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nature investment lab

Entrepreneurship in NbS: The Journey of Five Businesses from Capital to Impact

Advisory Program on Financing Structuring

Task Force 2: Innovative Pilot Transactions

October 2025

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Nature Investment Lab (NIL)

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Introduction

In 2022, as part of the commitments outlined in its Nationally Determined Contribution (NDC), Brazil pledged, among other goals, to restore at least 12 million hectares of degraded land by 2030, to promote the development of value-added agro-industries through the use of socio-environmental assets, and to recover or convert up to 40 million hectares of low-productivity pastures.

One of the crucial paths to achieving these goals lies in recognizing that **businesses designed to operate under a Nature-based Solutions (NbS)** logic are practical examples of their feasibility. However, these objectives can only be met if the **financial ecosystem deepens its understanding** and significantly increases its investment appetite for nature-based enterprises.

It is estimated that NbS could generate between 1 million and 2.5 million jobs in Brazil by 2030, in addition to accounting for around 20% of the global potential carbon credit supply — with 14% linked to sustainable agricultural management, 21% to reforestation activities, and 63% to conservation practices. **Bridging the gap between this enormous market potential and the current shortage of directed capital requires specialized initiatives.**

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The Nature Investment Lab's Contribution to the Challenge

The **Nature Investment Lab** (NIL) is a collaborative initiative specifically designed to bridge this gap by fostering collaboration, innovation, and the development of viable projects that integrate financial investments and Nature-based Solutions (NbS). With a clear objective to support NbS businesses in their journey to access capital, the NIL established the **Advisory Program for Financing Structuring**, providing strategic guidance and facilitating direct connections with investors and financiers.

Through an open public call, **86 businesses** in the areas of **Restoration, Bioeconomy, and Regenerative Agriculture** applied to participate in the selection process for the Advisory. From these, five finalists were rigorously selected to form the pool of projects supported by the NIL: **Caaporã, Camocim, INOCAS, Radix, and S.Oleum.**

COMPANIES SELECTED WITHIN THE NIL'S SCOPE OF ACTION		
Native vegetation restoration	**Bioeconomy**	**Regenerative agriculture**
Restoration on private or public lands.	Biotechnology, sociobioeconomy, sustainable management of native vegetation.	Agroforestry systems, organic and agroecological production, restoration of degraded pastures, bioindustry and bio-inputs, biofuels
radix investimentos, INOCAS, Caaporã agrosilvopastoril	Camocim, S.Oleum, INOCAS	radix investimentos, INOCAS, Caaporã agrosilvopastoril, Camocim, S.Oleum

Over a period of five months, these businesses were accompanied by a dedicated Advisory team that delved deeply into the capital access journey previously undertaken by the entrepreneurs. The work focused on exploring the specific financing challenges faced by NbS businesses and the innovative solutions developed to overcome them.

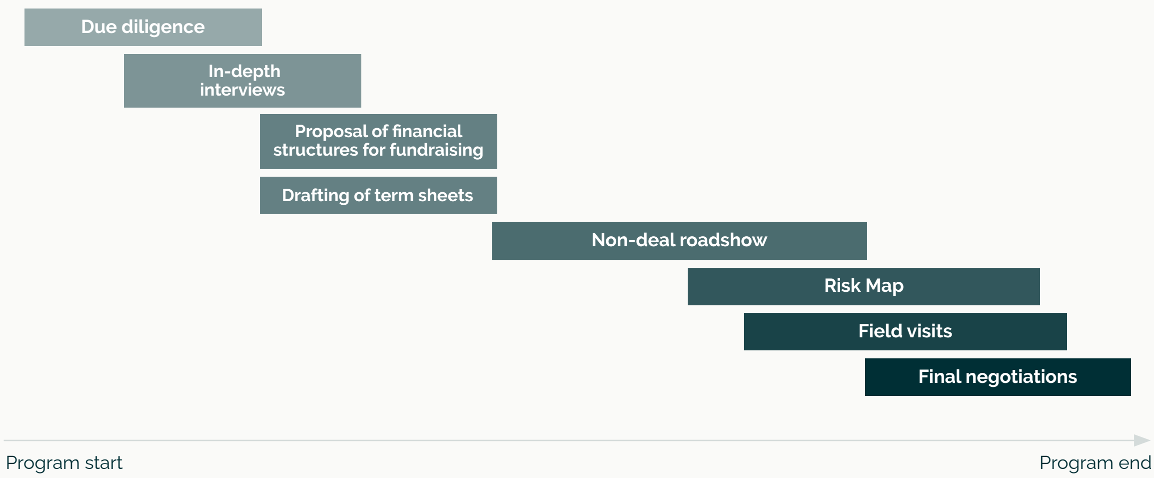
This document presents the executive summary of the **five investment blueprints** prepared at the conclusion of this Advisory phase. Each blueprint is a comprehensive document that consolidates key information on the business model, sector of activity, fundraising objectives, impact potential, and, above all, the specific financing challenges faced, the solutions proposed by the NIL, as well as the Risk Map and the main lessons for the ecosystem.

By showcasing these innovative business profiles and their practical, results-driven solutions, this publication ultimately highlights the key lessons that these NbS ventures offer to the impact entrepreneurship ecosystem — and, more importantly, to the financial system interested in enabling the transition toward a regenerative economy.

Advisory Working Methodology

With the central objective of positioning entrepreneurs more effectively within their fundraising journey, the NIL proposed a set of structured steps to support the selected businesses[1]:

Figure 1: Timeline of Activities and Methodology of the NIL Advisory Program



Source: *authors (2025)*

Due diligence: phase dedicated to an in-depth analysis of the companies through documentation, including, for example, cash flow analysis, balance sheets, proof of land ownership, and legal documents.

In-depth interviews: rounds of semi-structured interviews with each entrepreneur to gain a comprehensive understanding of the business model and current fundraising strategies, as well as sessions to clarify questions raised during the due diligence.

Proposal of financial structures for fundraising: a proposal jointly developed by NIL and the entrepreneur, focused on innovative financing solutions that will serve as the foundation for future investor rounds.

[1] NIL operated under a confidentiality agreement with the participating entrepreneurs.

Drafting of term sheets: preparation of a concise (one-page) presentation document for each business model, designed to introduce the company, demonstrate its financial soundness, outline its fundraising strategy, detail resource allocation commitments, and present a preliminary risk map.

