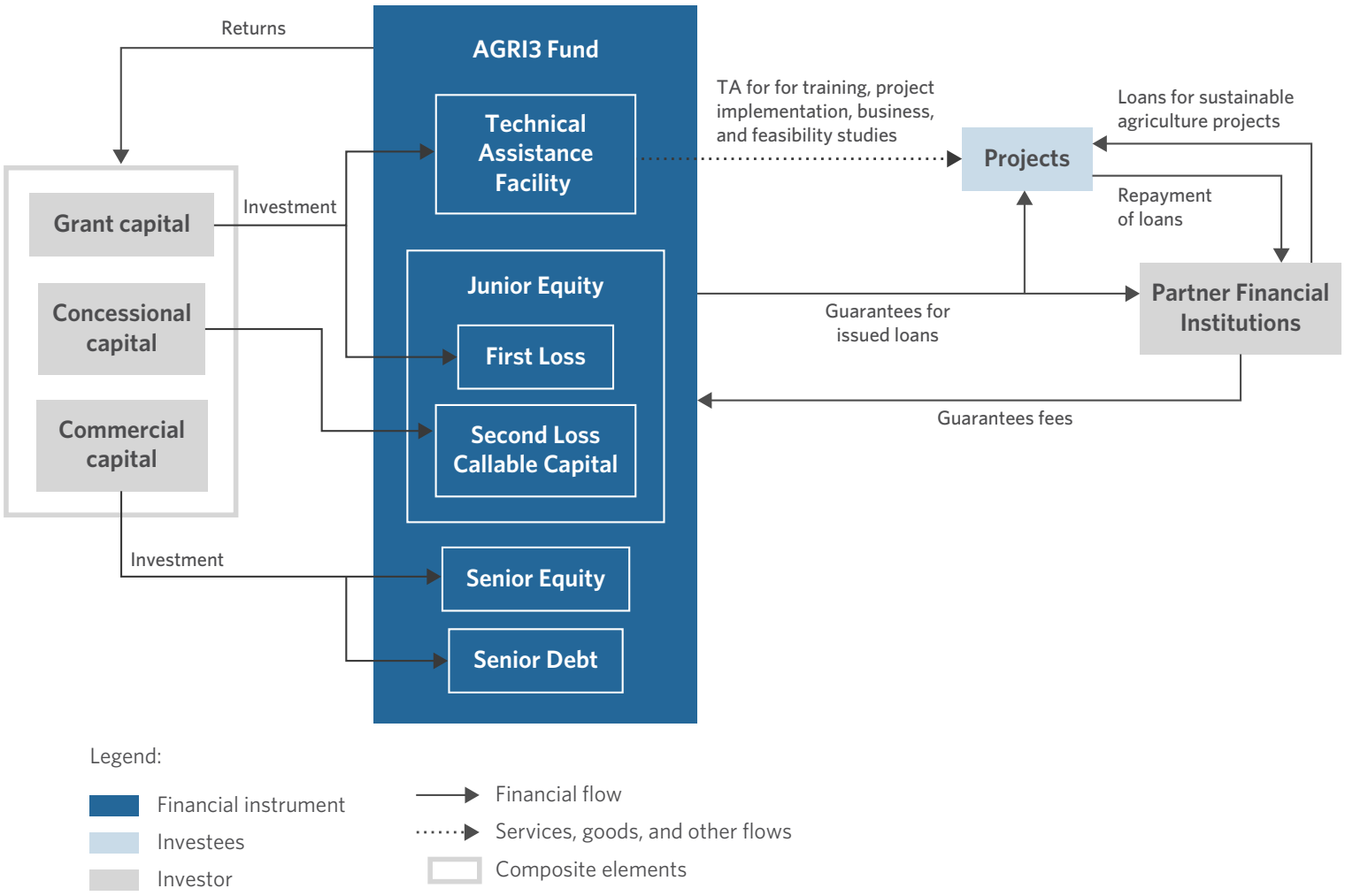
Over the past four years, AGRI3 has blended public and private capital in a permanent vehicle to support partner financial institutions' long-term loans (of up to 10 years) of US$ 2 million to US$ 15 million to large agribusinesses (Conservation International 2022). The Fund covers 30% to 50% of the exposure on a loan, which, over the course of the loan tenor, can be increased to 100%, enabling the commercial bank to deploy loans beyond its usual tenor. AGRI3 provides guarantees in both US dollars and local currency and works in various currencies to mitigate depreciation risk. AGRI3 guarantees help to increase the supply of commercial finance and the capacity of financiers to adapt their standard financial products to support capital allocated for eligible impact objectives.

The Fund aims to capitalize US$ 250 million in equity to support a guarantee capacity of up to US$ 1 billion. AGRI3 supports financial intermediaries that offer credit facilities to clients through the value chain—producers, processors, traders, input providers, and local financial institutions—in a way that leads to impact for farmers as ultimate beneficiaries. The Fund's guarantees can be deployed for individual projects, portfolios, and/or as a subordinated position in the capital stack. Deals are sourced from financial intermediaries as well as through project developers and collaboration with the international development community.

