Impact Investment for Biodiversity Conservation

Cases from Latin America and the Caribbean

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ACRONYMS AND ABBREVIATIONS

ACF	Althelia Climate Fund
AFD	France's development agency
AIDER	Peruvian nongovernmental and non-profit organization
ALIDE	Latin American Association of Development Finance Institutions
ASOF	Althelia Sustainable Ocean Fund
BIOFIN	Biodiversity Finance Initiative
CBI	Climate Bonds Initiative
CPIC	Coalition for Private Investment in Conservation
EIB	European Investment Bank
ESG	Environmental, social, and corporate governance
FIAES	Environmental Investment Fund of El Salvador
FIP	Forest Investment Program
FIRA	*Fideicomisos Instituidos en Relación con la Agricultura* or Trusts Established in Relation to Agriculture
FSC	Forest Stewardship Council
FUNBAM	Environmental Bank Foundation of Costa Rica
GEF	Global Environmental Facility
GHG	Greenhouse gas
IDBG	Inter-American Development Bank Group
INDC	Intended Nationally Determined Contribution
IVE	Intrinsic Value Exchange
KfW	German development bank
LAC	Latin America and the Caribbean
MIF	Multilateral Investment Fund
NCFA	Natural Capital Finance Alliance
NGO	Nongovernmental organization
REDD+	Reducing emissions from deforestation and forest degradation
SDG	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development Program
UNEP FI	UN Environment Program Finance Initiative
USDA	United States Department of Agriculture
WWF	World Wildlife Fund

ABSTRACT

More than 30 percent of the earth's available freshwater and almost 50 percent of the world's tropical forests are in Latin America and Caribbean (LAC), which possesses a vast array of terrestrial, freshwater, coastal, and marine ecosystems. Natural capital—a unique source of capital— refers to the terrestrial and marine ecosystem components, including biodiversity, that generate valuable goods and services, called ecosystem services, for humankind now and in the future. Supporting private actors that are sustainably leveraging natural capital, facilitating private investment in conservation and restoration projects, and fostering private innovation in sustainability solutions can partially address a shortfall in funding to protect nature's assets and biodiversity. This report characterizes and evaluates the performance of innovative finance approaches in LAC, including blended finance, green bonds, capital market solutions, habitat banks, direct equity and pooled funds, and accelerators. As countries seek to reach their commitments under the Convention on Biological Diversity, the Paris Climate Accord, and Sustainable Development Goals 14 and 15, innovative finance could become an essential complement to public finance while ensuring local livelihoods and more inclusive development.

EXECUTIVE SUMMARY

This report reviews six impact investment projects that are among the most innovative biodiversity conservation finance initiatives in Latin America and the Caribbean (LAC). The review is not intended to be exhaustive. Through novel financial and business strategies, these innovative endeavors have overcome challenges associated with financing a range of biodiversity conservation projects. Some, such as EcoEnterprises Fund and the Althelia Funds, have developed successful growth models for a collection of small conservation enterprises and provide proof of concepts that can be scaled and replicated. Others, like INOCAS' sustainable macauba plantation, the habitat bank in Meta, and the Intrinsic Value Exchange, are still in the development phase; however, they offer financial and business innovations that will transform many sectors by making biodiversity an intrinsic element of economic success. All of these initiatives have appealed to private investors despite challenging operating conditions. Private investors are essential to filling the global financing gap for conservation, which is estimated to be between US$350 billion to US$400 billion annually (Davis et al., 2016), and to stem the accelerated loss of biodiversity and natural capital.

The opportunities to mobilize investments in biodiversity presented by the Paris Agreement and the agenda of the Convention on Biological Diversity are mostly unrealized. However, the possibilities for biodiversity financing are vast in LAC, which is at once biodiversity-rich and experiencing dramatic nature loss and ecosystem degradation (UNEP, 2016). Because nature is profoundly linked to rural and coastal communities and critical economic sectors, such as agriculture and oceans, it offers opportunities for entrepreneurs and investors willing to embrace nature conservation as a business and development opportunity.

The six projects described in this report had to overcome multiple challenges:

- They all need to work with "the missing middle," which includes businesses not large enough for investors but not small enough for micro-financing.
- They depend on the growth strategies of small enterprises.
- Beyond regulatory and infrastructure challenges, they need to build partnerships with dispersed communities.
- They need to build growth strategies and generate financial returns while balancing multiple goals.
- They strive to preserve or restore nature while supporting livelihoods in local communities and strengthening capacity to adopt sustainable production practices.
- They function with weak or inexistent regulations.
- They depend on patient capital and strong partnerships with diverse actors since positive financial and conservation impact cannot be expected in the short run.

Other barriers include:

- Limited proof-of-concept or track record that would offer potential investors information about project returns and impact.
- No tested and standardized frameworks to monitor biodiversity impacts.

- Limited pool of professionals with relevant skills, such as investment managers with conservation knowledge and conservation experts with financial skills.

The strategies pursued by the impact investment initiatives reviewed for this report are novel and persuasive. The following are some of the common elements of these endeavors:

- They rely on concessional and blended financing during early development. Development banks, multilateral financial institutions, and philanthropic and mission-driven donors and investors provided support for strategic activities (e.g., training and capacity building) through guarantees, loans, or grants. These investors augmented investments available for innovative initiatives by reducing risk or accepting lower returns than private investors.
- During growth phases, they were able to attract a more diversified pool of investors, including private capital, thanks to the patient capital and anchor capital provided by the Inter-American Development Bank Group (IDBG) and other development banks. Anchor capital reassures private investors that a project or borrower is credible, as evidenced by EcoEnterprises Fund and the Althelia Climate Fund, and by green bonds. Anchor risk capital is becoming a standard tool even for the early development phases of projects, as shown for INOCAS, the habitat bank in Meta, the Althelia Ocean Fund, and the Intrinsic Value Exchange.
- Risk diversification is a central strategy for pooled impact investment funds EcoEnterprises Fund and the Althelia Climate Fund, particularly in structuring multiple heterogeneous projects by sector and geography for cash flow purposes. Agriculture, agroforestry, and ecotourism are common activities because of the value-added opportunities they provide. Althelia Climate Fund used ecosystem services and voluntary carbon markets for complementary revenue in more complex and higher-risk projects that included forest protection and restoration. Projects like INOCAS use product diversification to manage the long period of time required to thoroughly develop the new value chain for sustainable macauba trees (MIF, 2017).
- Venture financing is essential for impact investment, particularly pooled funds, because it is a core element of the growth strategies of the enterprises in the fund portfolios.
- Collaboration is critical. Partnerships need to be established with local stakeholders and nongovernmental organizations (NGOs) that have a strategic role in the conservation efforts, and investors, multilateral banks, research institutions, and government officials.
- Establishing proof-of-concept and a track record is the foundation of credibility and the ability to progressively attract a broader base of investors and more capital. The EcoEnterprises and Althelia Funds now have track records of positive financial and conservation impacts and of being cautious and capable fund managers. The success of INOCAS, the Intrinsic Value Exchange, and the Meta habitat bank will depend on their ability show proof-of-concept and develop a track record.
- They need to measure and report on their biodiversity and financial impacts to show the credibility needed to build trust with partners and current and future investors. The core of the business models for the habitat bank in Meta and the Intrinsic Value Exchange includes methodologies and accounting frameworks to measure the value of ecosystems and ecosystem services. As pioneers in the sector, EcoEnterprises Fund and the Althelia Funds

have developed metrics that they can monitor and evaluate, and report on. One of the most critical challenges for biodiversity impact is the lack of universal measuring and reporting systems, which are necessary to expand the private sector's role in innovative financing for conservation. Increased international work on taxonomies and reporting frameworks will help close this gap. Accounting is the most significant challenge for the Intrinsic Value Exchange because it needs an accounting system that integrates externalities and aligns with existing methodologies.

- Government policies and regulations enable impact investment. For example, the habitat bank in Meta could not have operated without the legal framework that includes the offset guidelines defined by Colombia's Biodiversity Loss Compensation Manual and the specific regulations for habitat banks. Similarly, the Intrinsic Value Exchange requires a legal and policy framework that enables the creation of natural asset companies. A robust policy framework is also essential for other projects to scale up the financial impact of and funding for projects. Althelia Climate Fund's Tambopata flagship project in Peru benefited from the strengthening of Peru's REDD+ framework and the associated growth of voluntary carbon markets. INOCAS's ability to increase the sales of macauba oil for biofuel production depends on government policies that favor this type of oil in Brazil. One example is the Brazilian Social Fuel Seal Program (Selo Combustíve Social), which aims to integrate smallholder farmers in biodiesel feedstock production (FAO, 2009).

None of the success described in these pages would have been possible without the ingenuity, entrepreneurship, and leadership skills of those heading these projects. Their resilience, tolerance for frustration, and perseverance to endure and tackle many challenges, and their keen eye in seizing emerging opportunities have proven to be a prerequisite for their survival and accomplishments. This is particularly true considering the lack of a large pool of professionals with the appropriate skills for these activities—investment managers with conservation knowledge and conservation experts with financial skills.

1 OVERVIEW AND OBJECTIVES

Although natural capital represents only 16 percent of the planet's land, Latin America and the Caribbean (LAC) holds 40 percent of the world's biological diversity and contains seven of the world's 25 biodiversity hotspots, six of the 17 megadiverse countries, 11 of the 14 terrestrial biomes, and the second-largest reef system worldwide (UNEP, 2016). More than 30 percent of the earth's available fresh water and almost 50 percent of the world's tropical forests are found in the region (UNEP, 2016). LAC possesses a vast array of terrestrial, freshwater, coastal, and marine ecosystems containing some of the most precious collections of birds, mammals, plants, amphibians, and landscapes on the planet. This natural capital generates significant life-supporting benefits for people, namely ecosystem services.

However, natural resources are under threat. A recent study by the World Wildlife Fund (WWF) showed that South and Central America has lost 89 percent of their populations of mammals, birds, fish, reptiles, and amphibians (WWF, 2018). Global Forest Watch data shows that four of the top 10 countries for tropical tree cover loss in 2017 were in LAC (Global Forest Watch; WRI, 2018). The Global Mangrove Alliance has calculated that mangrove deforestation rates are three to five times higher globally than rates for terrestrial forests (Friess et al. 2019). In our oceans, 90 percent of fish stocks are fully fished or overfished. All major marine environments are polluted with plastic (FAO, 2020). Chemical and air pollution continue to advance, with the World Health Organization (WHO) estimating that 90 percent of the world's population lives with toxic air (WHO, 2016.)

Furthermore, current negative trends in biodiversity and ecosystems will undermine progress toward 80 percent (35 of 44) of the assessed targets of the Sustainable Development Goals (SDGs), specifically those related to poverty, hunger, health, work, innovation, responsible consumption and production, water, cities, climate, oceans, land, and partnerships (IPBES, 2019). Thus, loss of biodiversity is not only an environmental issue but also a developmental, economic, security, social, and moral issue. Also, nature could provide up to one-third of the emission reductions the world needs between now and 2030 to keep global temperature rise to less than two degrees (Griscom et al., 2017).

But today, nature-based solutions such as reforestation and improved agricultural practices receive only 3 percent of public funding. McKinsey and Company estimated that US$200 billion to US$300 billion is needed each year to preserve and restore ecosystems, but that conservation projects receive just US$77 billion to US$87 billion, mostly from public and philanthropic sources (Credit Suisse et al. 2014). Although private companies are already helping to address this gap by sustainably leveraging natural capital, stronger incentives can encourage them to invest more in conservation and restoration projects, and to innovate in sustainability solutions. Private investment is critical to increase financing of biodiversity conservation and to stop the accelerated loss of biodiversity and nature in LAC.

Innovative financing can play a crucial role in meeting this goal. LAC has provided many opportunities to test mobilizing private resources for nature conservation through innovative financing mechanisms. Beyond traditional loans and technical assistance, the IDBG has decades of experience supporting innovative projects in the region and developing innovative financing mechanisms, from blended financing to de-risking instruments and anchor capital, to leveraging private investments in nature conservation.

The projects analyzed in this report arefirstsin the region. They include the first dedicated conservation pooled fund (EcoEnterprises Fund), the first sustainable ocean fund, the first sustainable macauba project, the first habitat bank, and the first new tradable investment class based on natural assets. These highly innovative financing projects are at the forefront of biodiversity conservation financing. Some have already developed successful models and proofs of concept and are ready to increase in scale and to be replicated. While some are still embryonic, these projects already offer promising solutions and lessons that are increasingly sought by investors to stem the accelerated loss of biodiversity and natural capital.

The following pages present the lessons learned from these projects to fill a void in general knowledge about biodiversity impact investment in LAC. The report assesses the models through which these projects take advantage of existing opportunities and tackle the many challenges faced when financing nature-based enterprises, thus highlighting the enabling conditions required to increase the scale of and replicate these projects.

The report is divided into four sections. The first provides an overall context for innovative financing in biodiversity conservation, including definitions and the methodology used. The second section presents lessons learned from comparing the two most successful pooled funds in LAC, the EcoEnterprises and Althelia Funds. The third section reviews direct investments such as INOCAS, the habitat bank in Meta, Colombia, and the Intrinsic Value Exchange (IVE). The final section provides conclusions and recommendations. The appendices provide a detailed description of EcoEnterprises Fund (Appendix 1) and a brief discussion of green bonds, including the *Fideicomisos Instituidos en Relación con la Agricultura* (FIRA, or Trusts Established in Relation to Agriculture) Agricultural Bond and the Jaguar Bond (Appendix 2).

2 INNOVATIVE FINANCING: CHALLENGES AND OPPORTUNITIES

The international community is increasingly aware of the need to mobilize private resources to close the annual financing gap of around US$2.5 trillion to meet the 2030 Sustainable Development Agenda and the Paris Agreement goals (De Schrevel, 2020). Countries and multilateral organizations seek to achieve scale and unlock further financing by mobilizing resources from non-traditional partners and/or through non-traditional financial channels.