Non-deal roadshow: a series of meetings with potential investors and financiers to present the businesses, establish strategic connections, and enable the proposed financial arrangements. This stage was essential to capture the investors' and financiers' perception of risks for each business model.

Development of risk maps: structured and systematized compilation of information to enrich the business risk analysis and strengthen key investigation points during on-site visits.

Field visits: rounds of visits to the operations of the five businesses, aiming to deepen the risk map and engage with strategic partners (local governments, employees, partner producers, buyers, etc.) to assess the level of mobilization of the entrepreneurs.

Final negotiations: remodeling and adjustment of the financial arrangements based on the updated assessment of potentials and risks. In this phase, conversations with investors and financiers who showed the greatest openness during the non-deal roadshow were intensified, focusing on the final proposition of feasible agreements with the entrepreneurs.

The Advisory Program was also dedicated to the **strategic and financial restructuring** of the five selected businesses, proposing new perspectives on the potential value of these companies from an investor's standpoint. Throughout this mentoring process, the work yielded positive results for the entrepreneurs and brought important learnings to the NbS ecosystem.

Image: Reproduction (NIL)

Results for the Entrepreneurs

As a result of the joint efforts of the Advisory team, entrepreneurs, financiers, investors, philanthropic actors, and others, the program generated positive outcomes for all businesses. All companies made progress in their fundraising journeys during the Advisory period.

Table 1: Summary of Results Across the Five Businesses Supported by the NIL

BUSINESS	CENTRAL CHALLENGE	RESULTS
Radix	Expansion of financing capacity for reforestation, from 363 ha to 2,000 ha by 2030, through funding for the Legacy Project. Implementation of the first phase with 2,000 ha restored using productive forests composed of at least 20 native species.	• Innovative financial modeling to unlock capital from subsidized financing lines. The solution combines blended mechanisms involving philanthropic capital and carbon off-take contracts to address the lack of traditional guarantees. The approach was developed in collaboration with strategic stakeholders.
Camocim	Expansion of regenerative coffee production capacity, aiming to restore degraded lands in Domingos Martins (ES) and convert traditional coffee production into regenerative coffee (produced within forest systems). Lack of knowledge of innovative financial mechanisms and limited connection with the impact investment ecosystem.	• Innovative financing model leveraging development bank funding and philanthropic capital, combined with flexible debt instruments (CRA or crowdfunding platform). The proposal is grounded in concrete articulation with development banks, philanthropic institutions, and potential financiers. • Operational guidance to improve corporate governance, enhancing the company's bankability.
Caaporã	Difficulty in accessing financing lines, despite having real guarantees available. Because Caaporã operates under long-term lease agreements, it faces chronic challenges in obtaining rural credit for working capital (OPEX) needed for cattle purchases and other inputs essential to its business model.	• Concrete negotiations with major financial institutions for credit lines, strengthened by participation in the Eco Invest program. • Support in negotiations with equity investors, reflecting updated company valuation figures. • Coordination with financiers to facilitate the use of cattle as a formal guarantee.
S.Oleum	Consolidating the implementation of S.Oleum RDS (the laboratory) to enable the regenerative production of high-yield macaúba seeds, combining positive environmental impact, territorial valorization, and access to international markets for oil, bioproducts, and carbon credits.	• Joint proposal with strategic actors for a community-based business model to facilitate fundraising. This new model addresses a local municipal need where S.Oleum RDS operates, expanding income generation for small landowners while reducing operational and implementation costs. • Strategic redesign for a growth plan aimed at repositioning within the macaúba value chain, with greater focus on seed and seedling development. • Increased investment opportunities via equity, given the company's previous lack of visibility among impact investors prior to the program.

CONTINUED ↓

BUSINESS	CENTRAL CHALLENGE	RESULTS
INOCAS	Expansion of the production base in the Pará hub, structuring of an industrial plant for macaúba processing, improvement of carbon MRV systems, and rebalancing of the capital structure considering the consolidation of the holding company in Pará. The company faces fundraising challenges due to the revenue gap until the first macaúba harvests — a period perceived by financiers as high risk.	• In the redesigned model, the company will focus more strongly on seedling development and planting. • Opening of new opportunities for accessing development capital, with concrete alternatives through funding lines such as FINEP and the ANP's R&D Clause (PD&I) (e.g., Sigitec).

Source: authors (2025)

These advances were further strengthened by the insights gained from investors' and financiers' perceptions of opportunity and risk within each business model. The feedback gathered from these perceptions represented a major learning experience for the entrepreneurs, who often receive no follow-up after fundraising rounds. This structured feedback was crucial in reshaping strategies, accelerating the realization of opportunities for both the entrepreneurs and the strategic actors involved.

Deliverables for the Ecosystem

The learnings from each business model's ecosystem are detailed in the blueprints that accompany this executive summary. These documents present valuable insights, including risk factors relevant to other entrepreneurs following similar paths. They are equally useful for investors and financiers seeking a deeper understanding of the real potential of different Nature-based Solutions (NbS) production models—such as macaúba, intensive and silvopastoral livestock, reforestation, and regenerative coffee. Finally, they also serve as a guide for new entrepreneurs looking to explore NbS opportunities.

As outlined in the methodology, the Advisory produced two key tools: a Risk Map, which highlights essential conditions to be assessed by entrepreneurs and investors, and the corresponding mitigation actions being implemented by the businesses.

Based on the insights gained from the ecosystem, it became evident that an Investment Readiness Map should also be developed to illustrate the key milestones for capital access. This tool, presented in the following section, serves as a practical learning exercise for entrepreneurs to better understand how to prepare for future fundraising stages. The Investment Readiness Map is discussed in this executive summary and will lay the groundwork for future discussions.

Image: Reproduction (NIL)

The Nature-Based Solutions Financing Ecosystem: Milestones for Capital Access

The central challenge for impact-driven businesses—particularly those based on Nature-Based Solutions (NbS) and regenerative bioeconomy models—does not lie in the scarcity of available capital, but rather in accessing funding sources. The real barrier identified is obtaining the right type of capital, at the right time, and with a financial structure compatible with the company's stage of maturity.