AGRI3 started as a partnership between the UN Environment Programme (UNEP) and Rabobank and has since expanded to include the Dutch Entrepreneurial Development Bank (FMO) and the Sustainable Trade Initiative (IDH). Cardano Development and FOUNT are the Fund's investment advisers. AGRI3 also has the Ministry of Foreign Affairs of the Netherlands (MofA) as a donor and the GEF as an equity investor. Partner financial institutions include Rabobank, HSBC India, Old Mutual, Santander, Oikocredit, and Standard Chartered Bank.

The Fund's structure is open, and institutions applying for credit enhancement tools on behalf of their clients are invited to become participants. It includes four broad tranches and its TAF, as shown below.

Figure 12. AGRI3 Instrument Mechanics



- **AGRI3's TAF** is funded with a US$ 5 million non-repayable grant from the Netherlands MofA. Managed by IDH, the Facility supports the ultimate beneficiaries of the Fund's investments with training and support programs, research, and feasibility studies to maximize impact and de-risk investment.
- **A first-loss tranche** with 0% return on investment is financed by donors, including US$ 35 million from the Netherlands MofA.
- **A senior equity tranche** serves other private institutional investors with a gross internal rate of return target of between 0-5%. The GEF has invested US$ 13.4 million in this tranche.
- **A commercial debt tranche** with rates of 2-4% is the most senior tranche, with US$ 50 million from Rabobank to match the first-loss capital in the Fund.

The Fund is also exploring a junior tranche of callable capital to scale up its size.

Analysis

AGRI3 mobilizes capital for projects that cannot be traditionally financed by commercial banks but have strong additionality related to sustainable agriculture and forest conservation. The Fund's catalytic potential is illustrated by the US$ 11 million subordinated guarantee announced by AGRI3 to support **the Responsible Commodities Facility** (RCF) in 2023. The Brazilian/UK multi-party financial vehicle provides revolving working capital loans with discounted rates to soybean farmers that produce in existing cleared and degraded land and protect native vegetation above the legal minimum required in Brazil. Brazilian farmers currently do not receive incentives to prevent them from legally clearing surplus private protected areas. AGRI3's guarantee will help bridge that gap and catalyze capital from financial institutions, initially Rabobank and Santander, to support efforts to rid supply chains of deforestation and boost conservation. In addition, AGRI3's TA facility will support farmers in the RCF program for sustainable production practices (AGRI3 s.d.).

The TAF supports projects to develop their business models and manage environmental and social risks. The implementation model through partner financial institutions also has strong catalytic potential. Leveraging existing client relationships of banks participating in the Fund considerably reduces the barriers to finding and developing eligible investments.

In the AGRI3 fund model, concessional capital catalyzes finance in two ways. First, it acts as a first-loss tranche, attracting more commercial capital to the Fund itself. Second, it unlocks financing outside of the Fund structure through the guarantees issued for partner bank's loan arrangements.

The land-use sector in emerging markets is a high-risk investment and one of the most exposed to the effects of climate change. This means phasing out concessional capital from a structure like AGRI3 seems unlikely in the short term. However, it also highlights the need for such a structure. With a limited amount of concessional capital available, it is important to leverage as much private capital from concessional capital as possible. AGRI3's junior tranche of callable capital could attract more commercial capital to the Fund with reduced donor exposure, and ultimately mobilize a higher sum of private capital for sustainable agriculture.

AGRI3's investments have so far largely focused on Brazil, especially because of strong local bank relationships, and the importance of the market for sustainable agriculture. The first deal in Africa was signed last year in Malawi to support the operations and expansion of a macadamia farming company. The Fund is developing a pipeline across Africa and South Asia. To invest in other countries, the Fund has to adapt to the needs and circumstances of each place. The challenges of large-scale agriculture and deforestation in Brazil are different, for example, from India, which has very different forms of production. This requires studying the market opportunities and gaps in local sustainable agriculture, as well as engaging with partner banks to understand their portfolios and the support they need.

2.3.4 Asia Climate-Smart Landscape Fund

The Asia Climate-Smart Landscape Fund (ACLF) is a blended finance instrument aimed at providing medium to long-term loans to SMEs in Indonesia involved in sustainable agriculture, land regeneration, and forest protection, aligning with Indonesia's NDC. Established by ADM Capital in December 2023, the Fund aims to improve livelihoods, gender equality, land use management, and reduce GHG emissions.