The financial sector will play an essential role in the shift toward a more sustainable future. Investors are increasingly taking into account environmental, social, and corporate governance (ESG) factors to ensure positive financial returns. Often, investments that include these factors outperform those that ignore them. More than US$20 trillion, or a quarter of all professionally managed assets globally, follow ESG strategies (Prado Herrera, 2020). Similarly, over 2,500 signatories of the United Nations (UN)-supported Principles for Responsible Investment Initiative (including asset owners, investment managers, and service providers, who have close to US$90 trillion in assets under management) have adopted principles to integrate ESG standards into their portfolios (New Climate Economy, 2014). The initiative assumes that ESG issues impact the performance of investment portfolios and institutional investors must act in the best long-term interests of their beneficiaries. Similarly, the Principles for Responsible Banking, which includes 132 banks and is supported by the UN Environment Program Finance Initiative (UNEP FI, 2018), recognize that the needs and demands of their clients and stakeholders are shifting, and require that the impact of banks be aligned with regulatory ESG standards and international frameworks (for additional initiatives, see The Nature Conservancy and Environmental Finance, 2019).

There is also growing global recognition that diversity loss and ecosystem degradation hinder development and economic growth (UN, 2020). The Paris Agreement and the Convention on Biological Diversity have encouraged more robust engagement of the financial sector in sustainability overall. This has sparked renewed interest in natural climate solutions through forest protection, afforestation, and better soil management, acknowledging the role of forests as carbon reservoirs. Although a universally agreed upon compensation mechanism has yet to be defined, voluntary carbon markets and offsets appear to be a long-term source of additional funding.

Investments in climate change mitigation, sustainable food production, and other climate-smart agricultural activities have generally increased. Data from UNCTAD (2019) suggest that most governments' biodiversity-related expenditures are either increasing or stable. Although they remain at low levels, private investment is expanding rapidly. Overall, conservation finance is still only a small part of the broader sustainable investment market. The potential is enormous considering the gap between current annual investments in conservation (US$77 billion to US$87 billion) and the best estimates of the capital needed (US$300 billion to US$400 billion) to preserve healthy ecosystems on land and in the oceans (Huwyler, Käppeli, Serafimova, et al., 2014; OECD, 2020). While public finance continues to be an indispensable component of funding biodiversity conservation, the public sector does not have enough resources on its own. Stopping the accelerated loss of biodiversity requires innovative financing mechanisms to mobilize private resources.

Examples of initiatives to mobilize financing for biodiversity conservation include the Coalition for Private Investment in Conservation (CPIC) and the Natural Capital Finance Alliance

(NCFA). The CPIC, a global multi-stakeholder initiative formed of 28 investors, banks, project developers, and research institutions, focuses on enabling conditions that support a material increase in private, return-seeking investment in conservation. It develops blueprints to successfully deliver investable conservation projects, such as forest landscape restoration, sustainable agricultural intensification, sustainable coastal fisheries, coastal resilience, and watershed management. The NCFA is a collaboration between UNEP FI, Global Canopy, and financing organizations that aims to integrate natural capital considerations into financial decision-making. It develops guides to connect finance and natural capital to supplement the Natural Capital Protocol (The Nature Conservancy and Environmental Finance, 2019).

A survey of asset owners, asset managers, and financial intermediaries (including banks, investment advisors, consultancies, government agencies, and NGOs) found that private investors choose to invest in natural capital to reduce risk and boost portfolio resilience because they have seen it can be profitable (The Nature Conservancy and Environmental Finance, 2019). This survey also revealed that the interconnections between climate change and the rapid decline of natural resources are becoming well understood by the investment community. Although the bulk of investments are in the forest sector, interest is increasing in other nature-based investments, including sustainable agriculture, peatland, and the ocean. Green bonds are among the most popular sustainable investments because large, mainstream investors prefer larger investment vehicles. Increasingly, investors interested in natural capital are exploring other approaches, such as purchasing real assets in forest or agricultural land, private and listed equity, and mitigation offsets for water, biodiversity, and carbon emissions. Debt instruments, such as environmental performance loans and blended finance funds, are also becoming popular (The Nature Conservancy and Environmental Finance, 2019).

2.1 Opportunities and Challenges in LAC

LAC's extensive natural capital and the economic relevance of its resource-extractive industries offer considerable opportunities to mobilize private investments through innovative financing in biodiversity conservation.

Agriculture is critical to LAC's economy and its ability to achieve biodiversity conservation goals. Globally, demand for food and agricultural products is increasing alongside demographic growth. Since agriculture is a substantial source of emissions and other environmental impacts —biodiversity loss, deforestation, water pollution, and decreasing soil quality— adoption of sustainable practices is a priority. Sustainable agriculture that avoids deforestation and forest degradation reduces carbon emissions from forest-related activities (70 percent of the total carbon mitigation potential) and biodiversity loss (Guarnaschelli et al., 2018). A report by the Business and Sustainable Development Commission (2016) estimated that new agricultural systems could be worth US$2.3 trillion, with forest ecosystem services valued at US$365 billion by 2030. The Ecosystem Marketplace expects sustainable forestry and agriculture markets to be worth US$196 billion to US$240 billion in the next decade (Guarnaschelli et al., 2018).

The blue economy —sustainable use of ocean resources for economic development through, for example, fisheries and aquaculture, shipping, tourism, offshore energy, and biotechnology— is another important investment opportunity. The blue economy is estimated to

represent between US$3 trillion to US$6 trillion per year (Whisnant, Veerle. 2019). As more than a quarter of LAC's population and close to 100 percent of the Caribbean population live on the coast, the marine economy is essential to the region. Four percent of the global fishing and aquaculture workforce resides in LAC and generates around US$20 billion in gross domestic product (FAO, 2016). Peru and Chile are among the world's largest fish-producing countries, with Brazil and Mexico not far behind. Although we are just beginning to understand and measure the extent of human dependence on ocean biodiversity, its degradation is nearing a tipping point of no return . The upside is that our increasing knowledge provides opportunities to invest in long-term ocean conservation strategies and to make the industries associated with the blue economy sustainable (Althelia, 2019).

Mobilizing public and private financial resources for biodiversity conservation projects requires innovative financing. One of the most relevant barriers is the pervasiveness of challenges that small and medium-sized enterprises face in devising successful growth strategies and translating innovative ideas for conservation into investable projects. Such enterprises tend to operate in challenging regulatory contexts and face significant infrastructure challenges. To achieve positive financial and conservation impacts, they need to build partnerships in dispersed communities and balance competing goals (i.e., preserve or restore nature while offering livelihoods in local communities).

Additional barriers for biodiversity projects include subsidies for non-sustainable practices; a lack of financial products tailored to sustainable agricultural, forest, and coastal activities that have a longer time horizon to profitability; and the absence of policies that support the shift to more sustainable production practices and technologies. In the case of the Caribbean island countries challenges come due to their limited resources, high public debt, and fiscal constraints to introducing market-based mechanisms.

For marine conservation investments, assets are directly threatened by climate change, leading to high financing costs. In addition, there are at least two extra sets of challenges. First, ocean-based activities usually lack well-defined property rights, making their impact difficult to attribute to a given action. For example, an initiative to protect one marine area is likely to increase fish populations elsewhere. Second, except for fisheries, there is a general lack of governance structure nationally and internationally.

2.2 Defining Innovative Financing

Innovative financing means different things to different people. When the term "innovative financing" was first used in the development finance community, it often referred to efforts to mobilize non-official development aid resources. The IDBG defines innovative financing as a novel, more efficient way of sourcing and deploying development funds to amplify the impact of each dollar mobilized, for instance through mechanisms that pool non-traditional public and private finance (IDB, 2018). There are two subcategories of innovative financing: the first comes from innovative sources that help generate new financial flows from the private sector to complement existing streams for sustainable development; the second relates to innovative mechanisms that help maximize the efficiency, impact, and leverage of existing resources. The latter

does this by redistributing risk, increasing liquidity, and matching the duration of investments with project needs as presented by the Leading Group for Innovative Financing.[1]

It is essential to underscore that innovative financing is not financial innovation. Innovative financing encompasses a broad range of financial models, approaches, and assets that may already be established instruments. It includes bonds and notes, guarantees, loans, microfinance, social enterprise, impact investment, debt swaps, impact bonds, and carbon auctions as solutions to development challenges. Financial instruments for conservation financing face specific market failures and institutional barriers that remain insufficiently addressed by traditional financing tools, such as government aid and philanthropy (Guarnaschelli et al., 2014).

Borrowing from Guarnaschelli et al. (2014), the definition of the "innovative" aspect of innovative financing includes the introduction of new products, the extension of existing products to new markets, and the presence of new types of investors. Innovative financing mechanisms can adjust incentives to encourage private companies to invest in proven approaches to new markets (e.g., new customers and new segments) or novel approaches to established problems (e.g., new asset types). Innovative financing also attracts new participants to the market (e.g., commercially oriented investors) in a resource-constrained environment.

Innovative financing is a critical tool to bring new private sector capital to social and environmental projects. In helping finance development outcomes, innovative financing is a "bridge that enables the transition from grant-funding models to structures that support markets and promote long-term sustainability" (Guarnaschelli et al., 2014, p.25). This means it combines private sector approaches to achieve risk-adjusted returns with a philanthropic orientation, while producing positive environmental or social impact. Such is the case of impact investing funds that support small and medium enterprises that often struggle to access capital to achieve social and ecological goals.

For this report, we are interested in exploring innovative financing to attract private investment that seeks to expand into biodiversity conservation as a new market. This report focuses on a subset of the most promising green finance instruments—impact investment (Causevic, 2019).

Conservation finance refers to traditional investments with the goal to receive financial benefits while also preserving natural resources found in biodiversity and ecosystems. . Conservation finance shows that nature can pay for itself in certain circumstances. Pioneering investors in this emerging field offer financial solutions that combine real assets, such as tropical forests, mangroves, and other precious resources, with cash flow from operations in areas that include sustainable agriculture and agroforestry, ecotourism, and green infrastructure.

2.3 Methodology

Innovative financing in biodiversity conservation is not new in LAC. Several initiatives and transactions currently ongoing in the region combine technical assistance with loans and government subsidies and/or credits to support sustainable forestry, agriculture, livestock, and fisheries programs, as well as financial operations. Arrangements are between international development banks and national financial institutions, such as the IDBG, KfW (Germany's development bank),

[1] For more information see http://www.leadinggroup.org/rubrique20.html.

CAF (a development bank in LAC), and AFD (France's development agency). In many cases, government subsidies and public financial guarantees are part of the de-risking strategy used to access international financing to scale up investments in sustainable land and productive marine activities. This strategy is being developed in several countries in LAC that are moving from donations and grants to a blended finance approach.

International financing entities play a crucial role in boosting blended financing with national development banks to de-risk financing operations with small and medium producers. The Latin American Association of Development Finance Institutions (ALIDE), which groups roughly 80 public development banks in the region, is promoting sound ESG frameworks through its members. Some of the countries working on this type of transaction are Colombia, Costa Rica, Mexico, and Peru.

With transactions ranging between US$300 million and US$1 billion, green bonds have become popular instruments for sustainable investments, particularly from large mainstream investors, who prefer green bonds to impact investment projects. Most green bonds are devoted to energy and other infrastructure projects, but some suggest these instruments could be a solution for attracting large asset owners, such as pension funds, to conservation finance. However, there is a scale mismatch between the size of land and ocean conservation projects in LAC and the minimum size of a bond issuance. Large investors seek to fund large projects to avoid transaction costs, however land and ocean conservation opportunities on this scale can be challenging to find in LAC.

Land and, increasingly, ocean conservation initiatives in LAC generally involve government partners who can help assemble a portfolio of small projects into a more substantial issuance or who can develop regional, multi-country initiatives. Examples include the FIRA Green Bond and the Jaguar Bond, which are described in Appendix 2. There is also a new frontier for development finance institutions like the Global Environmental Facility (GEF) and the International Finance Corporation, which have launched conservation bonds. GEF's blue bond focuses on improving fisheries management and coastal conservation by including local fishing communities. To protect forests and prevent deforestation, the International Finance Corporation in collaboration with Conservation International and the mining company BHP developed a forest bond.

Multinational corporations lead another set of projects that target small and medium-sized enterprises as part of their supply chain to reverse biodiversity impacts. One example is The Livelihoods Fund for Family Farming, a mutual investment fund launched by Danone and Mars, and later joined by Veolia and Firmenich, to invest in more sustainable supply chains in agriculture. Another example is Nespresso's AAA Sustainable Quality™ Program, which reaches over 70,000 farmers across 12 organic coffee origins, including several Latin American countries. The program offers technical assistance to create positive impacts at farm and landscape levels.

Other innovative financing that focuses on providing accessible loans to small and growing businesses in sectors with a secure link to nature conservation include the Eco.business Fund, Root Capital, and other sustainable food production projects supported through credits from Rabobank. Eco.business Fund, established by KfW, Conservation International, and Finance in Motion, attracted over US$190 million, offering loans with favorable terms for sustainable agriculture, aquaculture, forestry, and tourism projects in LAC. One example is the fund's support for planting 250,000 coffee trees per year in agroforestry systems in El Salvador to allow shade that provides

bird habitat. The fund invests in businesses that are more risk-prone and thus would not be backed by conventional banks. Similarly, Root Capital, a non-profit social investment firm, provides loans and financial management training to small and growing agribusinesses in poor, environmentally vulnerable places in LAC, Africa, and Indonesia to help them access global markets through multinational off-takers, including Starbucks, General Mills, Pier Imports, and Whole Foods Market.

The projects discussed in more detail in this report represent a different subset of innovative financing from those listed above—impact investment. They were preselected based on four criteria:

1. They used innovative financing instruments that combine loans and equity with blended financing or anchor capital.
2. They succeeded in attracting private financial investors, either individuals directly or through asset managers.
3. They supported the growth of small and medium-sized enterprises.
4. They had significant potential to impact biodiversity.

The report excludes types of innovative financing that did not meet these criteria, thus it does not consider public innovative financing, voluntary carbon markets, payment for ecosystem services, or large corporation supply chains. While green bonds were initially considered for this report, the two cases that focus on biodiversity and natural capital are still too early stage to compare and contrast them with the impact investment projects examined in this report.