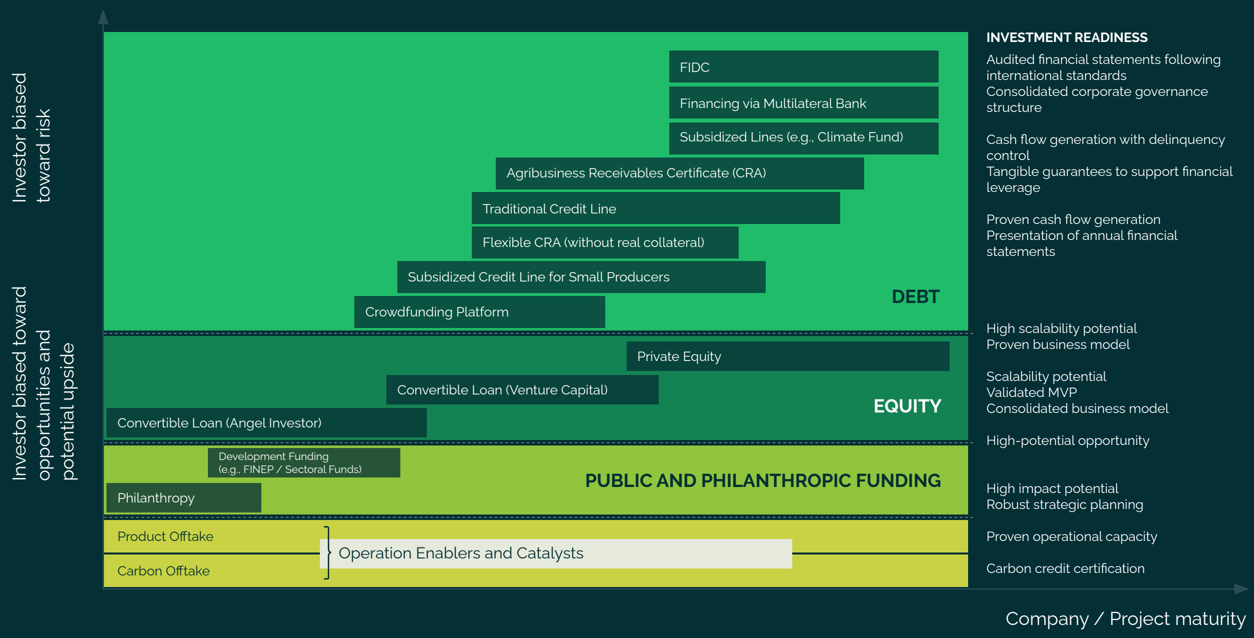
This process is defined by the level of **investment readiness**, which measures a company's ability to attract investors in a credible and transparent manner. In emerging economies such as Brazil, the gap between financing needs and the strict requirements of financial and capital markets creates a misalignment that can only be bridged through the progressive development of organizational, legal, and financial maturity.

Figure 2 summarizes the main financial instruments suitable for each stage of maturity, illustrating possible pathways to be followed along the financing journey of innovative NbS businesses. It is possible to note that, **as the business matures, both the level of sophistication of the financial instrument and the requirements for access to capital increase**. It is important to emphasize that this illustrative proposal is not linear or rigid, but represents, for didactic purposes, the adequacy of the instrument to the maturity of the company.

In general terms, it can be said that the logic of capital assessment is inverted along this ladder: in the early stages, the financier is trained to look at the business opportunity and the positive impact, which are associated with technological risk and model validation. The risk assessments at this stage seek to mitigate potential undesired exposures for the investor. On the other hand, as the business advances to more mature phases and to instruments of greater sophistication, the investor is trained to see the risks, and the requirements increase.

Image: Reproduction (NIL)

Figure 2: Milestones for Access to Capital and Investment Readiness Requirements



Source: authors (2025)

Image: Reproduction (NIL)

Table 2: Financial instruments and capital access requirements

STAGE	TYPE OF CAPITAL	MAIN READINESS REQUIREMENTS	COMMON BOTTLENECKS
Product and Carbon Off-take Contracts	Pre-securitization and enablers of financing operations (offered with guarantee)	Can support ventures at different stages but have high certification costs. Formalized contracts, delivery schedule, base price, adjustment mechanisms, guaranteed account.	Weak, non-bankable contracts; lack of penalty clauses; absence of escrow accounts.
Philanthropy	Strategic donations	Clear value proposition; technically verifiable thesis; basic documentation.	Lack of financial sustainability plan.
Development Funding (FINEP, subsidized resources)	Non-reimbursable capital	Technical project, physical-financial schedule, fiscal compliance.	Low financial discipline and delays in deliverables.
Angel Investor	Early-stage equity	Validated business model, first clients, simple corporate structure.	Lack of shareholder agreements and disorganized equity dilution.
Venture Capital	Growth equity	Proven scalability, operational indicators, initial governance.	Growth without financial structure; high burn rate.
Private Equity	Institutional equity	Positive EBITDA, mature governance, auditable reports, active board.	Corporate governance gaps, lack of fiduciary structure, weak documentation.
Convertible Loan	Potential equity	Organized cap table, defensible projections, formalized key contracts.	Legal uncertainty in contracts and amateur valuation practices.
Crowdfunding	Public validation capital	Clear narrative, social demand, basic transparency.	Lack of financial and governance structure.
Subsidized Credit	Rural credit or public programs	Legal documentation, fiscal compliance, capital use plan.	Informal accounting, absence of financial management.
Flexible CRA	Capital markets with future receivables	Off-take contracts, receivable registration, fiscal compliance.	Lack of formal contracts and performance indicators.
Traditional Bank Credit	Commercial debt	Audited financial statements, projected cash flow, real guarantees, and corporate segregation.	Lack of formal financial history and corporate governance.
Structured CRA	Institutional market/professional investors	Audited statements, structured contracts, verified ESG indicators.	Compliance failures and absence of standardized impact data.
Subsidized Financing (e.g., Climate Fund)	Blended finance, long-term credit	Financial plan, measurable impact, climate risk mitigation.	Lack of auditable impact metrics.
Multilateral Bank Financing (IDB, IFC, CAF, KfW)	Sophisticated / development debt	Auditing and compliance.	Governance failures, hidden liabilities, lack of real guarantees.
Structured FIDC	Receivables securitization	Receivables control, invoices, delinquency rate <5%.	Financial informality.

Source: authors (2025)

Early Stage: Thesis Validation and Seed Funding

The early stages of the financing journey are characterized by **high uncertainty and low institutional structure**. Initial capital is predominantly **non-reimbursable**, coming from philanthropy, donations, or grants, with a focus on reducing technological risk and demonstrating the technical feasibility of the thesis. The natural evolution toward seed **funding** (via FINEP, BNDES, and sectoral funds, for example) requires the business to move from a technical pilot to a validated business model, proving that the solution is replicable at a pilot scale. At this stage, the readiness requirement is **minimal formalization** (active legal entity, defined production scope, and basic governance), marking the transition from a technical project to an emerging business organization.