Classification
Alternative Assets / Guarantees

Priority Themes
Land Use / Bioeconomy / Agroforestry and restoration

Region
Indonesia

Relevant Stakeholders
ADM Capital Group

Key Investors
Ceniarth, the David and Lucile Packard Foundation, the John D. and Catherine T. MacArthur Foundation, Margaret A Cargill Philanthropies, Calvert Impact Capital, and RS Group

Targeted SDGs
5, 8, 12, 13, 15

Context

Deforestation driven by agricultural expansion is a key challenge in Indonesia. The rapid loss of its vast tropical rainforests drives biodiversity loss, disrupts ecosystems, and increases carbon emissions (Tacconi, L., et. al. 2019).

Indonesia's NDC outlines a robust strategy to combat deforestation. Under the Paris Agreement, it targets a reduction in GHG emissions by 31.89% to 43.20% by 2030 (Indonesia 2022). In addition to promoting stricter environmental regulations, the NDC emphasizes sustainable forest management and reforestation, highlighting the importance of improving the economy in these regions.

Small-scale agriculture SMEs play a critical role in intermediating and aggregating local farmers and collectors to comply with deforestation and conversion-free requirements. To tackle deforestation and ensure compliance with international regulations while developing local communities, ADM Capital established the ACLF in December 2023 (ADM Capital, 2023).

The Fund is noted for its strong adherence to environmental, social and governance (ESG), with performance targets linked to impact. Key investors include impact-driven entities and foundations.[5] The US International DFC and others have provided a 50% guarantee across the fund at the asset level (US DFC).[6]

5 Including: Ceniarth, the David and Lucile Packard Foundation, the John D. and Catherine T. MacArthur Foundation, Margaret A Cargill Philanthropies, Calvert Impact Capital and RS Group.

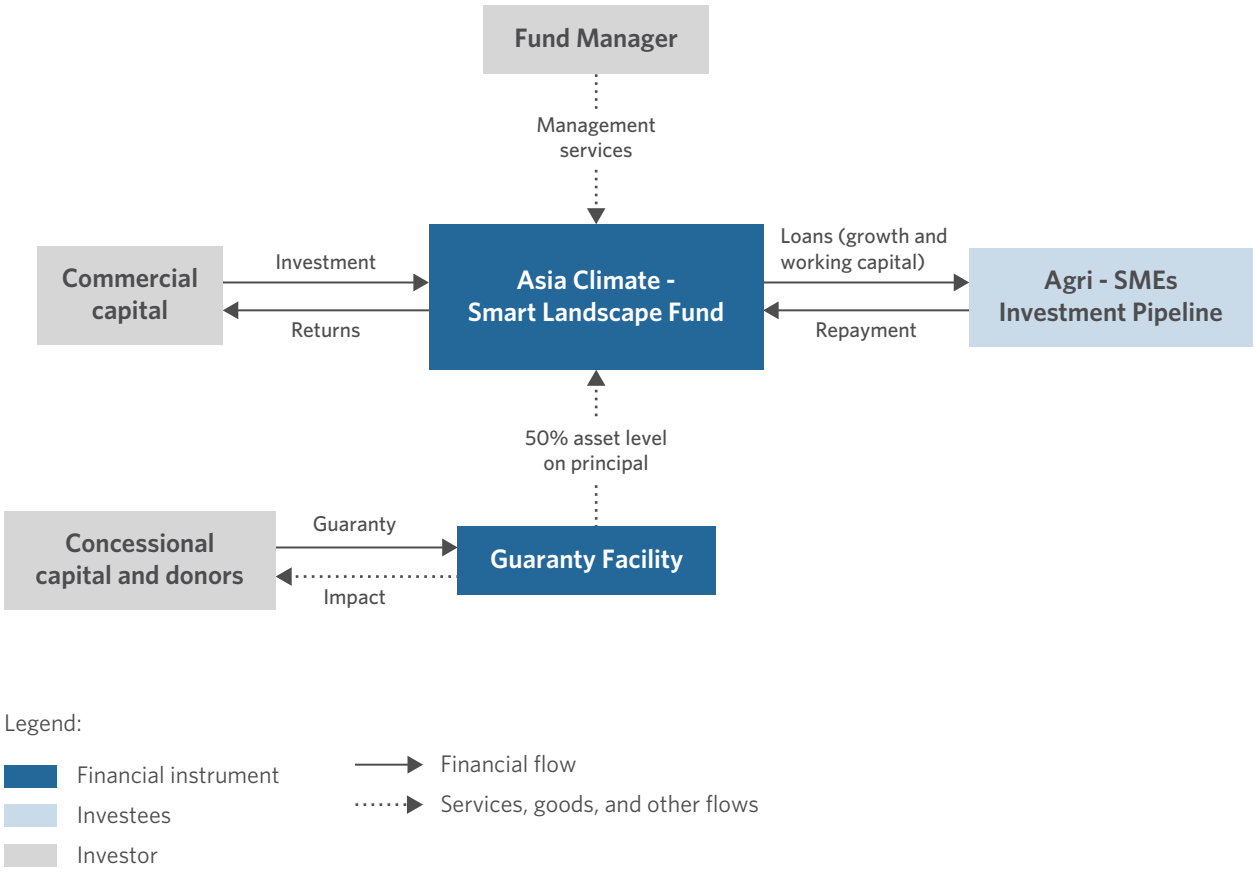
6 Participants in the guaranty are the United States Agency for International Development ("USAID"), Rabo Foundation and the Australian Government's Department of Foreign Affairs and Trade ("DFAT").