The cases selected for this study were also limited to projects supported by the IDBG because of the lack of publicly available information on innovative financing of biodiversity conservation in LAC. The report relies heavily on primary sources of information, such as interviews and financial statements from investment funds and project developers. It also relies on publicly available documents from development banks that have supported the projects in addition to the IDBG, including the GEF, Climate Investment Funds, and the European Investment Bank (EIB).

This study is not an academic exercise or a formal evaluation of the projects. It is an overview of five of the most innovative projects on conservation financing in LAC, and it is intended to fill a void in the literature on this topic. A more academic approach would have required either a more exhaustive set of impact investment projects to compare with a subset focusing on biodiversity or a broader pool of similar cases in other regions. . The confidentiality of certain aspects of the information, particularly that which involved private investments in the projects, inhibited our ability to explore instances where some of the projects failed and explain how these projects innovated to address those failures. Where data permitted, we referred to the approaches that project developers took to tackle some of these failures.

Since the number of projects reviewed here is relatively small, and some of the projects are in development and thus have only preliminary results, it is not possible to reach conclusions that can be applied generally. However, there are lessons learned in the cases where information was sufficient to discern similarities and variances like in the cases of EcoEnterprises and the Athelia Funds.

Finally, the report presents an optimistic bias. The concluding section includes observations about some patterns found across all cases. The goal of the detailed descriptions of the five impact investment cases was to generate new knowledge. We also hope to inspire investors and entrepreneurs, as well as development banks and governments, to harness these innovative financing approaches to stop and reverse the alarming trend of biodiversity loss in LAC.

IMPACT INVESTMENT

Impact investment is investment that actively seeks to have a tangible social or environmental impact and receive a financial return. One characteristic is that it offers favorable terms for debt or equity, or both, especially in the start-up stages of projects. The most common impact investment vehicles are hybrid, using equity instruments that may also write debt (Credit Suisse and McKinsey, 2016). Conservation impact investment increased 62 percent from US$5.1 billion in 2013 to US$8.2 billion in 2015 (Hamrick, 2016). Another characteristic is that it includes blended finance structures or anchor investments, generally from multilateral organizations or development banks in order to attract investors that require higher rates of return. Blending debt and/or equity with public or private grants, guarantees, or concessional loans helps reduce transaction costs and investor risk which tends to be high in nature conservation projects.

Increasing investor interest in new opportunities that offer both a market-rate financial return and a positive social and/or environmental impact has led to rapid growth in the global impact investing market. In the past couple of decades, this market has grown at double-digit rates, with the conservation investment market growing even faster. By 2018, a combined total of US$3.1 billion had been invested in 30 blended finance transactions for conservation projects. The majority has been in the US$50 million to US$250 million range, with a median of US$87.5 million (Convergence, 2019, quoted in The Nature Conservancy and Environmental Finance, 2019).

Some of the pioneering efforts for impact investing in LAC have come from multilateral development banksseeing this type of investment as a powerful tool in their private sector development work and their fight to reduce poverty. The IDBG, the Multilateral Investment Fund (MIF) has been involved in impact investing since 1996. By the end of 2015, the MIF was associated with over 50 funds investing in a wide range of sectors including agribusiness and clean and renewable energy (González, 2015). The IDBG's funding has been indispensable for the establishment and success of all the conservation impact investment projects reviewed in this report.

In 2018 the the Natural Capital Lab program was launched by the IDBG[2], which serves as a one-stop-shop to drive innovation in conservation, landscape, regenerative agriculture, biodiversity, and marine ecosystem financing. A lab for financial innovation seeks to bridge the gap between traditional environmental and financial actors from the public and private sectors to incubate, accelerate, and scale new solutions to pressing problems. Its activities include:

- deploying funding in the form of grants, loans, equity, risk capital, and guarantees to test new models in conservation finance, large and small;
- accelerating the deployment of new technologies;
- facilitating regulatory frameworks that enable innovation in natural capital; and

[2] For more details, see https://www.iadb.org/en/environment/natural-capital-lab.

- identifying entrepreneurs and projects, and supporting them with risk capital, existing investors, and international funding sources (e.g., the GEF and the IDBG), to scale until they are able to reach a capacity past the "valley of death".

Similar initiatives led by NGOs also promote impact investment through incubators and accelerators supported by public and philanthropic capital. The NGOs have played a catalytic role in improving the risk–return profiles of conservation projects, which has led to increasing private sector investment. Examples of initiatives that have linked public and private financing sources for conservation projects include WWF's Landscape Finance Lab, The Nature Conservancy's NatureVest and its Conservation Investment Accelerator, Conservation International Ventures, Rare's Meloy Fund, Aquaspark, the IDH andgreen.fund, and the Commonland Foundation (Clarmondial and WWF, 2018). WWF's Landscape Finance Lab is an incubator that helps investors and land managers find high-quality, de-risked, land-use projects. NatureVest seeks to source and use investment capital for conservation by engaging impact investors to source impact capital in practical, scalable ways. The Nature Conservancy's accelerator supports innovative conservation investment ideas with the potential to drive replicable conservation impact and generate sustained financial returns. Conservation International Ventures helps smalland medium-sized enterprises that contribute to healthy ecosystems and that benefit people and nature.

Impact investment is divided into two types: direct investments and pooled funds. According to a Credit Suisse survey, most private investors make apply to natural capital or other green investments directly (Credit Suisse and McKinsey, 2016). Either through equity or debt, investors fund a single or a set of conservation projects without any intermediary financial structure. This type of investment does not permit the participation of the broader investment market and faces higher risks. More than a third of investors invest through intermediaries, such as pooled funds that diversify risks by investing in a project pool. A similar percentage do so alongside public finance institutions and/or philanthropic funds as part of blended finance structures (Credit Suisse and McKinsey, 2016).

2.4 Pooled Funds

Pooled funds diversify risk by aggregating several projects and their cash flow into one financial vehicle. The following are characteristics of conservation market fund when established as a mainstream financial product:

- a closed-end US$100 million to US$200 million venture fund
- an average maturity of 10 years
- a return target of 10–15 percent of premiums paid
- investments in 10 to 20 projects in established conservation markets, such as sustainable agriculture, sustainable forestry, and ecotourism

Typically, a fund's original projects would be certified by the Forest Stewardship Council (FSC), Fairtrade, or another certification system and would generate financial returns from the sale of sustainably harvested timber and agroforestry products like cocoa or coffee. The fund may also

generate payments for ecosystem services in the voluntary and compliance markets (Credit Suisse and McKinsey, 2016).

In LAC, the two established pooled impact investment funds that have succeeded at investing in nature conservation projects are the EcoEnterprises Funds (I, II, and III) and the Althelia Funds[3] (the Climate Fund [ACF] and the Sustainable Ocean Fund [ASOF]). The following pages present the lessons learned by these funds. Appendix 1 presents a more detailed description of EcoEnterprises Fund.

2.4.1 EcoEnterprises Fund

EcoEnterprises Fund has three closed-end impact investment funds for natural capital. Focusing exclusively on LAC, these venture funds have mobilized over US$140 million in private and public investment in two decades. These funds have entered in established conservation markets, such as sustainable agriculture, agroforestry, and ecotourism.

EcoEnterprises is a pioneer in impact investing and has worked with innovative nature- and community-based businesses since 1998. The Fund identifies, nurtures, and finances businesses that conserve natural resource systems and biodiversity, mitigate climate risks, and create long-term sustainable income opportunities for workers, suppliers, and communities. EcoEnterprises launched its third fund under management in 2018, with managed assets over three times those of the second fund. The third fund builds on the unparalleled track record of the first two funds, which have financed 40 companies in 11 countries in LAC and achieved positive financial returns alongside transformative environmental and social impacts. EcoEnterprises Fund is owned by women and the investment team is managed by women.

The Fund generates financial returns from the sale of certified products and services in growing niche sectors, including organic agriculture, aquaculture, non-timber products, and ecotourism services. The most successful companies financed include:

- RUNA (Ecuador), the first company to sell tea beverages made from the leaves off guayusa, an Amazonian super-leaf that offers as much caffeine and more antioxidants than green tea.
- Sambazon (Brazil), a company that processes wild-harvested açaí and other superfruits grown in the Brazilian Amazon.
- Terrafertil (Peru), a pioneer purveyor of healthy beverages and snacks that offers a variety of dried tropical fruits (e.g., golden berries), private-label snacks and juices, and famous branded retail lines such as Nature's Heart and Essential Living.

The Fund's portfolio companies rely on other companies to restore and preserve biodiversity and collaborate with local communities. A critical component of the companies selected for the funds' portfolios is their focus on positive environmental and social impacts. By adopting sustainable production practices, monitoring systems and certified processes, the companies achieved conservation goals while making a profit. EcoEnterprises' reported that in the countries where the

[3] Now Mirova-Althelia after the merger of Althelia Ecosphere and Natixis Global Asset Management's affiliate Mirova.

two first funds operate, accumulative impact over two decades was conserving or sustainably managing over 6 million acres.

EcoEnterprises Fund III is a 10-year closed fund launched in 2018 that also exclusively focuses on LAC. This Fund builds on the successful track record and proven experience of the previously managed portfolios. EcoEnterprises now considers business opportunities in new niche areas that no other fund is currently able to offer. Besides carbon and biodiversity offsets, ecosystem services, and watershed management, the Fund explores investments in small- and medium-sized companies working along the value chains by linking producers and users of genetic resources in countries that have signed the Nagoya Protocol or have intentions of doing so (GEF, 2015).

> *"We act as a venture fund for nature that invests in and builds hands-on partnerships with companies that strengthen local communities, preserve biodiverse landscapes and promote the conservation of natural resources."*
>
> Tammy E. Newmark, President, EcoEnterprises Fund (Clarmondial and WWF, 2018, p.46).

2.4.2 Althelia (Mirova) Funds

The Althelia Funds, the ACF and the ASOF, are also pioneers of natural capital investment. They are managed and advised by Mirova Natural Capital Limited, an affiliate of one of Europe's leading managers of responsible investing, Mirova, which is part of Natixis Investment Managers (Althelia, 2019). Launched in 2013, the Luxembourg-based ACF is an eight-year, closed-end €101 million impact investment vehicle designed to finance scalable and replicable forest conservation projects in at-risk areas. The initial focus was on high-carbon and biodiversity-rich forests that were threatened by pressure from a growing population and the extraction of resources such as gold and agricultural products like palm oil. The Fund targeted competitive returns by producing, distributing, and selling certified soft commodities, such as FSC timber, deforestation-free cocoa and coffee. It also targeted environmental assets derived from carbon emission reductions generated from restoring and protecting forests, ecotourism, providing clean water, and pollinating crops.

The ACF has attracted investments for more than 10 projects in Peru, Guatemala, Brazil, Kenya, Rwanda, and Indonesia, creating or supporting 77 sustainable enterprises. Over a decade, its conservation outcomes include (Athelia, 2020);

- 101,300 hectares of deforestation avoided
- 41 million tons of CO_2 emissions avoided
- 250,000 hectares under improved conservation management
- 228,000 hectares of indirect conservation
- 1,975,000 hectares of critical habitat protected
- 115 threatened species populations protected

> *"By helping farmers generate ongoing income from sustainable commodities, using revenue generated from climate finance to support the switch to new practices, and by carefully managing the financing, operational and market risks involved, Althelia can generate fair returns for our investors at the same time as delivering substantial positive social and economic impacts for local people."*
>
> Althelia, Mirova, and Ecosphere+ (2018, p.3)

The ACF used carbon collateralized loans to test its protection-production-inclusion approach using various business models, including clustered mosaic landscapes, pasture and peat restoration, and protected areas with cocoa and coffee agroforestry projects. Its flagship project in Madre de Dios, the Tambopata-Bahuaja Biodiversity Reserve (a protected area in Peru), seeks to restore 4,000 hectares of degraded land in the buffer zone with cocoa-based agroforestry systems. Using a payment-for-performance model, the Fund offers farmers financing on the condition that they will not further deforest. The sustainable cattle ranching project in Mato Grosso focuses on pasture restoration, traceable beef supply chains avoiding deforestation, active forest protection, and restoration of natural forest in the Brazilian Amazon.

The ASOF was launched in 2018, building on the successful track record of the ACF. At its launch, the ASOF had US$50 million in commitments from institutional, private, and public investors, and doubled its capital over the following 18 months. This unique, first-generation fund provides growth capital to businesses that harness the ocean's biodiversity through circular economy, sustainable seafood, and coastal/marine conservation projects. Almost two-thirds of the Fund's commitments by the end of 2019 were in LAC however it also has investments in Europe, Africa, and South Asia.

2.4.3 Barriers

Despite positive trends in conservation investment and emerging opportunities for biodiversity conservation, attracting private capital to this sector is challenging. Investments in nature and biodiversity conservation are considered high risk and thus require high returns and transparency regarding their impact. Achieving conservation goals while making a profit requires novel strategies and financial structures because innovative conservation projects tend to lack the track record or scale needed to attract more conventional investors (Clarmondial and WWF, 2018).All impact investment projects in land and ocean conservation face the challenge of working with small producers with limited or no access to financing (Conservation International Ventures, 2020). Two common reasons are the absence of financial institutions in the areas where the projects are located and the lack of acceptable collateral. Small producers also tend to lack the technical, financial, or organizational capacities to invest in sustainable land (sustainable forest or intensified livestock production) or marine activities (sustainable aquaculture or sustainable fisheries). Adopting sustainable production practices like introducing monitoring and reporting processes, imposes short-term costs on farmers, fishers, and other small producers. The transition requires upfront capital, generally at high interest rates, and demands a holistic approach to manage natural ecosystems. Additionally, a long-term strategy is necessary to penetrate markets that offer premium prices for sustainable products.