Intermediate Stage: Market Traction and Financial Discipline

The intermediate stage marks the transition to risk capital and early debt. **Angel investors** and **venture capital (VC)** require the business to demonstrate **market traction** (real clients, paid contracts) and begin translating impact into **economic metrics**. Readiness at this stage includes transparent governance, clear unit economics, and, in the case of VC, organized monthly accounting and five-year financial planning. In parallel, **subsidized credit** (such as Pronaf and ABC+, for example) represents the first contact with repayable financing, requiring a minimum capacity for financial management and fiscal compliance—a filter that exposes informal accounting and lack of financial discipline. Failure to establish this financial discipline prevents advancement to structured capital.

Advanced Stage: Bankability and Cash Flow Securitization

Business readiness consolidates through access to **traditional bank credit** and securitization mechanisms, such as **flexible CRAs (with less rigid guarantees, like endorsements from rural producers)** and **structured FIDCs**. Traditional credit requires corporate governance, audited financial statements, and real guarantees. Meanwhile, CRAs and FIDCs finance the business based on the quality of cash flow and solid contracts. At this stage, investment readiness becomes a precondition for transactions, requiring: accounting records of receivables, fiscal compliance, and, in the case of NbS, the integration of ESG indicators to mitigate contractual risk. In these stages, lack of formalization and disorganized accounting make fundraising unfeasible.

Image: Pedro Janot (Unsplash)

Institutional Stage: Global Standards and Long-Term Capital

The top of the journey — which includes access to subsidized financing lines such as the **Climate Fund**, and to **multilateral and development banks** (such as IFC and IDB) — requires the **highest level of institutional readiness**. Multilateral banks assess a company's ability to operate in compliance with international risk and sustainability standards (IFC Performance Standards), demanding institutional governance, audited financial statements (IFRS), and mitigation of legal, social, and land-related risks. At this stage, capital does not finance promises but rather operations with controlled risk and a scalable transformation thesis — reinforcing that readiness is not only about preparing for fundraising, but also for scale and long-term market presence. This phase may also include the possibility of an Initial Public Offering (IPO), when a private company sells its shares to the public for the first time. However, few NbS businesses are mature enough to fit into this category.

Considerations on the Climate Fund, a Key Instrument in the NbS Ecosystem

We highlight considerations regarding the Climate Fund, as it is one of the most sought-after instruments by nearly all NbS entrepreneurs we engaged with. Its offer of significantly reduced capital costs and long repayment terms makes it a highly attractive solution. Many NbS models are structured with a cost of capital dependent on the Climate Fund. However, given the complexity of gaining access to it, we consider it essential to outline the key points required for eligibility.

Access to Climate Fund resources is a decisive step toward institutional impact capital. Although the fund was created specifically to support businesses and initiatives with positive environmental impact — such as NbS ventures — **it can only allocate capital to enterprises that demonstrate a high level of investment readiness.** Unlike rural credit or flexible CRAs, the Climate Fund's goal is not merely to finance but to unlock entire sectors, prioritizing models that generate positive environmental externalities and have a validated productive transition. Innovative NbS businesses, even after years of operation, often struggle to access this form of capital.

The central challenge is that **the Climate Fund evaluates not only impact but also bankability**. This translates into the requirement for sophisticated elements such as measurable and auditable climate impact baselines and projections, the creation of a risk mitigation structure to attract private co-investors (such as subordinated capital), and strong financial governance with recurring management reports to eliminate information asymmetry. Capital becomes accessible only when there is proven execution capacity, solid guarantees, corporate governance, and a scalable transformation thesis. The absence of these institutional requirements — particularly the inability to translate operational impact into a measurable and auditable financial risk — prevents otherwise operationally strong companies from advancing to this stage of the financing ladder.

Cross-Cutting Instruments Along the Financing Journey: Off-Take Contracts

Off-take contracts for **products (bioactives)** and **carbon** represent a crucial milestone in the financing journey, as the business transitions from being financed solely based on assets to being **bankable based on verifiable future cash flows**. These instruments reduce market risk, increase revenue predictability, and create the necessary bridge between operations and the financial market. Moreover, off-take contracts are fundamental to unlocking guarantees with financial institutions.

In terms of investment readiness, an off-take is a precondition for bankability: without a structured contract, a project is unlikely to progress toward sophisticated debt mechanisms such as FIDCs, structured CRAs, project finance, or the Climate Fund. Off-takes can also serve to unlock guarantees required by financiers. Structuring them requires **formalized contracts,** delivery schedules, base pricing, adjustment mechanisms, and ideally, an escrow account. Contract fragility, lack of penalty mechanisms, or absence of escrow arrangements are common bottlenecks that prevent revenue securitization and limit the enterprise's ability to anticipate capital to finance operational expansion.


Image: Maros Misove, Nathalia Segato (Unsplash)

The Businesses Supported by the Advisory Program

The five businesses supported by the NIL during the Advisory Program, although at different stages in their fundraising journeys, face challenges common to the broader Nature-based Solutions (NbS) innovation ecosystem. This section presents an overview of each of these enterprises, detailing their innovative business models, fundraising objectives, and—most importantly—the key gaps identified by the NIL that hinder their access to competitive capital and their progression up the financing ladder[2].

Radix

Radix develops productive restoration systems, transforming degraded lands into positive-impact assets through Agroforestry Systems (SAFs) and mixed silviculture. Its planting model is biodiverse and successional, combining native and exotic species to regenerate the soil while ensuring sustainable economic returns. Operating in Iracema (Roraima) across five properties, Radix leverages the region's high annual sunlight and seeks to offer a profitable and regenerative alternative to the ongoing pressure of Amazon deforestation. Its revenue streams are diversified, including timber and non-timber products, as well as long-term carbon credits (ARR).

Future Objectives and Impact Ambition

Radix is undergoing a strategic transition from the pilot stage to institutional scale-up, aiming to establish itself as a leading developer of forest assets in the Amazon. The Legacy Project, launched in 2025, serves as the cornerstone of this expansion, focusing on land acquisition, the recovery of degraded pastures, and the remediation of environmental liabilities.

Its impact ambition is significant: by 2050, the company aims to restore 50,000 hectares and sequester 24 million tCO_2. Phase 1 of the project covers 2,000 hectares of productive restoration and 2,000 hectares of Legal Reserves, while the 2030 goals include managing 4,000 hectares of restored or preserved land and integrating more than 50 families—generating both local socioeconomic and environmental impact.