To address challenges regarding investments in sustainable and deforestation-free supply chains, ADM Capital includes strict due diligence processes and integration of Environmental Social Action Plans in loan documents to address non-compliance risks. Using TA from partners, ACLF has provided training for farmers and financial development support for pipeline projects, including in agricultural commodities such as cacao, shrimp, cassava, rattan, and coconuts.

How It Works

The 10-year fund has two main components, as illustrated in the graphic below: the fund and a guarantee, both managed by an entity within the ADM Capital Group.

Figure 13. Asia Climate-Smart Landscape Fund Instrument Mechanics



The ACLF takes an export-oriented investment approach with loans provided in US dollars, ensuring stability and reducing currency risk. The Fund targets an investor return of 8-10%. The DFC provides an unfunded 50% asset-level guarantee, reducing the overall portfolio risk, making investments in agricultural SMEs more appealing to private capital, which traditionally views these as higher risk compared to other sectors. Further de-risking is anticipated through potential corporate offtaker agreements, enhancing the fund's stability and attractiveness.

The Fund is designed to provide growth and working capital five-year loans to SMEs in Indonesia, within the agroforestry, sustainable agriculture, and aquaculture sectors. These enterprises play a pivotal role in connecting local farmers with international markets in Southeast Asia.

To ensure sustainability and impact, the Fund will engage independent third parties for due diligence, which is a gap analysis against the International Finance Corporation Performance Standards. Environmental Social Action Plans and ESG KPIs will be integrated into loan documents as potential events of default with non-compliance. An Impact Advisory Committee will support the delivery of impact targets, ensuring the fund's operations align with best practices and deliver tangible benefits.

Analysis

Funding SMEs in Indonesia in itself goes beyond common market practices, especially when investing in climate-related transactions. Use of concessional capital as a guarantee (without deploying cash) mitigates transactional risk assures investors to boost participation in NbS blended finance projects. This helps local SMEs to support farmers in enhancing their sustainable agricultural practices.

This approach differs from other initiatives in the region, creating enabling conditions for compliance with international regulations and standards. SMEs offer valuable services and resources, including training, technology, and market access, which are essential for fostering sustainable farming practices and ensuring long-term sustainability in land-use systems.

The initiative has strong catalytic potential, with the aim of enhancing the bioeconomy through SMEs to reduce deforestation associated with agricultural commodity producers. This can be replicated in places with a push for agricultural expansion and the issue of deforestation based on small-scale farming.

Strategic partnerships and the 50% guarantee are pivotal in attracting private investors. ADM Capital collaborates with SMEs, NGOs, governments, and the private sector, including offtakers. This enables investment in companies with attractive risk-adjusted return profiles, ensuring that NbS projects are both impactful and financially viable. The initiative aims to mobilize US$ 200 million and managed a soft launch in December at US$ 32 million, showcasing initial success in attracting capital.

Conclusion

Our 12 case studies showcase key tools for scaling investment in NbS: (i) ecosystem building, (ii) engaging beneficiaries, and (iii) the use of guarantees as de-risking agents.

These can inform the action of public and private sector actors and point the way to many promising areas of further research for scaling NbS. G20 representatives are well-positioned to influence and streamline public support in this area, just as they have accelerated responses to many other financial challenges. Well-rounded public policies that support NbS by fostering targeted concessional capital as well as the enabling environment are key to replicating successful models across new geographies.

Initiatives that accelerate collaboration between stakeholders can spur NbS finance. Furthermore, for NbS to succeed as an investable thematic area, holistic financial and technical support must be offered for early-stage initiatives, as well as at the project and financial instrument level. Solutions are not yet sufficiently developed to scale through direct investment alone, and technical support will be instrumental, with the public sector uniquely positioned to provide it.

While this analysis has focused on the structure and deployment of financial instruments, there are additional themes that could be explored to support the development and implementation of NbS. These include:

How to define, value, measure, account for, and monetize nature. This is challenged by the way current economic models attribute value to goods and services, and the gap that arises when benefits related to nature cannot be captured as revenues. Measuring—which is essential to valuing, accounting, and monetizing —faces barriers connected to data, disclosures, and process integrity. Initiatives that support these efforts could be analyzed to better understand the elements that contribute to this ecosystem, to enable better coordination. Initiatives related to natural capital accounting that attempt to attribute and report on the value of nature could be further investigated, followed by initiatives that could monetize nature through tools such as carbon, blue carbon, biodiversity, and water credit markets.