These are some of the barriers projects face in their efforts to attract private investment (Credit Suisse and McKinsey, 2016)

- The high search and transaction costs associated with identifying and incubating conservation projects suitable for impact investment. Projects tend to be small and operate in complex environments, usually of developing countries or the rural areas of emerging economies, where governance, regulatory, and infrastructure challenges prevail. Developing them takes a lot of time and effort.
- Existing funding sources are generally not designed to assist small enterprises seeking to grow their operations while protecting biodiversity. Most available lending mechanisms focus on either microfinance projects or extensive projects, leaving the so-called "missing middle" without access to financing. Enterprises with a nature conservation dimension face additional obstacles. Developers and projects lack proofs-of-concept and track records developing cash flow from nature conservation projects. Therefore, they are unable to provide potential investors with this critical information.
- Impact investment projects are hard to scale and therefore unattractive to more conventional and commercially minded investors. The growth challenge is often operational. Most projects require training hundreds of local farmers or fishing communities and organizing complex supply-chain operations with multiple partners. Cash flow aggregators tend to be limited and as a result, projects are small, with only a few projects being scalable beyond the US$5 million threshold. A related barrier is that funds whose investments involve a significant number of heterogeneous transactions have high transaction costs . To reach scale, project developers and investment managers need to either standardize or bundle different projects into one financial product.
- The lack of a tested and agreed upon standardized framework for monitoring conservation impact, which can ensure that investors do not finance programs that yield little or no conservation benefits.

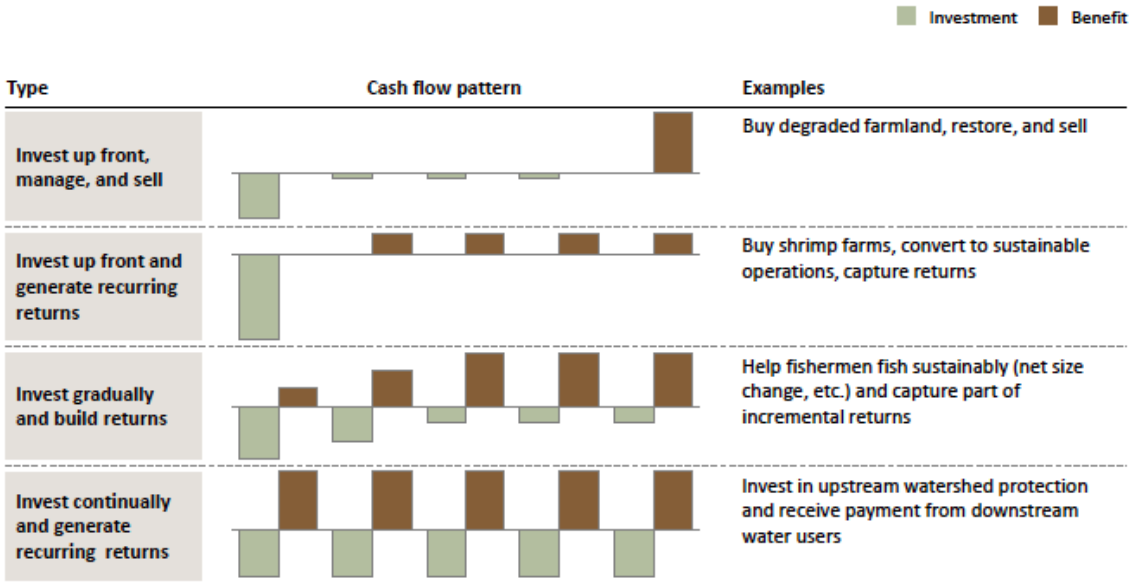
At least two additional obstacles stem from financial structuring and investors:

- The underlying cash sources are unpredictable. Managing this risk requires the aggregation of distinct but complementary projects with potentially different structures. Putting these aggregations together requires bundling a diverse set of cash flows and modeling them into a single investment product.
- The pool of professionals with the relevant skills of both finance and conservation is very small.

Additional barriers include government policies that run contrary to conservation projects (e.g., traditional agricultural subsidies) and minimal data regarding investment products and opportunities, market trends, performance, and practice.

Typical Cash Flow Patterns to Be Aggregated by a Conservation Finance Vehicle

Figure 4: Typical cash flow patterns to be aggregated by a conservation finance vehicle



Source: Credit Suisse and McKinsey (2016), p. 14.

2.4.4 How Does It Work?

Tackling these barriers in order to attract investments in conservation projects demands novel structures and strategies. The following pages describe the innovative revenue models, financial structures, and blended/anchor finance strategies that EcoEnterprises and the Althelia Funds have implemented in LAC to offer a financial return while guaranteeing a positive conservation impact.

2.4.4.1 **Blended Finance and Anchor Capital**

The role of development banks and other public institutions is particularly relevant for the success of impact investment funds. By offering either loan guarantees or concessional funding, development banks make it possible to finance projects that otherwise would not be able to grow. By providing more flexible financial instruments, funds can reach out to more producers in rural and coastal areas. Because of their development agenda, national and international development banks can take more risk or accept lower returns than private investors, thus reducing the overall cost of financing, particularly for training and capacity building in the early stages of project development. As such, development banks allow more return-oriented investors to provide less risky tranches of financing and crowd-in a broader investor base.

Concessional financing is particularly relevant in the early stages of project development when companies introduce sustainable practices and add monitoring and reporting processes as they strengthen their operational capacity and management skills. On the fund side, concessional financing supports pipeline development to aggregate innovative projects, which is a key element of

risk mitigation for pooled, impact investment funds. Development banks and multilateral organizations can also act as anchor investors for established funds and, by showing their support through equity and other de-risking mechanisms, can signal to other investors that the funds are credible.

In their early stages of development, both EcoEnterprises Fund and Althelia Funds used blended capital, combining concessional financing with conventional private capital. Concessional funding, loan guarantees, grants, and other types of flexible capital from public institutions, such as development banks, foundations, and other impact-first oriented investors, played a vital role in reducing risks for investors and kick-starting market development.

EcoEnterprises Fund I received blended financing from the IDBG and the GEF, which was instrumental to the Fund's performance and helped mobilize other investors and mission-driven donors. Though EcoEnterprises Fund II was still primarily capitalized by development banks, it moved away from blended financing and had a more diversified pool of investors. Besides the IDBG and the GEF, the EIB and the Dutch Development Bank also invested through equity. Larger investments from both the GEF and the IDBG in EcoEnterprises Fund III again served as a vote of confidence to attract large investments from other development banks and the private sector. Fund III raised about 20 times the capital raised for Fund I.

The ACF and ASOF also combined capital from private institutional investors with anchor funding from public sector development banks (The Nature Conservancy and Environmental Finance, 2019). The United States Agency for International Development provided the ACF a loan guarantee covering 50 percent of potential losses at the investment/portfolio level. The ASOF secured investments from the IDBG, KfW, and the French institutional investors BNP Paribas Cardiff and Garance, with overall commitments totaling US$92.74 million by the end of 2019.

2.4.4.2 **A Diversified Portfolio**

To mitigate risk, pooled funds that invest in conservation projects structure multiple heterogeneous projects with distinct but complementary cash flow and risk profiles and bundle them into a single financial product. Cash flows are generated from the sale of goods and services, but also from carbon credits, quotas, and access rights, for example in fisheries. Revenue maximization can also include cost savings associated with the lower input costs of sustainable agriculture and improved practices along the supply and value chains. Agricultural production, agroforestry, non-timber products, and timber are activities that are easier to monetize than, for example, enhanced biodiversity, increased ecosystem resilience, and improved ecosystem services that accrue to multiple beneficiaries (Clarmondial and WWF, 2018). Funds that focus on dynamic, specialty niches in established markets, such as agriculture, agroforestry, and ecotourism, have access to diverse risk-mitigation techniques (e.g., private insurance, futures/forward trades, and guarantees).

By diversifying in terms of geography and sectors, pooled funds can match different investor's risk–return–impact profiles to distinct cash flow sources and complement risk, return, and impact expectations in one product. As explained below, this innovative approach demands, at the fund level, superior management skills, strong structuring and origination capabilities, robust capacity to provide technical assistance, and in-depth understanding of all projects. In the early years, EcoEnterprises Fund and Althelia Funds focused mainly on start-up projects. As they became more established, they started to combine post-revenue and start-up projects.

The bulk of EcoEnterprises Fund's investments have been in agriculture, agroforestry, and ecotourism. To improve its return and impact, the Fund increasingly selected companies that offered high-value-added products and services while depending on nature preservation for their success. After proving results with its proof-of-concept fund for a decade, EcoEnterprises scaled its investment reach in Funds II and III to supply growth capital to select sustainable companies.

Scaling Strategy to Accelerate Conservation Finance Market Growth

	Approach	Requirements	Examples
Structure multiple heterogeneous projects into one diversified product	− Structure financial vehicle to aggregate a sufficient number of heterogeneous projects resulting in a well-diversified portfolio − Match investor's risk–return–impact profiles to the distinct cash flow sources of underlying projects − Bundle several investment strategies with different but complementary risk, return, and impact expectations in one product	− Robust understanding of each project type and involved risks − Structuring and origination capabilities − Management skills to master operational business	− Bundling diverse cash flow generating projects around a national park (e.g., ecotourism, sustainably produced commodities, fishery)

Source: Adapted from Credit Suisse and McKinsey (2016), p. 16.

EcoEnterprises Fund builds portfolios that manage risk, return, and impact expectations while ensuring an overall sustainable cash flow and positive environmental impacts. Examples of companies with success in niche markets such as organic, healthy foods and beverages are RUNA, Sambazon, and Terrafertil. While all of the Fund's business partners participate in regenerating, restoring, and/or preserving biodiversity as part of their business operations, agroforestry and ecotourism tend to contribute the most to the Fund's conservation impact goals.

The ACF follows a different diversification approach. While focusing on LAC, it also has projects in Africa and Asia. The Fund concentrates on forest projects, helping farmers increase revenue by focusing on certified, traceable deforestation-free agricultural based-products. Demand for such products is growing as the global marketplace begins to pay more attention to avoiding deforestation. One example is the Consumer Goods Forum's zero-deforestation supply chain commitment, which has combined sales of US$3.5 trillion. The time it takes for many forest projects, like reforestation, to yield returns is long, between 10 and 20 years. To address this challenge, the ACF uses a clustered mosaic landscape approach that combines forest, pasture, and peat restoration with protected areas that focus on cocoa and coffee agroforestry projects.

The ACF also helps producers earn payments for ecosystem services. This additional revenue is a vital bridge as the Fund's partners transition to more productive and environmentally sound production methods. Reducing deforestation and protecting forests within a defined landscape has large impact. In parallel with investments that restore degraded land and allow it to become productive again, agricultural and agroforestry producers also reduce CO_2 emissions. The ACF sells carbon credits to companies, governments, and other entities operating in voluntary carbon markets to reduce their climate impacts. As such, the Fund uses climate finance "as a transformational tool, to allow farmers to access and supply higher value-added markets for traceable, responsibly produced

agri-products, creating self-sustaining local enterprises" (Althelia, Mirova, and Ecosphere+, 2018, p. 3). The ACF expects these projects to be viable without the carbon credits in the future.

The ACF's landscape-level approach to conservation has enabled the implementation of larger scale, longer term interventions that mitigate two traditional barriers faced by conservation projects: their small size (US$1 million to US$10 million) and their short term (three to five years). These barriers force them to be custom-designed and financed by philanthropic donors. However, to succeed, a landscape approach depends on governments enacting and enforcing relevant policies and regulations, in particular establishing a REDD+ framework (Clarmondial and WWF, 2018).

The ASOF's diversification strategy targets opportunities emerging with the blue economy in LAC, Africa, Asia, and Europe. Opportunities include aquaculture and wild-caught seafood businesses that can be certified sustainable and have access to high-value markets globally, as well as critical coastal infrastructure and business projects that can unlock the value of plastic waste and avoid polluting the ocean. Following on the ACF's unique experience with forest conservation, the ASOF also intends to invest in ocean conservation projects, specifically to protect and manage coastal environments to improve biodiversity and community resilience. One of the Fund's goals is to economically manage protected areas, including business opportunities in tourism, payments for ecosystem services, and blue economy infrastructure in the Dominican Republic, The Bahamas, Belize, and the Philippines (Althelia, 2019). The ASOF invests in established businesseswhere its involvement can support companies in the blue economy to grow rapidly and sustainably, and in earlier stage projects.

2.4.4.3 **Venturing Finance**

Managing investments in a new asset class, such as conservation finance, requires time and resources to become established. Incubating projects includes moving them from a disaggregated early stage to curating a commercial organization that brings together business, conservation, and technical knowledge and provides the needed infrastructure to rapidly prototype promising new ideas with the potential to be scaled up.

The companies that EcoEnterprises Fund and Althelia Funds partner with are generally small, growing enterprises from emerging or developing economies that are pioneering innovative but risky and expensive ventures. The funds manage complex operations, work in rural areas, and often rely on multiple partners and hundreds of small producers who serve as stewards and advocates for conserving and sustainably using biologically diverse ecosystems throughout their operations and supply chains. In addition to having underlying environmental and social mandates, the funds sell products to export markets.

Fund managers and advisors must have a robust understanding of each project as well as the risks involved. They need to gather expertise and advice in finance, conservation, and business administration. EcoEnterprises Fund and Althelia Funds offer tailored financing instruments otherwise unavailable to the companies in their portfolios. They also work closely with their business partners, providing custom-made assistance to develop the management skills needed to master complex business operations.

Applying tools and principles of venture financing and offering technical and managerial support is critical for the funds to guarantee that companies develop transformative business

models that balance environmental and social imperatives with financial objectives *and* adapt to market realities without compromising their business models. The funds invest a substantial amount of time and capital in training, community engagement and collaboration, research, market development, and consumer education. They also assist their business partners in developing and implementing their economic, environmental, social, and governance performance standards, and in adopting best practices to scale their financial and impact outcomes.

2.4.4.4 **Monitoring and Verification**

It is essential to build credibility. Investors and other stakeholders in the conservation financial market need to be confident in the impact and stability of the projects funds support (Credit Suisse and McKinsey, 2016). Monitoring systems with appropriate metrics and indicators for financial, environmental, and social performance are a must to build credibility. The businesses supported by impact investment funds depend on natural systems for the long-term viability of their resource base and their financial success. As such, environmental and social parameters and criteria are not just an additional social corporate responsibility instrument, they are central to the business model, impact, and credibility of impact investment funds.

Thus, EcoEnterprises Fund and Althelia Funds spend considerable resources and time developing a project pipeline and guaranteeing that the projects considered for investment demonstrate responsible consumption and production practices, benefit ecosystems, and protect and/or restore biodiversity assets. The funds have used similar criteria to select the projects in which to invest and they conduct annual ESG audits against the standards developed.