[2] More detailed information about each business can be found in the individual blueprints for Caaporã, Camocim, INOCAS, Radix, and S.Oleum.

Financing Objectives

The financing journey of the Legacy Project is structured under a blended finance model, with a total estimated volume of R$90 million aimed at enabling the implementation and expansion of the project, including the planting and restoration of 2,000 hectares in its initial phase. Equity investment from institutional investors, estimated at R$20 million, is essential to unlock access to long-term debt financing. In the medium and long term, the main funding source for the remaining R$70 million required to consolidate the business expansion is the Fundo Clima (BNDES), which offers grace periods of up to eight years and total repayment terms of 20 to 25 years.

Challenges in Accessing Financing

Radix faces significant structural challenges in securing large-scale, long-term capital due to the financial system's perception of the restoration sector as high-risk. The main obstacle lies in the temporal mismatch, as timber revenues begin only after roughly 20 years—requiring patient capital. This perception is reinforced by the absence of a consolidated sector track record and by some investors' aversion to projects with ambitious, long-term goals. Although 80% of Radix's guarantees are backed by forest and real estate assets, the environmental asset value is not yet fully recognized as collateral by traditional financial institutions. Access to subsidized credit remains limited, and the cost of capital is high, with equity investors demanding returns between 20% and 25% per year, making long-term financing particularly challenging.

Camocim

Camocim is located in Domingos Martins (Espírito Santo), operating in the mountainous region of Pedra Azul at an altitude of 1,200 meters, where the microclimate favors the production of specialty coffees. Its business model is innovative, betting on regenerative agriculture to combine the production of specialty, organic, and biodynamic coffees with biodiversity conservation. Across its farms, over 450,000 coffee trees are cultivated on 70 hectares managed under agroforestry systems (SAFs), where coffee grows beneath the shade of native trees. While Jacu Bird Coffee—its most renowned and high-margin product—accounts for less than 2% of revenue, the group generates most of its income through other brands targeting markets willing to pay premium prices for sustainability. Camocim holds several major certifications, including the Regenerative Organic Certified®.

Future Objectives and Impact Ambition

The CaféBio Project is Camocim's strategic pillar to scale its impact and expand the regenerative model. The project aims to provide technical and commercial support to over 100 smallholder coffee producers—covering more than 1,000 hectares—to facilitate their transition to regenerative agroforestry systems. This strategy enables expansion without the need to acquire new land, which is essential given the rising land values in the Pedra Azul region. Camocim will apply its technical expertise to these partner farms and market their production under its own brand. The intended impact of CaféBio includes increasing revenue per hectare by at least 50%, improving quality of life, reducing rural-to-urban migration, lowering the carbon footprint, and preserving water resources through the elimination of agrochemicals.

Financing Objectives

Camocim's financing journey follows a hybrid (blended finance) strategy, combining different sources of capital to mitigate risks and reduce the high current debt cost (20% p.a.). In Phase 1 (2025–2026), the goal is to raise R$8 million, with R$5 million in philanthropic capital for technical assistance and R$3 million via BANDES for the implementation of agroforestry systems. In Phase 2 (2026–2029), the target is to raise R$12 million to overcome the cash flow gap, using instruments such as Green CRA and ESG crowdlending. Finally, in Phase 3 (from 2030 onward), the focus will be on corporate consolidation and access to structured funds, such as Green Real Estate Equity/FII, FIDC, and the creation of the CaféBio SPE.

Challenges in Accessing Financing

Camocim faces structural and financial challenges that limit access to long-term credit under favorable conditions. The operation, currently distributed among three corporate entities (CNPJs), requires a corporate restructuring to achieve greater efficiency and transparency. Integrating operational assets—currently held under the partner's name—into the company's balance sheet will also be an important step toward professionalizing management. The NIL recommended the creation of a family holding company and the incorporation of productive assets.

Image: Benjamin DeYoung (Unsplash)

Caaporã

Caaporã has implemented an innovative business model focused on the development of responsible livestock farming and the production of low-carbon animal protein through the recovery of vast areas of degraded pastures using Crop-Livestock-Forestry Integration (ILPF) or Livestock-Forestry Integration (IPF) systems. The model is based on long-term lease contracts (10 to 12 years), which provide significantly lower operational costs compared to land acquisition, allowing investment in the radical and comprehensive transformation of soils through the use of precision technologies to optimize livestock density.

In addition to sustainable cattle ranching, the model incorporates forestry, planting native timber species to generate medium- and long-term revenue and enable carbon sequestration. Currently, the company manages approximately 17,826 hectares across six farms, with strategic expansion plans focused on northern Tocantins (Amazon-Cerrado biome) due to its high growth potential and proximity to meatpacking hubs.

Future Objectives and Impact Ambition

Caaporã has set an ambitious vision for the future, focused on accelerating operations to reach 50,000 hectares under regenerative management and 40,000 head of cattle by 2030. The company aims to demonstrate the superiority of ILPF and IPF systems in terms of productivity indicators and socio-environmental benefits. The Caaporã model shows high efficiency, achieving an Average Daily Gain (ADG) of 600 grams, reducing the full cattle cycle to just 24 months—half the conventional time. This results in a sixfold increase in productivity per hectare, rising from 3.7 to 22.5 arrobas per hectare per year. The sustainable intensification promoted by the company projects a 55% reduction in CO_2-equivalent emissions intensity per kilogram of carcass, considering soil carbon sequestration, and aims to include small producers in its value chain.

Funding Objectives

Caaporã has structured its fundraising strategy into two temporal phases. For the short and medium term (2025–2027), the goal is to raise R$40 million. This amount will be used to expand financing and implement ILPF/IPF systems, with an immediate focus on working capital (OPEX) for cattle acquisition and to accelerate revenue generation on farms that already have established infrastructure. In the long term (from 2028 onward), the objective is to raise R$100 million. This phase will finance the scaling of production across an additional 25,000 hectares, expansion into new biomes, and the monetization of verified carbon credits. The planned financial instruments include CRA (Agribusiness

Receivables Certificates) and FIDCs, backed by environmental assets and long-term carbon off-take contracts.