Creating an enabling policy environment: Additional research could work to identify and promote policies that create favorable conditions for NbS finance. This could include mapping best practices for incentivizing corporations to: engage with NbS, avoid greenwashing, and track and disclose their impact on nature.

Exploring innovative NbS finance instruments: Research could further expand on the analysis of different types of instruments that leverage the local benefits of NbS, such as resilience and ecosystem services. Analyzing IPLC-led instruments and projects could help to understand the gaps between those solutions and others that have gained bigger scale.

Investigating opportunities for broader financial market engagement (e.g., related to the relevance of the insurance industry and other nascent markets) could also help develop more systemic solutions for financing NbS.

Understanding conflicts between NbS and other net-zero solutions: Research could identify conflicts, such as those arising from high carbon reduction technologies that may harm ecosystems. Strategies are needed to harmonize NbS with technology-based net-zero approaches, ensuring climate mitigation efforts do not compromise ecosystems. This includes evaluating the environmental impact of new technologies and integrating them with NbS.

Aligning with other G20 Initiatives: It is important to identify best practices, share challenges, and seize opportunities for joint efforts to create a cohesive strategy that leverages the collective strengths of G20 member countries and other global initiatives. This can be done with the objective of better connecting initiatives working on this theme—within the G20 and more broadly—and ensuring that the sum of their parts is larger and better coordinated than each one individually.

References

Aceli Africa. 2021. Bridging the Financing Gap: Unlocking the Impact Potential of Agricultural SMEs in Africa. Available at https://aceliafrica.org/bridging-the-financing-gap-unlocking-the-impact-potential-of-agricultural-smes-in-africa/.

ADM Capital, 2023. ADM Capital Launches First Impact Fund: The Asia Climate-smart Landscapes Fund. December 2023. Available at: https://www.admcapital.com/adm-capital-launches-first-impact-fund/.

ADM Capital, 2024. Asia Climate-Smart Landscape Fund. Financing Sustainable Agriculture and Land Use in Indonesia. Internal Deck. Q2 2024.

ASN Impact Investors. 2021. Innovative fund using value chains to create social and environmental impact. Available at https://beleggingsfondsen.asnbank.nl/nieuws-1/innovative-fund-using-value-chains-to-create-social-and-environmental-impact-.html.

Benzaken D, Jean Paul Adam, Virdin J, Voyer M. 2024. From concept to practice: financing sustainable blue economy in Small Island Developing States, lessons learnt from the Seychelles experience. Marine Policy. 163:106072–106072. doi: https://doi.org/10.1016/j.marpol.2024.106072.

Bioeconomy in the Amazon: Conceptual, Regulatory and Institutional Analysis. CPI. https://www.climatepolicyinitiative.org/publication/bioeconomy-in-the-amazon-conceptual-regulatory-and-institutional-analysis/.

Collaborative Africa Budget Reform Initiative CABRI. Blue Bond: the Seychelles Experience. https://www.cabri-sbo.org/uploads/files/Documents/Session-3-Presentation-of-Dick-Labonte-Seychelles.pdf.

CBD - Seychelles - Country Profile. Convention on Biological Diversity. https://www.cbd.int/countries/profile?country=sc.

Chin M. 2021 Dec. What Are Global Public Goods? IMF. https://www.imf.org/en/Publications/fandd/issues/2021/12/Global-Public-Goods-Chin-basics.

Clarmondial. 2024. Food Securities Fund's first investment in Latin America, plus another successful renewal in a Least Developed Country. Available at https://www.clarmondial.com/fsf_latam_ldc_may2024/.

Environment UN. 2023 Mar 16. Intergovernmental Consultations on Nature-Based Solutions. UNEP - UN Environment Programme. https://www.unep.org/about-un-environment/intergovernmental-consultations-nbs.

GEF, 2024 – Living Amazon Mechanism Project Details, 2024. Available at https://www.thegef.org/projects-operations/projects/11327.

GGGI - Ecuador Debt-for-Nature Swap in the Galápagos Islands Launched. 2023 May 16.

GGGI - Global Green Growth Institute. https://gggi.org/ecuador-debt-for-nature-swap-in-the-galapagos-islands-launched/.

Global State of the Market Report 2023. 2024 May 2. Climate Bonds Initiative. https://www.climatebonds.net/resources/reports/global-state-market-report-2023.

Global relevance - Galápagos Conservation Trust. Galápagos Conservation Trust. https://galapagosconservation.org.uk/about-galapagos/global-relevance/.

Griscom BW, Adams J, Ellis PW, Houghton RA, Lomax G, Miteva DA, Schlesinger WH, Shoch D, Siikamäki JV, Smith P, et al. 2017. Natural climate solutions. Proceedings of the National Academy of Sciences. 114(44):11645–11650. doi: https://doi.org/10.1073/pnas.1710465114. https://www.pnas.org/doi/epdf/10.1073/pnas.1710465114.