Since at the time EcoEnterprises Fund and the Althelia Funds were created there were no universal and comprehensive monitoring standards for conservation finance projects, the funds developed their own monitoring and evaluation systems for the impact of their projects. Although these systems have evolved, both companies used the International Finance Corporation's Environmental and Social Performance Standards as a guideline for developing their own environmental, social, and governance criteria. The ACF also asks their partners to register with national or subnational forest carbon programs to ensure that credits are not claimed twice.

Criteria for Selecting Projects

Althelia Climate Fund	**EcoEnterprises Fund**
Projects that restore degraded land on the frontier of deforestation to reduce the pressure on forests and protect the diverse natural ecosystems and the wild species that live there.	Projects that adopt sustainable agriculture practices that generate environmental benefits by reducing or eliminating chemical use or other causes of pollution, while increasing agricultural productivity by improving soil fertility and water retention.
Projects that demonstrate environmentally sound management of chemicals and waste products and promote recycling and waste reduction.	Products that do not exceed the sustainable yield of an ecosystem and adopt non-destructive collection techniques that do not disturb forest canopies, kill exploited trees, overharvest, or threaten regeneration of plant species or the community of animals that depend on them.
Projects that seek certification under internationally recognized schemes where commodities and products are farmed or harvested from wild or semi-wild landscapes.	The Fund does *not* invest where natural vegetation has been cleared, affecting biodiversity and wildlife habitats, or if genetically modified organisms have been used or products have been made from genetically modified organisms.

Measuring the impact of project financing from private capital on biodiversity is one of the biggest challenges for conservation financing because there is a lack of methodological guidance. In May 2013, AXA Investment Managers, BNP Paribas Asset Management, Sycomore Asset Management, and Mirova announced that they had gathered around 30 signatures from leading investors around the world, representing over €6 trillion in assets under management, to support the creation of a measurement framework for financial impact on biodiversity (AXA Investment Managers, 2020). Specifically, they demanded a methodology based on life cycle assessment that produces a measure that captures both positive and negative physical impacts on biodiversity; that can be aggregated at company, portfolio, and index levels across a wide range of assets; and that is transparent, based on the large body of existing open source data and publications by issuers of financial securities.

The 2030 Sustainable Development Agenda offered broad guidelines to standardize the indicators that measure project impact. In 2018, EcoEnterprises Fund developed a more sophisticated and integrated ESG model that included a comprehensive set of social and environmental parameters, feeding into longer term impact goals that are associated with the 2030 Sustainable Development Agenda. The ACF also reports its impacts mapped to the United Nations SDGs. The ASOF benefited from ocean health becoming a central issue on the international agenda, and its activities and expected impacts are aligned with several targets of SDG14.

Many of the companies that Althelia and EcoEnterprises invest in adopt third-party certification programs, such as Fairtrade, the Marine Stewardship Council, Verified Carbon Standard, and the Climate, Community, and Biodiversity Alliance. This provides an additional layer of monitoring and verification on everything from organic production, forestry management, ecotourism best practices, fair and ethical treatment of employees and suppliers, and production standards. These certifications also help the funds obtain premium prices for the environmental assets that their portfolio of companies protect. "The market for FSC-certified forest products alone is expected to quadruple over the next five years to more than US$200 billion. Furthermore, certified agricultural products, as well as sustainably branded seafood product markets, are scaling quickly,

reflecting the growing pipeline of profitable projects to be invested in" (Ecosystem Marketplace, 2013, cited in Credit Suisse and McKinsey, 2016, p. 12).

Although the projects included in the pooled funds evaluated here are generally adjacent to or located inside a natural reserve with high biodiversity, research organizations have argued that active conservation of biodiversity appears to be of secondary importance in the monitoring and verification systems that funds have adopted (Global Nature and Oro Verde, 2017). The ACF explicitly reports the number of critical species being protected, while EcoEnterprises Fund reports its conservation impact on the basis of hectares of protected or sustainably managed area.

2.4.5 Indicators of Success: Impact, Replicability, and Scale

To be considered successful, an impact investment fund needs to demonstrate its ability to grow and its long-term economic, environmental, and social impacts. Replication and structuring, which are critical to growth, depend on the long-term viability of the supported projects. Another indicator of success is a fund's ability to attract mainstream investors in the medium and long term after impact-oriented investors have invested in the initial stages of operations.

By all these measurements, the EcoEnterprises Fund is a success story. Its growth strategy was successful, as evidenced by its ability to replicate its model from a proof-of-concept to a third fund and by the diversification of private investors from the first to the third fund. The capital invested in or loaned to Fund III in 2018 was almost 20 times the amount invested in Fund I in 2000. The increase in the volume of financial investments also resulted from the continued support of credible and recognized partners, including the GEF, the IDBG, and the EIB, combined with its accumulated knowledge and proven experience as a skilled investor in biodiversity-based small- and medium-sized companies in LAC.

The conservation impact is evident, as EcoEnterprises Funds has helped protect or sustainably manage over 6 million hectares through highly innovative projects in the agricultural, agroforestry, and ecotourism sectors. Fund II generated an 11 percent average return while delivering this positive biodiversity impact (Global Nature and Oro Verde, 2017). EcoEnterprises expects the returns for Fund III to be between 13 and 15 percent (GEF, 2015). Also, EcoEnterprises has diversified its investment sources. Since 1998, Funds I and II have received funding from over 35 investors and stakeholders, while Fund III is becoming more attractive to the mainstream investment market (GEF, 2015).

EcoEnterprises has established a track record of implementing successful risk-mitigating levers and developing the management capacity to structure innovative financing mechanisms over its two decades as a prudent conservation investment manager. It has also proven the effectiveness of its model in identifying and developing a diverse portfolio of projects and a more standardized evaluation process based on predefined impact and investibility criteria. Building on a successful track record, Fund III is venturing into niche areas that no other fund can offer, such as investing in companies working with genetic resources in countries that have signed, or have intentions of signing, the Nagoya Protocol (GEF, 2015).

Above all, EcoEnterprises has demonstrated that small, innovative Latin American companies in the land-use sector can access capital successfully to overcome enormous challenges and

achieve positive financial and conservation impact. A few companies that received start-up capital from Fund I repaid the monies and continue to participate in Funds II and III, growing accordingly. The success of at least two of them, RUNA and Terrafertil, was such that large corporations, AMI and Nestlé, respectively, acquired them in 2018. Others, such as Sambazon, are a success in the market, showing good financial and environmental sustainability. Overall, the companies in EcoEnterprises Funds' investees leveraged an additional US$138 million in investment capital and generated US$281 million in sales, providing economic benefits for local economies.

The ACF is another success story. While younger than the EcoEnterprises Fund, the ACF has proven its unique, innovative financial approach to forest conservation. Althelia committed to creating an investment portfolio of high-quality, nature-based, emission-reducing companies aligned with REDD+, Nationally Determined Contributions, and the Paris Agreement. Based on the ACF's years of experience in forest conservation, Althelia Funds launched the ASOF, which focuses on ocean conservation.

Though EcoEnterprises Fund and Althelia Funds have succeeded in engaging a diversified pool of investors, including mainstream investors, and are now considered established, their modest size (between US$100 million and US$135 million) continues to be a disadvantage compared to other financial investments in light of the conservation funding gap. Other constraints are the length of time (about a decade) it takes to develop the proof-of-concept and the projects, which inhibits fast growth and replicability.

Finally, there are issues related to the lack of transparency in calculating rates of return. While it is difficult to calculate the risks and expected rates of return for conservation investments, and generally investment funds prefer to avoid disclosing confidential data, some stakeholders call for more transparency, particularly about how public financing affects such rates by absorbing the risks and costs of capacity building (Global Nature Fund and Oro Verde, 2017).

2.4.6 Enabling Conditions

International development banks and multilateral organizations have proven to be critical to the replicability and scaling strategies of impact investment funds. By reducing the risk or accepting lower returns than private investors, they have helped amplify the base of investors and the amount of funding. Through guarantees, loans, grants, and other forms of concessional financing they have supported strategic activities, such as training and capacity building, that are necessary in the early stages of project development and normally financed by philanthropy. Their role as anchor investors, mainly through equity capital, has been strategic to mobilize a larger base of investors and the amount of financing as the funds mature. Broader participation in offering this type of support, particularly on the part of national development banks, could be instrumental in accelerating the pace of conservation finance throughout LAC.

Increasingly, development banks are offering more targeted support to accelerate small businesses that already have a proof-of-concept in the market but need risk capital and business development skills to thrive. Developing a pipeline of conservation projects and enterprises continues to be a big bottleneck in accelerating conservation finance. IDB Lab and the IDB undertook research into barriers to pipeline development in the context of project design in 2019, and

determined that the minimum amount that most investors are usually able to invest is US$1 million. There are few enterprises in LAC that are large enough to absorb this threshold of investment.

While some actors in the investment ecosystem have created mechanisms to develop a pipeline for investments, these still fail to address a key part of the financing gap. Typically these mechanisms are very early stage, grant-based, and developed by NGOs. Further, they do not result in investment-ready projects or do not have the right risk profile and provide only debt or guarantees that crowd-in a very small number of businesses on the margin of investability (as in the case of other incubators in the market). Many conservation entrepreneurs fail at a time when the demand for and supply of these entrepreneurs is growing.

To address this challenge, the IDBG, with the AFD, is structuring a trust and an accelerator program to boost the regenerative economy in LAC. The goal is to work with ventures that are already operating with a minimum viable product[4] and prepare them to attract and absorb investments of more than US$1 million into viable scalable business models. To structure and operate this trust and accelerator, the IDB Lab and the IDB Natural Capital Lab will partner with Impact Hub, an organization that has established a track record in the entrepreneur ecosystem in the region, particularly on green markets and sustainability.

Development banks are also offering impact investment fund platforms for collaboration and knowledge sharing that are relevant enabling factors to address the pipeline development challenge. With the goal of streamlining the project selection process and helping aggregate projects, the CPIC is developing investment blueprints and has compiled a list of conservation-focused accelerators that include initiatives, many led by NGOs, to assist innovative companies in their growth strategy. This list includes the Conservation Investment Accelerator (The Nature Conservancy NatureVest), Techstars Sustainability Program (The Nature Conservancy + Techstars), WWF Impact Ventures, Conservation International Ventures, WCS Climate Adaptation Fund, Convergence, ECOSTAR Nature-Accelerator, Plug to Play, Blue Natural Capital Financing Facility, Hatch, and Fish 2.0.

Like other financial instruments, the success of some impact investment in conservation, particularly in the forest and oceans sectors, depends heavily on government policies and regulations. Jurisdictions with integrated landscape approaches, like the ones developed in Peru, represent the most attractive opportunities for private sector investors. Other enabling environments include better infrastructure, knowledge-sharing platforms, and information systems that facilitate market exchanges at the national level, all of which can significantly reduce risks and transaction costs for the private sector. An example is the Brazilian state of Mato Grosso's Produce, Preserve, and Include strategy, which seeks to strengthen land governance and sustainable supply chains by providing an agricultural production data system, with dissemination and traceability tools as well as technical assistance to farmers and a monitoring system (Guarnaschelli, 2018). Althelia has benefited from this program.

In the oceans sector, initiatives are underway that enable the emergence of impact investment projects such as the ASOF. One example is the proposal to increase global ambitions to 30 percent of marine protected areas by 2030 from the 10 percent by 2020 that had been

[4] "A minimum viable product is a product with enough features to attract early-adopter customers and validate a product idea early in the product development cycle" (https://www.productplan.com/glossary/minimum-viable-product/).

established by SDG14 (UN, 2020). Others are the Sustainable Blue Economy Finance Principles, launched in 2018 by the European Commission and UNEP FI, and the IDBG's Caribbean-focused Sustainable Islands Platform. The latter seeks to assist island nations in pursuing sustainability through innovative development pathways: blue economy, circular economy, and climate resilience. Despite this progress, adopting more robust domestic and international frameworks and adequate policies would help bolster incentives for private investors in the blue economy.

Finally, new technologies can play a critical role in improving the transparency and measurability of the impact of conservation investments. Technologies such as the Freshwater Trust and Google Trekker could help enhance the effect of impact investment funds, the stability of the cash flows, and the returns generated by the supported projects (Credit Suisse and McKinsey, 2016).

2.5 Direct Investments

A majority of private financiers of natural capital invest directly through equity or debt, funding a single or a set of conservation projects without any intermediary financial structure. Direct investments face the same challenges other impact investment projects face and use strategies similar to those used by pooled funds.

Similar to pooled funds, direct investments often combine equity and debt and use blended finance structures for the start-up stages of projects and anchor capital to attract a larger pool of investors. As for all projects included in pooled fund portfolios, direct investments need to balance financial return and positive conservation impact. Transparency about the impact of the projects is even more relevant than for pooled funds, which can use the collective impact of different projects to gain credibility.

The IDBG, through the IDB Lab, has provided equity directly, without a financial intermediary, to various projects in LAC,[5] including macauba oils of INOCAS in Brazil; the habitat bank in Meta, Colombia; and the Intrinsic Value Exchange (IVE), a U.S. company that is developing several pilot projects in Suriname, Costa Rica, and Mexico. These are highly innovative projects, with large potential to grow and attract mainstream financing for biodiversity conservation and restoration.

2.5.1 INOCAS

INOCAS Soluções em Meio Ambiente (INOCAS Environment Solutions) is a German-Brazilian company that has devoted over a decade to developing alternative oil plants. One such plant is the macauba, a palm tree native to Brazil that can produce oil and kernel oil with similar composition and quality to conventional palm oil and palm kernel oil, thus yielding suitable substitutes. The macauba has the additional advantage of requiring less precipitation than the conventional palm tree and being resistant to drought. Besides, macauba trees can be planted in agroforestry schemes and integrated into existing pastures, and can coexist with cattle ranching. It thus represents an alternative to traditional monoculture palm plantations, whose expansion has contributed to the

[5] Similar projects, such as Ejido Verde, a social enterprise that the IDBG supported through a loan rather than equity, perform similar activities as those undertaken by the impact investment projects referred to in this section (see https://idbinvest.org/en/news-media/idb-invest-and-ejido-verde-promote-reforestation-degraded-lands-and-development-ejidal and https://ejidoverde.com).

degradation and deforestation of large forest areas in Brazil. Since average yields from a palm oil plantation are 3.5 tons of oil per hectare, and silvopastoral macauba plantations yield about one ton of oil, 200,000 hectares of macauba agroforestry could substitute for over 55,000 hectares of palm oil plantation (Visconti et al., 2015).