Challenges in Accessing Financing

Caaporã's main structural challenge in accessing capital is the absence of traditional guarantees, such as land ownership, since the company operates under long-term lease contracts. This limitation makes it impossible to obtain rural credit and creates a chronic issue in raising working capital (OPEX)—essential for cattle acquisition and occupation of restored areas. The difficulty extends to proposing alternative guarantees, such as livestock or high-liquidity assets. The use of cattle as collateral faces low receptivity and lack of familiarity among bank managers who, due to limited understanding of innovative models (ILPF/IPF), tend to avoid taking such risks. Additionally, there is resistance within the banking ecosystem to creative financial instruments, even when they involve high-liquidity philanthropic assets such as CDBs.

S.Oleum

S.Oleum operates in the sustainable raw materials sector, producing inputs with a negative carbon intensity through large-scale regenerative agroforestry systems in the macaúba value chain. Its business model integrates agroforestry production with bioindustrial clusters based on circular economy principles. The company's main differentiator lies in the S.Oleum RDS (Research, Development & Seedlings), established in 2006, which focuses on the domestication and genetic improvement of macaúba using cutting-edge science and technology. Strategically located in João Pinheiro, in the northwest of Minas Gerais, S.Oleum benefits from a region characterized by vast degraded pastures, where macaúba demonstrates strong adaptability and high productivity.

Future Objectives and Impact Ambition

S.Oleum's expansion goals focus on consolidating the S.Oleum RDS, strengthening the regenerative production of high-yield macaúba seeds to serve both domestic and international markets. Investments will be directed toward the expansion of nurseries, agricultural automation, and the implementation of an industrial plant for vegetable oil extraction and refining, in addition to the production of cellulosic ethanol, biochar, and bio-oil. The socio-environmental impact is significant: the project aims to restore degraded areas and integrate 1,000 farming families across up to 45,000 hectares, in partnership with the municipality of João Pinheiro (MG). This approach will halve implementation costs and expand local income generation. The financial model projects revenues exceeding R$1.1 billion by 2059, positioning the company as a reference in regenerative bioeconomy.

Financing Objectives

S.Oleum's capital mobilization plan aims to raise up to R$90 million by 2027 to support its growth and consolidate the regenerative agroindustrial model. In the short term, the goal is to raise between R$40 million and R$60 million to refinance debt, maintain essential operations, and ensure solvency during the grace period. In the medium term (2026–2027), the company seeks R$30 million to R$40 million to establish seed nurseries, agroindustrial infrastructure, and cluster logistics, in synergy with Petrobras' R&D&I program. In the long term (from 2028 onward), S.Oleum intends to raise between R$400 million and R$500 million to expand production areas, acquire land, and monetize its intellectual property internationally.

Challenges in Accessing Financing

S.Oleum's challenges in accessing capital are closely linked to systemic factors within the macaúba market, which is still in an early stage of development, and to the low familiarity and limited expertise of investors and financiers in understanding the potential and business model of this long-cycle crop. Despite accumulating 17 years of R&D in genetic improvement, the company has historically had limited engagement with impact and climate investors—an ecosystem that remains largely untapped within its fundraising strategy. The absence of revenue until 2028 and the long maturation period of macaúba demand innovative financial mechanisms and patient capital, as the project's advancement cannot rely solely on traditional market logic.

INOCAS

INOCAS has been a pioneer in the macaúba value chain since 2011, operating with a verticalized business model that integrates research and development, seed germination, production, and commercialization of oils, by-products, and carbon credits. The company provides a sustainable alternative to soybean and palm oils, cultivating macaúba in agrosilvopastoral (SAF) and ILPF systems, and working on the restoration of degraded pastures. To generate early cash flow, INOCAS employs intercropping with short-cycle crops such as cassava, corn, and beans up to the fourth year, since the macaúba palm only begins significant fruit production from the fifth year onward.

Future Objectives and Impact Ambition

INOCAS's Amazon Hub, located in Tracuateua (PA), is the core of the company's expansion strategy, with a goal of reaching 20,000 hectares under management by 2030. The consolidation of this growth includes the construction of an oil extraction plant and a quality laboratory, both scheduled to be inaugurated in 2028, coinciding with the start of commercial production. The company's model leverages macaúba in ILPF systems to restore degraded pastures, regenerate soil, and improve carbon balance, achieving an average carbon sequestration of 11 tCO_2/ha/year. The social impact is equally significant: the project creates formal jobs and integrates family farmers, positioning INOCAS as the largest formal employer in Tracuateua.

Financing Objectives

INOCAS's main strategic challenge is to structure a hybrid financing platform that combines patient capital, green debt, and blended finance mechanisms. This capital is essential to cover the grace period between 2025 and 2030, when cash flow will remain negative due to high upfront investments. Equity plays a central, long-term role, funding the implementation of agroforestry systems, supporting the macaúba maturation cycle, and serving as a foundation for leveraging new financial instruments. In the short and medium term, the company seeks off-take agreements for products and advance sales of carbon credits to generate revenue and mitigate risks. The carbon credits (VCUs), formally registered with Verra, may also be used as collateral for financing.

Challenges in Accessing Financing

The main obstacle for INOCAS in accessing large-scale, long-term financing lies in structural barriers and market perception of the macaúba business model. The high perceived risk stems from the lack of an established track record for the macaúba crop, which requires patient capital due to its economic maturity only beginning after the fifth year. Additionally, there is a lack of structured guarantees, as the macaúba biological asset is not yet recognized as acceptable collateral by financial institutions. As a result, the company relies on reputational guarantees to attract investors. Another challenge is the absence of long-term carbon off-take contracts, which limits both securitization capacity and access to financing for expansion.

Image: Roger Bueno (Flickr)

Bridging the Financing Gaps: Solutions Proposed by the NIL Advisory

With the goal of addressing the investment readiness gaps identified across the five businesses, the NIL Advisory focused on providing practical and strategic inputs to help each enterprise move closer to its financing objectives. The effort went beyond diagnostics, emphasizing **strategic and financial restructuring**, including the design of **innovative financial instruments tailored to each case**. These solutions were conceived to enable capital mobilization while simultaneously reducing perceived risks among investors and financial institutions — aligning the operational strength of Nature-based Solutions (NbS) businesses with the compliance and transparency requirements of the financial system.

Recommendation of Innovative Financial Instruments

This section objectively consolidates the concrete barriers that limit access to competitive capital for the businesses supported by the Advisory program — such as the absence of traditional guarantees and the high-risk perception among financiers, largely due to the long time required for financial returns within their business models.

The following table provides an overview of the funding challenges faced by each enterprise and the innovative financial instruments designed and proposed by the NIL, demonstrating the alignment between financial innovation, structural needs, and risk mitigation within the market.