IDB | Ecuador Completes World's Largest Debt-for-Nature Conversion with IDB and DFC Support. 2023. Inter-American Development Bank. [accessed 2024 May 1]. https://www.iadb.org/en/news/ecuador-completes-worlds-largest-debt-nature-conversion-idb-and-dfc-support#:~:text=To%20date%2C%20this%20is%20the.

IFLR. 2019 Feb 26. Behind the deal: Seychelles' landmark blue bond. IFLR. https://www.iflr.com/article/2a6385dkhc4aaq8bv4utc/behind-the-deal-seychelles-landmark-blue-bond.

Indonesia, 2022. Republic of Indonesia - Enhanced NDC Available at: https://unfccc.int/sites/default/files/NDC/2022-09/ENDC%20Indonesia.pdf.

IPBES. 2019 May 5. Media Release: Nature's Dangerous Decline "Unprecedented"; Species Extinction Rates "Accelerating" | IPBES. Ipbesnet. https://www.ipbes.net/news/Media-Release-Global-Assessment.

Jin Tong et al., 2021. Nature-Based Solutions to Water Crisis Practice in China: Eco-Friendly Water Management in Qiandao Lake, Zhejiang Province. Available at: https://www.npa.net.cn/cn/article/doi/10.12335/2096-8981.2021081201.

Karlsson L. 2018. SCALING UP AGROFORESTRY. Agroforestry Network. https://agroforestrynetwork.org.hemsida.eu/wp-content/uploads/2018/09/Scaling-up-agroforestry-Potential-Challenges-and-Barriers.pdf.

Koplow D, Steenblik R. 2022. Protecting Nature by Reforming Environmentally Harmful Subsidies: The Role of Business. [accessed 2022 Oct 29]. https://www.earthtrack.net/sites/default/files/documents/EHS_Reform_Background_Report_fin.pdf.

Pew - To Protect Galápagos Islands, Ecuador Turns to Innovative Financing. 2023 May 9. Pew. https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2023/05/to-protect-galapagos-islands-ecuador-turns-to-innovative-financing.

RSCF, 2020. Introduction to the Restoration Seed Capital Facility. Available at: https://restorationfacility.org/wp-content/uploads/2023/05/RSCF_Company_Presentation-1.pdf.

RSCF, 2023. Annual Report 2022. Available at: https://restorationfacility.org/wp-content/uploads/2023/10/rscf_annual_report_2022.pdf.

Starbucks, 2023. Starbucks Becomes First Coffee Retailer in China to Invest in Replacing Water Used in Stores. Available at: https://stories.starbucks.com/asia/stories/2023/china-water-replenishment/.

Soil Association. 2022. What are the benefits? | Agroforestry | Soil Association. Soilassociationorg. https://www.soilassociation.org/causes-campaigns/agroforestry/agroforestry-what-are-the-benefits/.

Tacconi, L., et. al. (2019). Reducing emissions from land use change in Indonesia: An overview. Forest Policy and Economics, 108, 102048. Available at: https://doi.org/10.1016/j.forpol.2019.101979.

The Commonwealth. 2020 Nov 28. Case Study: Innovative Financing – Debt for Conservation Swap, Seychelles' Conservation and Climate Adaptation Trust and the Blue Bonds Plan, Seychelles (on-going). Commonwealth. https://thecommonwealth.org/case-study/case-study-innovative-financing-debt-conservation-swap-seychelles-conservation-and.

The Lab, 2021 – Amazônia Sustainable Supply Chains Mechanism, 2021. Available at https://www.climatefinancelab.org/ideas/amazonia-sustainable-supply-chains-mechanism/.

The Nature Conservancy. 2018 Mar 16. Seychelles Achieves 30% Marine Conservation Commitment. https://www.nature.org/en-us/about-us/where-we-work/africa/stories-in-africa/seychelles-conservation-commitment-comes-to-life/.

TNC, 2018. Water Fund: TNCs source watershed protections in Zhejiang. Available at: https://rksi.adb.org/wp-content/uploads/2020/10/danning-li-water-fund-tncs-source-watershed-protections-zhejiang.pdf.

TNC, 2024. Water Fund Toolbox. Available at: https://waterfundstoolbox.org/.

UNEP, 2020. Unlocking Investments in Forest Landscape Restoration. Available at: https://restorationfacility.org/wp-content/uploads/2023/02/RSCF_Background_analysis.pdf.

UNEP, 2023. State of Finance for Nature. Available at: https://financefornature.unep.org/.

United Nations Environment Programme (2021). State of Finance for Nature 2021. Nairobi.

United Nations Environment Programme (2022). *Nature-based Solutions: Opportunities and Challenges for Scaling Up*. Nairobi.

US Gov. DFC - Public Information Summary - ADM Capital Asia Climate-Smart Landscape Fund LP. Available at: https://www.dfc.gov/sites/default/files/media/documents/9000104718_0.pdf.