Despite its potential and that it grows naturally in Brazil, the commercial and sustainable viability of macauba remained unexplored before INOCAS was created. The goal of INOCAS is to establish the first sustainable macauba oil value chain in the world. INOCAS is developing a pilot, involving a 2,000 hectares agroforestry system with 300 macauba trees per hectare in Alto Paranaíba, Minas Gerais, to demonstrate the viability of such a value chain. The pilot project formally started in October 2018 and completion is expected in 2022.

2.5.1.1 **Expected Impact**

INOCAS expects the macauba project to be profitable, breaking even after seven years and starting to show both a stable annual turnover of a minimum of US$4.4 million and a stable EBITDA of a minimum of US$2 million in year 10. The project is very innovative, with significant potential for scale and positive spill-over effects.

A biodiversity hotspot, the Cerrado, where the project is being implemented, comprises a diverse mix of grasslands, shrublands, and woodlands. This tropical savanna stocks nine gigatons of carbon in its primary vegetation, hosts 4,200 endemic species, is the birthplace of two-thirds of Brazil's hydrographic regions, and is responsible for 12 percent of global soybean production. Nevertheless, the Cerrado region is suffering higher deforestation rates than the Amazon. Nearly half of the Cerrado has been converted to pasture (30 percent) or cropland (12 percent). Between 2016 and 2017, the Cerrado lost 14,185 square kilometers of native vegetation (Climate Investment Funds and IDBG, 2020; Russo, Alencar, Ribeiro, et al., 2018). Because the region's topography impedes access to agricultural machines, farmers have limited opportunities to diversify their agricultural activities. Continuation and expansion of cattle ranching results in farms being more vulnerable to pests, soil degradation, and water runoff; reduces the carbon potential of forests and soil; and increases income volatility.

The macauba project is expected to sequester at least 770,000 tons of CO_2 while avoiding emissions from deforestation and reducing the pressure on a region already suffering high deforestation rates from soybean production and cattle ranching. Since each macauba palm sequesters at least a ton of carbon in its trunk, the project has a positive carbon sink effect in addition to the indirect effects of avoided deforestation. As such, the project also contributes to Brazil's Nationally Determined Contribution targets of reducing land-use change and agriculture emissions and supports the implementation of the new Brazilian Forestry Code. Macauba trees also increase soil fertility, contain erosion, and reduce the water consumption of cattle because they provide shade. As a native species, macauba palm trees increase biodiversity, providing food and shelter for animals. Local smallholder farmers also benefit because macauba trees help avoid some of the negative impacts of climate change, from heat and drought to soil degradation.

2.5.1.2 **Barriers**

Like other highly innovative impact investment projects, INOCAS needs to overcome significant challenges to realize its full potential. To start, INOCAS operates in a complex, rural setting, with governance and regulatory challenges.

Given that the macauba value chain does not exist, INOCAS faces multiple operational challenges to achieve its goals. Establishing the 2,000 hectares will require approximately five years, from recruiting and training local farmers on the economics of the macauba fruit and managing a silvopastoral system, to providing smallholders with saplings and organizing planting, cultivating, and harvesting the trees on smallholder pastures, to the overall management of macauba agroforestry-related activities. In the same vein, INOCAS needs to develop the commercial pilot—processing the macauba oils and byproducts—as well as the market for these products.

Recruiting a critical mass of farmers during the first three years of planting is essential for the business model, but the process has proven to be hard. During the initial growth period, farmers cannot continue cattle ranching because newly planted palms must be protected from the cattle until they reach sufficient height. In the meantime, farmers need to diversify their products.

Other obstacles to recruiting local farmers include negative experiences with failed government programs to develop biofuels from castor beans. Many of the farmers stopped receiving subsidies distributed through such programs and struggled to find a market for their production. Also, most of the farmers are older, tend to have a risk-averse approach, and see cattle ranching as a more secure investment than a macauba-based silvopastoral system. There is also a widespread perception among farmers that the macauba tree, which is pervasive in Brazil, is unproductive.

Producing macauba saplings was another hurdle because the macauba seed proved to have a lower germination rate than expected when the project was designed. The original calculations did not account for losses during the germinated seed to sapling process. During the first season, INOCAS did not have enough saplings to get through the planting schedule. Given that the business model is based on a seasonal workforce in a four-month window of opportunity (from October to February), and that it takes about a year to produce saplings, INOCAS had to wait for a new season to achieve its planting goals.

Although the local government's support for the project is strong, some of the government efforts have not been effective. One example is the *ProMacauba Law*, approved in 2011 by the State of Minas Gerais, that encouraged cultivating, extracting, marketing, and consuming macauba products. When INOCAS established its Brazilian subsidiary in 2015, there were no other macauba projects. Despite the government promotion programs, INOCAS has faced regulatory and bureaucratic hurdles. For example, the government proposed classifying macauba as a native species, which created the risk of not being able to cut grown trees.

Another set of barriers relate to the lack of credit lines to bridge gap in the early stages of the project. In Brazil, all credit lines are limited to traditional crops and macauba was not yet cultivated in the country and thus also new to the financial community. Commercial financing, specifically bank loans, is not available due to the 15- to 20-year horizon of the investment and INOCAS's lack of a track record.

A financial package needs to bear the first-mover risks associated with this project. Revenues can only be produced after the fifth year because it takes about five years to get to the first harvest. Since break-even is not expected until year seven and stable cash flow of over US$1 million until after year 10, the internal rate of return on cash flows before financing would be negative for 10 years, about 10 percent over 15 years, and 15 percent over 20 years (Visconti et al., 2015).

Private investors and even local and international development banks and impact investment funds were hesitant about the project for additional reasons. Initially, there was overall caution in the investment community about innovative vegetable oil projects with novel species. By 2015, over US$200 million was invested globally in Jatropha projects, many of which showed negative financial returns, failing to yield the expected oil volumes. Also, although the macauba trees are an INOCAS asset, they cannot be used as a collateral to mitigate financial risks. Acquiring land was not an option because it would have reduced the positive social impact expected from the project. Finally, while the local airlines could potentially function as off-takers for the macauba oil, low oil prices limited the potential for commercialization of macauba oil as a biofuel.

2.5.1.3 **How Does It Work?**

INOCAS followed a multi-pronged strategy to overcome these challenges. Receiving public grants and concessional financing was an essential element to start the project. Since local farmers play a critical role in the project's business model, a key strategy was to mitigate their risks by training them, diversifying their sources of revenue, and developing markets for macauba byproducts. Fostering strong partnerships with multiple actors along the to-be-created macauba value chain, together with knowledge and information sharing, was also critical to building the project's credibility.

While the project is a fully private initiative, it needed support from more flexible, first-mover financing in the start-up stages. Between 2011 and 2013, the European Union supported the project with a €2.7 million grant for research that included a comprehensive feasibility study of a macauba-based silvopastoral system.

In order to bridge the pioneer gap of the macauba project, the World Bank's Forest Investment Program (FIP), the IDBG's MIF, Althelia Funds, and local and regional investors collaborated to develop a US$6 million financial package that was in itself innovative. The FIP, which supports developing countries in their climate and forest efforts, entrusted US$3 million to the MIF as an equity investment in INOCAS. This direct equity translated into a participation share of 30 percent of INOCAS, with 2028 as the MIF's estimated exit year. This financial package was the first time that the MIF and FIP directly invested capital together in a private company in the region. The resources were destined to cover INOCAS' capital investments and operational expenses during the start-up and growth stages, including establishing a training center, an oil processing mill, and 2,000 hectares of macauba palm trees in agroforestry systems.

Given MIF's lack of experience investing in agricultural start-ups at the time, especially in nascent product markets with a high level of technical innovation, the IDBG partnered with Althelia for investment advisory services.

The IDBG also issued a reimbursable grant of US$1 million to help provide training for farmers and agricultural laborers, to structure the smallholder farmer involvement, and to develop the business mode (IDB, 2017). A small grant covered the costs associated with legal structuring

and knowledge, coordination, and partnerships. Local investors provided US$1.6million in share capital, with US$1 million acting as a counterpart contribution from local and regional organizations interested in developing the macauba value chain. Also, the municipality of Patos de Minas donated 0.9 hectares of land for the training center and the processing and storage facilities, and supports further research into macauba value chains. Before this agreement was reached, INOCAS received two bridge loans, one from Althelia to kick-start the 2016 harvest season and a smaller one from SITAWI.[6]

Together these equity and grant funds provided INOCAS with the necessary capitalization to begin and sustain operations until it generates a profit in year sevenSince purchasing land was not an option for the project's business model, attracting enough farmers was one of the most critical aspects of establishing the macauba silvopastoral plantation. INOCAS' business model included innovative strategies to reduce the risks for smallholder farmers. Besides not paying for saplings or other material costs, local farmers could engage in the project in different modalities. Initially, they receive revenue from harvesting wild macauba. Once the macauba trees on their land bear fruit, they can receive income from the harvest on their land at an agreed fixed market price per kilogram indexed to inflation and guaranteed through a long-term contract. Once the macauba silvopastoral systems are operational, landowners also benefit from the improved profitability and sustainability of their cattle ranching. Farmers participating in the project are being supported financially in the years before production with an annual payment for live seedlings as an incentive to care for the plants.

Another innovative element of INOCAS's business model was to have a processing facility available right from the start of the project. A common cause of failure for tree projects is the uncertainty regarding market demand and access for the harvested products once the trees have grown. Since building confidence in local farmers is central to the success of the macauba project, a key component of building trust is the active, training-by-doing program. Through this program, INOCAS seeks to demonstrate:

- the potential to increase and diversify incomes by harvesting existing wild macauba trees;
- that macauba is a profitable business by upgrading an existing oil mill and storage facilities to process the collected macauba fruit; and
- that there is a market for macauba, providing test volumes to companies producing oil-based products, animal fodder, and nutshell granulate.

Despite the efforts INOCAS has made to reduce the risks for smallholder farmers, it has had to engage with farmers in other ways to attract enough interest to the project. After visiting the region and recurring to innovative outreach actions, including a YouTube video and appearances on local television networks to present the project, INOCAS was able to recruit 26 farmers to plant macauba trees on their land and 14 farmers to collect wild macauba.

[6] SITAWI is a public interest social organization that is a pioneer in developing financial solutions for social impact and in analyzing the socio-environmental performance of companies and financial institutions (see https://www.sitawi.net/).

Unlike other agroforestry systems that typically produce timber as a byproduct, macauba trees are not planted to harvest wood. The project's business model includes creating marketable, value-added products derived from the macauba tree: two types of macauba oil, two types of animal fodder, and a dense granulate. This product diversification is critical since time is needed to develop a bigger oil market. Although the project is in its early stages, there is already a local market for all five products. There is also the possibility of receiving carbon credits from the stored carbon in macauba palm trees and the carbon soil enrichment resulting from the adoption of silvopastoral systems.

The market for macauba oil is attractive considering the 13–24 percent average growth rate for palm and palm kernel oil imports to Brazil between 1995 and 2015. Imported oils are used in chemicals and as a raw material in soaps, shampoos, and detergents (Visconti et al., 2015). During the feasibility study, INOCAS managed to sell macauba oil to a local oleochemical company, Paradigma Oleos Vegetais, that has developed an innovative system to process macauba oil and its byproducts. In the longer run, macauba oil is also suitable for biodiesel, which today relies on soybean oil.

After extracting the oil from the macauba fruit, the remaining press cake can be used as cattle fodder since it contains fiber and protein. Although some farmers use macauba fruit to feed cattle, large fodder producers do not recognize the press cake as an ingredient, which creates a market barrier. INOCAS is following the same strategy it used for macauba oils, helping cooperatives and larger-scale fodder producers trial macauba-containing fodder and, when large volumes of macauba fruit are available, the press cake will help meet growing demand for animal fodder (IDB, 2012). With higher demand for meat and milk, the volume of feed required for Brazil's herd is continuously increasing, as demonstrated by the increase in domestic soybean meal dedicated to fodder production from 10 million tons in 2002 to 17 million tons in 2012.

Finally, the least developed of the byproducts, the endocarp, could be ground and used to produce activated carbon and used as raw material for oil drilling activities, as biochar for the sandblasting industry, and, because of its comparatively high caloric value, as fuel. There is an expanding body of literature exploring the advantages of incorporating coal into soil to increase soil fertility. Currently, INOCAS and its research partners are exploring different applications.

The macauba value chain requires multiple partnerships. Originally, INOCAS was to partner with Coopatos, a local milk cooperative, to recruit cattle farmers in the region. With 98,000 hectares of pastureland under management by its members, this established cooperative would bring not only its network but also the governance structure and existing communication channels (IDB, 2012). Unfortunately, a new board of the cooperative was more risk averse and the partnership did not prosper, leaving INOCAS to find innovative ways to communicate with and recruit farmers. To build trust and strengthen its partnerships with farmers, INOCAS has agronomists visit them regularly to assist with growing and maintaining macauba trees.

To meet the project's constant need to innovate and optimize both the plant and the planting process, INOCAS continues to rely on partnerships with local and international universities and research centers. From the outset, the availability of knowledge and scientifically based information about the potential and feasibility of the macauba plant was critical to develop markets,

explore alternative sources of incomeincluding carbon markets, and build the credibility needed to attract further investment.

Between 2011 and 2013, supported by the European Union grant, INOCAS and its international partners Yale University and the University of South Australia undertook an applied research project that included a comprehensive feasibility study of a macauba-based silvopastoral system. The study demonstrated not only that macauba oil was a viable alternative to palm oil, but also, and most importantly, that it was possible to harvest and process macauba in a socially, environmentally, and economically sustainable way, and to do so in Minas Gerais, Brazil (MIF, 2017). The study also confirmed that macauba processing is scalable and thus has transformative potential. There are 50 million hectares of pasture in the Brazilian Cerrado, most of which are suitable for macauba-based silvopastoral systems that could produce large quantities of oil without affecting food security or natural ecosystems.