Image: Vicente Ramos (Unsplash)

Table 3: Funding Challenges of the Businesses and the Financing Mechanisms Proposed by NIL

BUSINESS	FUNDING OBJECTIVE (R$)	CHALLENGES IN ACCESSING CAPITAL	FINANCING STRUCTURE PROPOSED BY NIL
Radix	**Short/medium term:** R$20 million **Long term:** R$70 million	Difficulty accessing the Fundo Clima due to the absence of guarantees and challenges in attracting investors, given the long payback period of the business model and the high-risk perception among financiers.	A blended financing structure combining equity, debt (via Fundo Clima), and a hybrid mechanism to unlock the required guarantees. The blended mechanism includes philanthropic capital, a surety bond, and carbon off-take contracts.
Camocim	**Short/medium term:** R$15 million **Long term:** R$50 million	Camocim is launching a new project, CaféBio, focused on regenerative and community-based coffee production. The company previously lacked knowledge of innovative financial mechanisms for early stages and had limited connection with the impact investment ecosystem.	Design of a blended finance mechanism combining development capital (Reflorestar Program/BANDES), philanthropic capital (for technical assistance), subsidized financing (Funcafé), a debt mechanism (Green CRA), and a crowdlending platform.
Caaporã	**Short/medium term:** R$40 million **Long term:** R$100 million	Difficulty accessing working capital to finance operations due to the absence of guarantees accepted by lenders, even when holding highly liquid assets (cattle) or real guarantees (surety bonds backed by philanthropic resources). Already in its financial performance phase, the main challenge lies in reducing financiers' risk perception.	Access to credit lines through guarantee mechanisms, using cattle stock as collateral. Access to traditional, lower-cost financing lines (with reduced reliance on hard collateral). During the advisory period, Caaporã advanced in negotiating financing lines requiring fewer guarantees — a sign of progress in financiers' risk perception — and also engaged in equity negotiation rounds supported by the NIL team.
S.Oleum	**Short term:** R$40–60 million **Medium term:** R$30–40 million **Long term:** R$400–500 million	Limited knowledge of innovative financial mechanisms, low connection with the impact investment ecosystem, and difficulty attracting investors due to the long payback period of the business model and the high-risk perception among financiers. S.Oleum demonstrates strong scientific expertise in macaúba domestication — the sector's main bottleneck — which represents a key pillar of the company's attractiveness.	Focus on equity fundraising and stronger engagement with impact investors. Operational focus on seed production (genetic control and cloning) and seedlings through S.Oleum RDS. Progress in designing a new operational model for community-based production expansion, generating income for small producers who currently rely mainly on dairy farming. This model can redefine the local economy while reducing macaúba production costs. During the advisory period, S.Oleum also advanced in negotiations with international multilateral banks.

CONTINUED ↓

BUSINESS	FUNDING OBJECTIVE (R$)	CHALLENGES IN ACCESSING CAPITAL	FINANCING STRUCTURE PROPOSED BY NIL
INOCAS	N/A[3]	Difficulty raising capital due to the long payback period of the business model and financiers' high-risk perception. INOCAS demonstrates strong mastery of macaúba cultivation and planting conditions, which remains a central pillar of its attractiveness.	Financing structure combining equity investment in INOCAS Amazônia with off-take agreements for carbon (VCUs) or products. Product off-take contracts aim at premium pricing for project integrity (insetting). Progress in securing development capital through funding agencies (e.g., FINEP and ANP PD&I investment clause).

3 INOCAS is currently revising its fundraising plan; therefore, the values are not available for disclosure at this time.

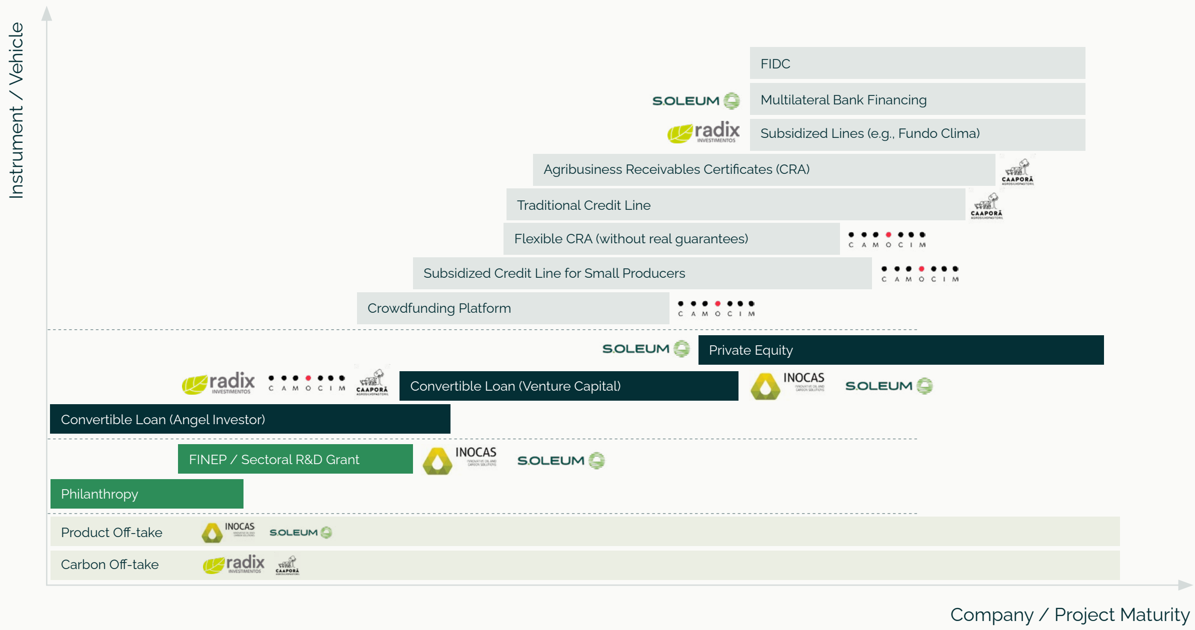
Source: authors (2025)

Image: Macaúba (Source: AdobeStock)

Positioning of the Companies in Their Current Fundraising Pathways

The proposed financial structures, combined with strategic recommendations and new initiatives developed by the entrepreneurs themselves, have positioned each company on a renewed fundraising trajectory. It is important to note that the success of the NIL's progress results from the joint effort between the entrepreneurs and other strategic partners.