Valor Econômico, 2024 - Press release, 2024. Available at https://valor.globo.com/empresas/esg/noticia/2024/01/29/naturavert-e-funbio-lancam-fundo-de-r-12-milhoes-para-financiar-agroextrativismo-familiar-na-amazonia.ghtml.

World Bank. 2019. Seychelles: Introducing the World's First Sovereign Blue Bond. https://thedocs.worldbank.org/en/doc/242151559930961454-0340022019/original/CasestudyBlueBondSeychellesfinal6.7.2019.pdf.

Annex

Methodology

Under Brazil's G20 presidency, the Institute for Climate and Society (ICS) is supporting the Brazilian Ministry of Finance on initiatives of the G20 Sustainable Finance Working Group (SFWG). Climate Policy Initiative (CPI), as a partner of ICS, has conducted an assessment on blended finance structures for Nature-base Solutions (NbS) that can leverage non-concessional capital and have the potential to be replicated in G20 countries.[7] The process and methodology used in the development of this report are detailed below.

Selection Criteria

This report presents 12 cases across the **NbS priority sectors of** (i) conservation, (ii) restoration, (iii) bioeconomy, (iv) agroforestry, and (v) oceans and water.[8] We selected these cases using the following steps:

1. Mapping the blended finance solutions available in the market, using both internal knowledge of instruments developed through the CPI-led Global Innovation Lab for Climate Finance and additional desktop research. The solutions were classified according to the characteristics outlined in section 2.1.
2. The list was circulated to SFWG members and key partners (Concito, Convergence, OECD, Institute of Finance and Sustainability, Nature Finance, FSD Africa) for additional inputs to guarantee inclusivity in considering all possible relevant cases and diversity between regions. Access to information can be challenging and working with partners sought to mitigate the risk of omitting any highly relevant solution.
3. After completing the initial mapping, the 12 cases were selected by CPI and key partners and validated by the Presidency and the SFWG co-chairs, according to the criteria below (in order of priority):

7 For this report, blended finance is considered as the strategic use of development finance for the mobilization of additional private finance for sustainable development.

8 Where instruments target more than one of the described sectors, the overarching sector was determined in relation to the investment thesis and the vehicle's core mandate.

- **Geographical Diversity**: Solutions should show diversity between regions, provided that:
  - At least six solutions present the deployment of blended finance investments in ODA-eligible countries.[9]
  - Within each of the five selected NBS sectors, no more than two solutions focus on the same continent, and the solutions for each sector will ideally target different regions.
- **Stage of development**: Solutions in the scale-up phase (when the instrument is deployed at near or full capacity) are prioritized since implementation is key to appropriately answering the report's guiding questions detailed below.
- **Innovation of solutions and diversity of approach**: Case selection takes into consideration the financial structure and innovative aspects of the vehicle, with innovation classified as how well a solution addresses climate finance barriers or a market failure in a new or more efficient way than existing solutions. Selection also took a portfolio approach with the objective of creating a combination of ideas that includes different types of vehicles and solutions.[10]

Qualifying Information Accounted During Case Mapping Exercise

The list of cases was **organized** by CPI for further selection of up to three cases for each of the below sectors:

i. **Conservation**: Activities related to the "protection, preservation and management…of natural environments and the ecological communities that inhabit them".[11]

ii. **Restoration**: activities related to "assisting in the recovery of ecosystems that have been degraded or destroyed".[12]

iii. **Bioeconomy**: Activities related to the collection, use, processing and commercialization of non-timber products originating from forest resources. This encompasses the extraction of fruits, seeds, resins, and fibers, and activities that use these products in a sustainable way.[13]

iv. **Agroforestry**: Activities where woody perennials (trees, shrubs, palms, etc.) and agricultural practices (e.g., crop plantation and animal pastures) share land.[14]

v. **Oceans and water**: Activities related to the blue economy described as "sustainable use and conservation of aquatic resources in both marine and freshwater environments, including oceans and seas, coastlines and banks, lakes, rivers and groundwater".[15]

9 https://web-archive.oecd.org/2019-04-05/470775-DAC_List_ODA_Recipients2018to2020_flows_En.pdf
10 Diversity of approaches will be a criterion of selection within each sector, however the overarching goal of in the selection process is to choose cases that are relevant and replicable among the region, providing additionality of information. A specific quantitative breakdown between the different types of instruments will not be provided at this time to avoid being excessively prescriptive and restrict selection of cases.
11 https://www.nrcs.US$a.gov/sites/default/files/2022-09/English Whats CONSERVATION Mean_4.pdf
12 https://www.hutton.ac.uk/sites/default/files/files/research/MERLIN_D.2.2_Restoration_vs_NbS.pdf
13 IFACC
14 https://www.fao.org/forestry/agroforestry/80338/en/
15 https://www.uneca.org/eastern-africa/blue-economy