INOCAS partnered with two local universities, Instituto Agronomico de Campinas and the Federal University of Viçosa, and a local nursery, Viveiro Nativo, to create a germination lab to increase the success rate of the seed to sapling process. Through similar research partnerships, INOCAS is exploring the potential of the endocarp for use as a fertilizer.

Through the partnership with the local nursery, the project secured enough saplings for the plantation. Viveiro Nativo is a seedling production company with production capacity of 500,000 native tree seedlings and two million seedlings of other plants, including coffee and eucalyptus. The nursery made an in-kind donation worth over US$1 million in the form of macauba seedlings.

Other partners helped create the macauba value chain and thus are invested in the project and have equity. Partners include Perfil Agricola, which specializes in distributing agricultural inputs and technical assistance, and Reinaldo Melo, a pesticide producer that has extensive experience in organic crop production in Minas Gerais. Their participation in the financial package was critical to making the equity investment from FIP/IDBG possible.

2.5.1.4 **Indicators of Success: Impact, Replicability, and Scale**

Although it is too early to evaluate INOCAS' success, the project has flexibly and innovatively addressed expected and unexpected barriers. Even though the project is behind schedule, the results appear to be on track to meet the overall goals based on the following results three years after implementation (*Source:* INOCAS Newsletter, April 2020):

- 502 hectares planted
- 207 tons of macauba fruit processed
- 133,944 tons of CO_2 sequestered
- 120 farmers either planting macauba or harvesting wild macauba
- 42 ecological corridors

The equity partnership between FIP/IDBG and a private sector company is an innovation for such a project. Partnering with a private company to build a new global value chain is offering opportunities less likely to be subject to changes in government policy than a more traditional form of financing for a conservation project. Further, the FIP/IDBG equity investment sets an important precedent for future financing of landmark projects with scalable positive conservation impact and

significant social and economic spill-over effects. The FIP/IDBG intervention was crucial to demonstrating the project's commercial viability and thus provides a foundation for additional investments, mostly from private sources, for the next phase of the project: building a large-scale oil mill to process fruit once the 2,000 hectare pilot is completed.

Direct investments rely heavily on the credibility of partners, including investors. To attract investors, projects need to be transparent regarding financial, environmental, and social impacts. Although monitoring systems are being developed with Althelia's support, INOCAS is providing information about its progress to partners and a wider audience and building avenues to demonstrate the potential to conserve biodiversity. INOCAS has established 100 biological corridors between the agricultural fields of the 2,000 hectares macauba agroforestry system, an innovation that contributes to preserving the value of the biodiversity.

If successful, the project's potential for scalability and replicability is significant. With over 50 million hectares of Cerrado pastures potentially suitable for silvopastoral systems with macauba, the potential in Brazil exceeds current global palm oil production. The environmental impact also benefits local smallholder farmers by helping avoid some of the negative impacts of climate change, from heat and drought to soil degradation. Further, an expanded macauba global value chain could contribute to Brazil's climate and environment priorities. The country's Intended Nationally Determined Contributions include reducing greenhouse gas (GHG) emissions to 43 percent below 2005 levels by 2030. Achieving this goal requires crops and agroforestry schemes that address land-use change and agricultural emissions (the two most significant sources of GHG emissions in Brazil; the latter's absolute emissions grew 50 percent over the past 20 years) while allowing for increased levels of production and productivity gains.

According to a new study, if the INOCAS project were replicated in 25 percent of the degraded pastures in the Cerrado, Brazil would comply with its Nationally Determined Contributions (Cava, Pilon, Ribeiro, et al., 2017). In addition, the project has the indirect effect of avoided deforestation. Brazil's new forest legislation can benefit from experiences that foster expanding afforestation practices in degraded pastures, especially in cattle farming zones (the primary source of deforestation in vulnerable biomes such as the Amazon), like the INOCAS project.

One critical enabling condition would be government policies favoring macauba oil production. Currently, the Brazilian Social Fuel Seal Program, which aims to integrate smallholder farmers into biodiesel feedstock production, promotes macauba oil as suitable as biodiesel feedstock. INOCAS has to ensure that the farmers participating in its project fulfill the criteria defined by the seal.

There are also opportunities to scale internationally in the future. In addition to Brazil, the macauba palm tree is native to other countries, including Argentina, Bolivia, Colombia, Guyana, Mexico, Paraguay, Suriname, Uruguay, and some countries in Central America. Since no previous macauba business model has been developed, information on the model, plantation density, and silvopastoral systems will benefit other organizations.

2.5.2 Meta Habitat Bank

Habitat banks channel resources from companies that cause environmental damage to land restoration and conservation projects. Companies purchase environmental offsets from habitat banks, which provide technical, financial, and legal management for projects that restore and conserve the environment. The biodiversity unit of exchange, or "currency," is a hectare of a preserved or restored ecosystem that will be managed for that purpose for 30 years. Habitat banks ensure that biodiversity gains are an effective offset and guarantee a 30-year management period.

Habitat banks are an alternative to traditional environmental compensation mechanisms. They provide offset solutions that are easier for developers, cost less than existing compensation mechanisms, and deliver greater benefits for nature conservation than offsetting biodiversity damage within a development site. Habitat banks facilitate the creation and long-term management of large areas of land specifically for nature conservation, restoration, or enrichment. And, they reduce the cost of delivering biodiversity net gains outside the area where infrastructure projects are being developed, often with higher ecological results than a more contiguous habitat provides. The equivalence between ecosystems—those being damaged and those being restored—is a critical variable for site selection. Prioritization of sites responds to potential clients that require environmental licenses, mainly in mining, oil and gas, energy, and roads.

The first habitat bank in LAC, the Meta habitat bank, was established by Terrasos, a private company specializing in structuring and implementing conservation investments, in the municipality of San Martin de los Llanos, Colombia. The bank was started with 622 hectares of natural forest and savannas in the Orinoquia region where the Andean Piedemonte ecosystem (predominantly forest vegetation cover) combines with wide flat areas and intersects with the highland ecosystem (dominated by savanna and gallery forests and locally called Serranía). Damage to these ecosystems is evident in this region.

The Meta habitat bank's area of influence was defined based on the guidelines of the Biodiversity Loss Compensation Manual, which was issued in 2012 and applies to projects licensed by the National Authority for Environmental Licenses and subject to offsets. The area of influence includes projects located in the hydrological subzone of the Metica River (the bank's implementation area) and adjacent subzones. The ecosystems available for offsets are natural forests, pastures, and grasslands of the Amazon and Orinoquia in Orinoquia. Companies that have negatively affected these ecosystems can find equivalent ecosystems in the habitat bank to offset such impacts.

According to the Biodiversity Loss Compensation Manual, offsets should be used to conserve ecological areas equivalent to those affected in places that represent the best opportunity for effective conservation; where biodiversity is viable by area, condition, and landscape context; and where compensation can generate a new category of management or strategy for the life of the project (Sarmiento, del Valle, Navas, et al., 2016).

One advantage of the Meta habitat bank is that specialists in ecological conservation and restoration manage the participating lands, allowing for measurable biodiversity gains. The habitat bank's success depends on the transparency and traceability of the process, as well as a solid financial and legal structure. The bank's financial structure consists of a trust, and the accounting

and monitoring systems needed to measure the environmental, socioeconomic, and legal impacts from a sustainable development perspective.

2.5.2.1 **Barriers and Opportunities**

The Meta habitat bank faced many barriers, including Terrasos' lack of track record and the time it would take to make the habitat bank operational. Also, a common difficulty for offsets is guaranteeing the permanence of the biodiversity conservation. While ensuring long-term needs are built into the system is an advantage of habitat banks, the right conservation and/or restoration system must be built and backed with a financial and legal structure.

Finding suitable land has proven to be challenging and risky. Substantial time and resources are needed to find not only suitable land but also a suitable landowner who is willing to commit to long-term conservation or restoration plans. The technical and legal challenges of selecting sites for offset activities are particularly challenging. Before the first habitat bank existed, there were no standard methodologies or metrics to establish equivalence for the ecosystems being damaged against those being restored or preserved. The business community's overall lack of knowledge about the concept of habitat banks and associated opportunities is an ongoing communication challenge. Landownership is another risk, particularly in Colombia where land grabbing has been an unintended consequence of the peace process. While legal offsets existed in Colombia for over a decade, the regulatory framework prevented full development of ecosystem recovery and restoration objectives because standards were not being updated or because it was not clear how to implement them.

Though by 2015 Colombia had approximately 18 legal resources (laws, decrees, resolutions, and policies) regarding offsets, no significant results were evident in protecting and conserving biodiversity. In 2012, the Ministry for the Environment and Sustainable Development issued the Manual for the Allocation of Compensation for Biodiversity Loss to environmental licensees (Villaroya et al., 2014). The manual was intended to offer guidelines for implementing offsets; however, it was not clear enough and the offsets did not achieve biodiversity goals. After four years of enforcement, there was no evidence of legal or economic sanctions for projects that did not comply with the mandatory execution of compensation plans for biodiversity loss.

While the manual was based on the mitigation hierarchy, it did not consider the principle of additionality and could not guarantee concrete gains in biodiversity conservation. The different projects and sectors the manual was intended for were governed by the same guidelines without accounting for timing of execution or useful life, thus creating inconsistencies when compensating for the negative biodiversity impacts of infrastructure projects. Also, the duration of compensation did not consider the ecological dynamics of restoration and conservation because the manual only accounted for a project's useful life, not guaranteeing the effective recovery of an ecosystem, which takes more time.

While habitat banks have been an offsetting alternative for environmental responsibilities since 2017, it was only in 2019 that Terrasos closed the first biodiversity credit deal in Colombia. The negotiation process was long, approximately 18 months, largely because habitat banks are still a new concept for most clients and it takes a long time for clients to get authorization from environmental authorities to offset responsibilities through a habitat bank.

Some of the challenges that inhibited the success of biodiversity offsets in Colombia became opportunities for Terrasos:

- **Traceability:** Uncertainty regarding the effectiveness of the offset activities given that there was no reliable information and/or monitoring systems to verify impact and permanence.
- **Quality:** Organizations receiving environmental licenses often did not have expertise in biodiversity conservation or restoration. The atomization of offset initiatives means each licensee implements its offset activity independently, with suboptimal results for conservation.
- **Efficiency:** The lack of specific guidelines for when biodiversity offsets should be implemented provided licensees a perverse incentive to postpone required investments.
- **Coherence:** Demand for an average three-year offset is not commensurate with the duration of the impacts and does not guarantee no net loss of biodiversity.
- **Consistency:** There is a lack of standard procedures to develop offset plans and obligations for successful compensation.
- **Sustainability:** Medium- and long-term financial or conservation sustainability is not included in existing offset mechanisms.
- **Flexibility:** Environmental licensees often do not find the land required to implement the offsets or do not succeed in establishing compensation agreements.

In spite of these challenges, since 2012, the Colombian government has been willing to strengthen its regulatory framework for environmental offsets. A robust legal framework has existed since 2017, and that framework enabled the creation of the first habitat bank in the region.

Colombia is also advanced in terms of other policy and regulatory frameworks for biodiversity conservation, including economic incentives and market mechanisms to preserve the country's natural capital. With 14 percent of the world's biodiversity, Colombia is one of the 12 megadiverse countries in the world. With 60 million hectares covered by natural forests, mostly in the Amazon and Andean regions, Colombia offers vast opportunities for biodiversity conservation and restoration.

2.5.2.2 **How Does It Work?**

Although habitat banks exist in the United States, the United Kingdom, Australia, and other European countries, Terrasos established the first habitat bank in LAC in Colombia. At least two interrelated factors limited Terrasos' capacity to access credit or other financial support to start a habitat bank. First, while the company did a comprehensive review of habitat banks operating successfully in other countries and offered specific recommendations to improve Colombian regulations on biodiversity offsets, Terrasos lacked a track record of successfully establishing such mechanisms. Second, there were risks associated with the deficiencies in Colombia's regulations on offsets.

Concessional financing and patient capital were critical for Terrasos to address the early-stage risks of establishing a habitat bank. The MIF seeded the Meta habitat bank with an equity investment of US$760,000 through a special purpose vehicle with Terrasos. With these resources and a supplementary private fund of US$999,000, in December 2016, Terrasos launched a pilot

project to explore the potential of this innovative financial mechanism. Besides proving the viability of the new offset mechanism, the expected impacts of the pilot are:

- > 600 hectares of land managed
- 20 percent internal rate of return to investors
- 350 environmental credits sold

Another prerequisite was ensuring an effective legal framework that regulated but also enabled the proper functioning of habitat banks in Colombia. Terrasos and NGOs, including The Nature Conservancy, supported the Ministry for the Environment and Sustainable Development in improving the existing legal framework and providing the regulatory foundation for habitat banks. Resolution 1051, adopted in June 2017, regulates habitat banks, establishing the terms and conditions that must be met to register these mechanisms with the ministry. The resolution explicitly lists additionality, complementarity, sustainability, permanence, payment for performance, and knowledge management as prerequisites for receiving investments of not less than one percent of environmental offsets. Among other things, the resolution states that habitat banks can be established on private or public lands that are managed for their high value of natural resources. In return for protecting, managing, and permanently monitoring the area, the entity representing the habitat bank may establish agreements with third-party holders of environmental obligations to satisfy their legal requirements and offset the impacts of third-party projects. More broadly, the resolution provides guidelines to regulate offsets and operate habitat banks,

To address the challenges of creating the first habitat bank in LAC, Terrasos built a structure that consisted of three pillars: technical, financial, and legal.

Technically, two critical elements make a habitat bank operational:

1. A conservation management plan guides the preservation, restoration, and improvement actions associated with compensation for losses elsewhere.
2. To ensure quality and transparency of aggregated compensation scheme it is essential to have a system that quantifies the net biodiversity gains from the conservation management plan.