Figure 3: Fundraising Pathways of the Companies After the NIL Advisory Program



Source: *authors (2025)*

Image: 2-year-old plantation (Radix)

Risk Map

The Risk Map is a strategic tool developed by the NIL Advisory with the goal of establishing a robust methodology to measure the risk exposure of Nature-based Solutions (NbS) businesses. This methodology evaluates each operation's risk according to the severity of its potential impact and the likelihood of its occurrence, across five key dimensions: Ecological and Territorial Risks, Socioeconomic Risks, Economic and Market Risks, Operational and Management Risks, and Financial Risks. The graphical representation of this data in a comparative map (Figure 2) provides a clear overview of each enterprise's risk exposure, serving as an essential instrument for NbS businesses to advance in their maturity and bankability journey.

More than simply identifying vulnerabilities, the great value of the risk map lies in defining mitigation mechanisms for each mapped risk. By demonstrating the enterprises' deep understanding of their exposure and their formal commitment to mitigating these risks, the mapping process provides greater security to investors and supports more accurate asset pricing. This transparency and proactivity are fundamental for institutional capital, as they transform latent risks into manageable scenarios. Active risk management thus becomes a strategic component that enhances credibility and confidence in innovative NbS ventures, facilitating decision-making by financiers and investors.

Image: Coffee production (Source: Camocim)

Figure 3: Consolidated Overview of the Risks Mapped Across the Five Businesses

Source: *authors (2025)*

The risk maps developed for each business — as well as the methodology applied and the definition of each mitigation component for the identified risks — can be accessed in the individual blueprints of Radix, Camocim, Caaporã, S.Oleum, and INOCAS.

Image: Letícia Fracalossi (Unsplash)

Conclusions

The NIL's journey alongside the five businesses generated key insights into the barriers that still prevent Nature-based Solutions (NbS) from being more widely recognized and celebrated for their resilience and contribution to national strategies for climate change mitigation and adaptation.

Entrepreneurs working with NbS face deep structural challenges in the sectors and territories where they operate — challenges from which they also create innovative solutions. However, these same entrepreneurs frequently encounter almost insurmountable barriers in accessing the capital needed to implement such solutions.

This occurs mainly because the lenses through which their business models are assessed often fail to distinguish between what are temporary gaps within the business model itself (which can be resolved in the short term) and what are structural challenges that require long-term collective action and alliances between the financial ecosystem and the NbS ecosystem.

Among the key lessons learned, we highlight aspects that deserve special attention:

Capacity building in guarantee mechanisms and blended finance

The combination of philanthropic capital with debt instruments has proven to be a strategic arrangement to unlock financial resources for NbS businesses. However, this practice remains largely underexplored — primarily due to the prevailing mindset of financial institutions and investors, who are more accustomed to operating within traditional frameworks of risk and investment analysis. There is significant value in developing more actors capable of thinking across multiple mandates — bridging philanthropic institutions, multilateral banks, corporate groups, and asset managers — through a deeper understanding of the specific profiles and business models of Nature-based Solutions.

The importance of feedback for entrepreneurs

In any fundraising journey, investor feedback is essential for entrepreneurs to understand the reasons behind an unsuccessful attempt, allowing them to restructure their fundraising strategy — or even their project itself. One issue identified by the NIL Advisory was that, in many cases, entrepreneurs receive no feedback at all. Greater transparency regarding investors' and financiers' perception of risk could help entrepreneurs adjust their course more effectively and accelerate the overall development of the NbS sector.

The importance of a project preparation facility

Each business follows its own maturity curve, shaped by factors such as the specific segment and region in which it operates, the entrepreneur's vision, and the technical capacity of the team, among others. However, it is possible to observe a common journey that all NbS businesses undergo — one that moves from reliance on philanthropic or own capital at the base to access to institutional capital at the top.

To accelerate and strengthen this journey — referred to as investment readiness — the creation of a project preparation facility would be a strategic contribution. Such a facility would equip entrepreneurs with the skills needed in key areas such as governance levels, identification of guarantees, compliance, risk management, and professionalization of management, among others. This would significantly enhance both the quality and the scale of NbS development.

A coalition by business model

There is a natural — though not always obvious — intersection between different business models operating within the same sector, such as biofuels or agroforestry systems. Bringing clarity to the opportunities presented by each business model from a sectoral perspective, and identifying synergies that can generate positive impacts on key success metrics (e.g., implementation costs, productivity, income generation, among others), will benefit both the growth of individual businesses and the overall advancement of the NbS sector.

Carbon project certifications and standardization of off-take contracts

Ensuring the quality and credibility of carbon project certifications is a key factor in facilitating investment decision-making for NbS investors. Equally important is advancing the standardization of off-take contracts, in order to provide greater transparency for project developers regarding the main requirements that matter to buyers. In this regard, the analysis of public certification programs — such as Verra — can serve as a useful reference to guide the initial dialogue between buyers and developers. Programs like Pró-Floresta can also play an important role in advancing this discussion.

Risk mapping and pricing

Finally, it is important to highlight the need to continue investing in the education of both the financial and NbS ecosystems regarding the value of territorial risk mapping and the resulting development of a business Risk Map. This tool can provide valuable insights for asset and project valuation, as well as for strengthening dialogue with potential investors and partners.

It is a fundamental instrument for aligning the perspectives of different stakeholders — both by promoting a pragmatic convergence of investment analysis criteria for investors, and by demonstrating that the entrepreneur is prepared to identify, address, and mitigate risks effectively.

Additionally, the discussion around the risk map can be expanded through the introduction of new products within the Nature-based Solutions ecosystem, such as forest insurance. Insurance products have the potential to significantly reduce operational risks.

> **Nature is not a backdrop where life takes place.**
> **It is life itself, unfolding.**
> Ailton Krenak

Nature lies at the heart of our planet's health and prosperity. At the Nature Investment Lab, we believe that the solutions to global challenges such as climate change, biodiversity loss, and income generation reside in innovative responses that nurture and protect our natural ecosystems.

Nature-based Solutions are among the most promising and transformative paths to address these challenges. Each of the five businesses supported by the NIL has evolved throughout the Advisory Program and demonstrated how progress along this path is possible — offering lessons that now need to be shared and expanded across the broader financial and NbS ecosystems.

We must move forward together, enabling support, partnerships, systems, and innovative financial instruments — with the same courage and resilience as these entrepreneurs who have chosen to make nature their greatest ally in prosperity, in the development of our societies, and in the health of our planet.

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