The cases were also classified by **Instrument Type**, as presented below:

i. **Alternative Assets**: including structures such as private debt and private equity, real estate and venture capital funds.

ii. **Asset Finance**: including structures where assets within the consumer or organization's balance sheet are used to procure loans. Includes asset-based financing and consumer-based financing.

iii. **Credit Enhancement**: including guarantees and insurance products.

iv. **Fixed Income**: including bonds and notes.

v. **Platforms**: Including project and investor matching platforms.

vi. **Results-based financing**: Including structures where the contractual conditions of repayment vary depending on the achievement of certain climate-related goals. Includes structures such as payment of ecosystem services and impact-linked bond or debt. Can include swaps dependent funding conditions.

vii. **Servitization**: Business models where industries sell a certain outcome as a service rather than a one-off sale of their product.

viii. **Structured Products**: Including securitization (pooling of assets that are repackaged into interest-bearing securities), derivatives and nature swaps more broadly.

Other considerations included the barriers to investment and risks that the blended finance structures sought to mitigate, as well as the stage of development (classed as development, pilot, and scale-up). We also considered the availability of information on each instrument in our case selection.

Report Analysis

Once the 12 case studies had been selected using the criteria approved by the SFWG, the CPI team conducted additional desktop research and interviews with involved parties to develop the report. We sought to further understand each instrument's priority sectors, vehicle(s) for blended finance, and the challenges targeted. In order to evaluate each case, we explored its innovative aspects, catalytic potential, actionability, financial sustainability, and mobilization potential. To help bridge information gaps we interviewed representatives of the following organizations:

- ADM Capital
- AGRI3 Fund
- Blue Forest
- Clarmondial
- Former Minister of the Environment, Water and Ecological Transition of Ecuador
- Inter-American Development Bank
- Moringa Fund
- The Nature Conservancy
- Natura&Co
- Oceans Finance Company
- Pegasus Capital Advisors
- Restoration Seed Capital Facility, UNEP
- RISCO
- United Nations Office of the Special Adviser on Africa / Former Minister of Finance, Trade and the Blue Economy and Minister of Health of Seychelles
- Vert Capital/Violet

Table 1. Examples of Initiatives to Support Valuing Nature

Name	Type	Summary
Taskforce on Nature-Related Financial Disclosures - LEAP[16]	Disclosure Framework	A set of recommendations to guide organizations to identify, assess, manage, and disclose their material nature-related issues.
Natural Capital Protocol[17]	Disclosure Framework	A decision-making framework that enables organizations to identify, measure and value their direct and indirect impacts and dependencies on natural capital.
IFRS S1& S2[18]	Reporting Requirements	International reporting standards that prescribe how companies prepare and report their sustainability- and climate-related financial disclosures. Although nature is not yet explicitly mentioned, there are plans to do so in the future.[19]
European Sustainability Reporting Standards[20]	Reporting Requirements	EU reporting standards that require the disclosure of nature-related impacts on and risks for biodiversity and ecosystems for sectors particularly reliant on natural resources.
Business Responsibility and Sustainability Reporting by Listed Entities[21]	Reporting Requirements	Indian reporting standards that require listed entities to report their efforts to protect and restore the environment, including water and waste impacts.
Kunming-Montreal Global Biodiversity Framework[22]	International Treaty	An international treaty aimed at addressing the global biodiversity crisis that includes language on integrating the value of nature into national accounting practices across all levels of government and sectors.
Natural Capital Accounting[23]	Innovative Finance Mechanism	A tool to measure the changes in the stock and condition of natural capital and to integrate the flow and value of ecosystem services into accounting and reporting systems.
Nature Equity[24]	Innovative Finance Mechanism	An innovative accounting unit that links biophysical nature preservation or enhancement to financial payment which offers land stewards outcome-based rewards.

16 https://tnfd.global/wp-content/uploads/2023/11/TNFD-in-a-Box-Module-4_-The-LEAP-Approach.pdf
17 https://capitalscoalition.org/wp-content/uploads/2021/01/NCC_Protocol.pdf
18 https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s1-general-requirements/ and https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s2-climate-related-disclosures/
19 https://www.ifrs.org/news-and-events/news/2024/04/issb-commence-research-projects-risks-opportunities-nature-human-capital/
20 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464
21 https://www.sebi.gov.in/sebi_data/commondocs/may-2021/Business%20responsibility%20and%20sustainability%20reporting%20by%20listed%20entitiesAnnexure1_p.PDF
22 https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf
23 https://environment.ec.europa.eu/topics/nature-and-biodiversity/natural-capital-accounting_en#:~:text=Natural%20capital%20accounting%20is%20a,systems%20in%20a%20standard%20way
24 https://25771685.fs1.hubspotusercontent-eu1.net/hubfs/25771685/Resources/NatureEquityConsultationPaper_WebVersion.pdf

climatepolicyinitiative.org