The Meta habitat bank consists of over 600 hectares located within a wider area of 1,500 hectares where the predominant activity is cattle ranching. Landowners and environmental authorities have agreed on the conservation management plan, which includes:

- Savanna for conservation: savanna areas that need to be preserved or enriched
- Savanna for restoration: savanna areas with different levels of human impact that need to be conserved or restored
- Forests for conservation: well-preserved gallery forests that need to be protected
- Forests for restoration: forests that have been transformed into paddocks or stubbles and need to be restored and protected

Conservation includes building fences for cattle, monitoring changes to land use, and preventing fires. Restoration requires building a nursery to plant natural species.

The methodology used to quantify biodiversity gains, which is aligned with the offset guidelines of the Biodiversity Loss Compensation Manual, is critical to the offset system and allows for the following:

- Measuring biodiversity loss related to the infrastructure, mining, or transportation project
- Measuring biodiversity gains offered in the habitat bank's area of influence
- Identifying the best management strategy to obtain the biodiversity gain
- Estimating the biodiversity gain the habitat bank could offer for the demanded offset
- Verifying the biodiversity units in the area where the offset will take place

The equivalence between areas demanded and supplied for the offsets requires a measurable ecological unit. Terrasos used three criteria to evaluate the quality and relevance of such areas:

- The compensation factor defined and established in the Biodiversity Loss Compensation Manual
- The landscape context
- The quality of the area in terms of its state of conservation, which is determined by the management plan and includes a baseline and performance standards

This methodology is critical, as each area is different and its particular location is not sufficient to determine conservation values or additionality. Not all management strategies produce the same additionality and not all strategies have the same cost.

The **financial** pillar of the habitat bank consists of two fundamental elements:

1. Calculating costs to ensure biodiversity gains, which are measured by knowing the management cost of each biodiversity unit and the price per biodiversity unit and per hectare. Costs include those related to the implemented actions in the field and the associated administrative, technical, and financial costs.
2. Ensuring management schemes for the financial resources are destined for the planned activities for a 30-year period. To design the financial mechanism, a trust was created to administer investments made in conserving, restoring, or improving biodiversity projects. This trust has two accounts, one to administer the resources in the short- and medium-term, during the active implementation period (15 years), and the other to administer those resources in the long term, up to 30 years. Sales of each biodiversity unit (approximately one hectare) are directed to the short-term account and a minimum of 10 percent of such sales are devoted to the long-term account. The long-term account is to finance all actions associated with the habitat bank starting at year 15, when the performance standards established in the management plan are met and all biodiversity units are available.

Ensuring the permanence of conserving, improving, and restoring actions for 30 years is the main goal in the design of the habitat bank's **legal** structure. It is also one of the central challenges faced by traditional compensation schemes. There are two components of the bank's legal structure: reducing the legal risks of the land area that will participate in the habitat bank and agreeing with the company interested in compensating through the habitat bank. The legal process for selecting the location for the habitat bank includes due diligence to identify any financial risk

(e.g., property rights issues that could affect the permanent nature of the compensation itself). In addition, negotiations with landowners need to guarantee:

- there is no negative impact on the property rights for the land that will generate revenue;
- there are no operative negative impacts of signing a 30-year operation contract with the landowners through which they would guarantee the conservation, restoration, or enrichment of biodiversity;
- a third-party or government audit;
- that, when there is inheritance, transfer, taxation, or other action that affects the land, these actions are not detrimental to the project;
- that all environmental regulations are complied with, including permits and concessions; and
- that limitations are established for the types of land use allowed on the property by creating reserves, protected areas, or easements.

There are three basic elements of any agreement between the trust of the habitat bank and the company interested in compensating through this mechanism. First, a trust contract is established with a financial institution, authorized by the Financial Superintendence of Colombia, to guarantee proper management of the financial resources. Second, companies willing offset sign contracts to ensure the transparency and traceability of the biodiversity units managed. Third, the agreement guarantees that every person related to the project (landowners, service providers, employees) establishes clear obligations and expectations through a contract (e.g., labor, civil, or commercial).

2.5.2.3 **Monitoring and Verification**

A monitoring and verification system with robust environmental, socioeconomic, and financial indicators is essential. The expected 30-year impact of the Meta habitat bank is:

- Financial: 20 percent reduction in the cost of compensation costs for companies
- Environmental: 130 hectares restored forest
  430 hectares of forest preserved
  610 hectares with biodiversity gains quantified
- Socioeconomic: 10 permanent jobs
  10 temporary jobs
  100 percent increase in productivity per hectare

So far, Terrasos has developed the proof-of-concept and validated the business model and market appetite for habitat banks as a cost-efficient, offset mechanism. The Meta habitat bank of over 600 hectares is fully operational, has sold 20 percent of its credits, and is negotiating another 40 percent of its credits.

2.5.2.4 **Scalability and Replicability**

Building on the success of the Meta habitat bank, Terrasos is replicating the model in other regions, structuring two new habitat banks of 600 hectares each, one in Cesar and the other in Antioquia. These habitat banks are in the prefeasibility phase. Terrasos has simulated the impact of 10,000 hectares considering market evolution and lessons learned from the Meta habitat bank. The simulation allows stakeholders and project managers to understand the positive impact of habitat banks with more available hectares on endangered ecosystems, cost structures, and investors. According to this simulation, 80 percent of the 10,000 hectares would be considered for preservation of threatened ecosystems and the remaining 20 percent for restoration and enhancement. Tropical forests and tropical dry forests may become the most common forest types in future habitat banks because they are areas showing significant transformations. Implementations for the simulation are on the Caribbean coasts, in the Cauca and lower Magdalena regions, and in the central region of the Tochecito Valley. The areas being considered for preservation and restoration would be excluded from alternative uses for at least 30 years, although passive ecotourism and recreation could potentially be compatible.

The estimated cost per hectare in the simulation is US$4,882, a 43 percent lower than the actual cost per hectare (US$8,500). Restoration activities and preservation activities would be implemented in year three. While restoration will continue for 10 more years, preservation activities will last 30 years. In the simulation, the sale of biodiversity credits is estimated to also start in year three, with a decade-long sales target. The habitat bank would receive client payments during the first 15 years. According to the projections, habitat banks would achieve a break-even in year eight and investors would get benefits for 16 years. The overall internal rate of return of the project would be 21.5 percent. The sales would go to two funds, one for restorarion and one (a trust fund) for long-term conservation.

2.5.2.5 **Enabling Conditions**

The Meta habitat bank could not have been developed without the financial support of the IDBG. The bank's equity participation, in itself an innovation, was essential for Terrasos to implement the pilot project and to prove the business model for habitat banks as a financial tool for conservation in Colombia.

Much more than in other impact investment projects reviewed in this report, the Meta habitat bank shows that having the appropriate regulations is a necessary condition for these instruments to operate. Without the legal framework, it would have been impossible for this innovative instrument to operate in Colombia. However, as seen by the ongoing challenges that Terrasos faces, an active communication strategy is also required to accelerate knowledge within the business sector in Colombia about the opportunities that habitat banks offer for reducing the cost and increasing the effectiveness of biodiversity offsets.

2.5.3 Intrinsic Value Exchange (Turning Nature's Wealth into Financial Capital)

2.5.3.1 **How Does It Work?**

The Intrinsic Value Exchange (IVE) is establishing a new tradable investment class based on natural assets to fully include the value of nature in the financial system. In other words, the IVE aims to offer an innovative financial solution to the externalities of economic activity and to generate financial capital at a volume needed to address the accelerated degradation of natural resources.

The goal is to elevate natural (intrinsic) assets onto a level playing field with asset classes traded on other exchanges, like the New York Stock Exchange or the Chicago Board of Trade, which value companies or commodities. The IVE will allow investors to protect and grow intrinsic natural assets, which are potentially worth trillions of dollars and can make our world economy fully sustainable.

The IVE design aims to generate wealth by producing:

- Financial capital that is based on the underlying value of productive natural assets.
- Valuable price signaling information about the actual costs of goods and services.
- Data to direct capital investment and business/social priorities.

With the support of its partners, the IDBG, The Rockefeller Foundation, and several private investors, the IVE is:

- Engaging with a major U.S. stock exchange to provide the platform and develop the listing standards and trading rules for natural capital assets.
- Creating accounting standards with leaders in the field to map the value of natural capital.
- Developing a project pipeline to value natural assets on both natural and working lands.
- Working to secure approval from the Securities and Exchange Commission to trade the new asset class and the initial S1 filings.

2.5.3.2 **Barriers**

There are vast challenges to preserving biodiversity values because solutions are needed on a scale that can stop the enormous impact of negative externalities on nature.

The IVE looks to tackle the lack of financial mechanisms that help confront the negative externalities of our economic activity, which is the root cause of the accelerated rate of environmental degradation, species extinction, climate change, and ocean acidification. Also, the IVE seeks to solve the problem of incomplete information about the costs of producing goods and services and the exclusion of natural assets from the mainstream economy.

The traditional approach for dealing with these externalities is flawed. Regulations, taxes, artificial markets (like cap and trade), and the work of non-profits are palliative measures that are ineffective at fixing a systemic problem. This approach makes natural resources a liability because they are perceived as obstacles to economic activities, jobs, and wealth. Governments do not find it viable to price all the externalities. Even for large companies, it is complicated to introduce regenerative practices fast enough to reverse the loss of biodiversity because they cannot raise consumer prices enough to finance adopting such practices along their supply chains. In the

absence of a more systemic solution, the resources that can be transferred or donated to offset the current negative impacts of economic activities on nature is very limited. In the best-case scenario, this traditional approach, if successful, only slows the negative impacts of our economic model.

One of the factors impeding more financial resources being allocated to preserving and restoring nature is the failure of accounting systems to integrate not only the negative externalities of goods and services produced in our economies, but also the positive externalities of natural ecosystems. The cost of producing food or gasoline, for instance, does not include the negative costs of forest degradation or water pollution. These hidden, uncounted costs are paid by society with health problems and climate change. There is also a lack of information about the value of natural resources, such as forests or wetlands, including their intrinsic value and the long-term services that they provide (e.g., clean air, clean water, and healthy soil). At best, natural capital is inefficiently priced, but often it is simply not priced at all.

By including the negative and positive externalities in the mainstream economy, the IVE aims to solve—not just ameliorate—the cause of our environmental problems. Through a new intrinsic asset that has value and is therefore exchangeable, the IVE will generate financial resources at the scale required to preserve and restore nature.

2.5.3.3 **Opportunities and Enabling Conditions**

The IVE will create a new asset class for nature in capital markets. Nature has an intrinsic value that may not be measurable, but it is also a productive asset. It is not an abstract market, but one based on the capital borne of land or water, similar to mineral and timber rights. Governments can provide a license to use such assets if there are appropriate regulations. If the land is privately owned, the landowner or trustee has the right to use those assets. Equity is created on the active management that administers this natural asset and its rights. The company is taken public and the proceeds of the offering generate financial capital to support the continued protection and/or restoration of the natural assets the company manages. The public should be able to access these investable assets on an exchange platform.

According to some estimates, the natural economy could produce as much as US$146 trillion in ecosystem goods and services per year, with those assets valued at as much as US$4,000 trillion (Constanza et al., 2014). Through the stock exchange platform the IVE is constructing, the goal is to monetize these natural assets. By listing natural asset companies on this exchange, anyone can buy and sell shares of such companies.

The IVE Natural Equity is the exchange's master financial instrument. The IVE Accounting Framework is an accounting standard that incorporates both traditional values associated with corporations as well as natural production values unique to managing natural assets. The Ecosystem Service Valuation will be central to informing the price of natural asset companies and for measuring the stock of natural assets and the flow of ecosystem services in a given area. This valuation has to be rigorous, science-based, and defensible. As not all nature is for sale, there is more to valuing natural systems than sales value. While timber from a forest is bought and sold like other products, there is no price for the water filtration and flood reduction services that the same forest provides to neighboring communities or for the habitat it provides for wildlife. The economic value for these non-market benefits has not been measured. Although they are not priced,

they are not free. Society pays a price, through negative externalities. In an increasingly crowded world, these vast natural assets should be valued. To convert natural assets into priced natural capital, the IVE uses the following process:

1. Obtain rights to the natural asset.
2. Create an asset management and rights holding company.
3. Commission natural asset and ecosystem service valuation.
4. Develop a management plan to protect or grow natural asset health and impact capacity.
5. Determine stakeholder share distributions (e.g., investors, government, citizens in or adjacent to the ecosystem, and the general public).
6. Develop an underwriter syndicate.
7. Begin initial public offering.

In addition to securing approval to trade natural asset companies, the IVE is developing projects that can evolve into natural asset companies and bring them to the public capital markets.

Like other innovative financial instruments, the IVE needs to demonstrate that there is demand for a natural capital exchange and secure funding to develop the project and scale it up for market launch. Another requirement is establishing partnerships with key organizations and opinion leaders to support the IVE's launch and market acceptance. The IVE has identified three general categories for project development:

1. **Natural lands:** Existing conservation areas and intact landscapes to be protected, expanded, or restored to protect biodiversity and produce ecosystem services.
2. **Working lands:** Converting existing production practices from conventional methods that degrade ecosystems into regenerative agricultural methods, thus increasing the health of the soils, aquifers, and other water resources; farm incomes; and the nutritive value of food.
3. **Hybrid lands:** Integrating natural lands, working lands, and built infrastructure in a single project to produce the most value across diverse assets.

The IVE assumes that initially focusing on the agricultural sector has the largest potential, as it is one of the sectors with the most negative impact on nature. Agriculture uses about half of the land area on the planet, two-thirds of water resources, and accounts for 80 percent of all pollution released to waterways and oceans (Ritchie, 2020). It also produces a quarter of all GHG emissions, has other considerable negative effects on wildlife populations and genetic diversity, and is a major factor in the degradation of natural resources. In a natural capital market, the legal structure of land ownership makes it easy for a financial instrument to value natural capital on agricultural lands, including assets held in public trust.

The IVE creates a financial asset and income for farmers when they "grow" natural capital. As with an increase or decrease in a company's earnings in the regular stock market, investors can benefit from the initial pricing of natural assets and their increase in value.

The two critical outcomes of creating a market for natural capital on agricultural lands are:

1. price signaling, which informs land-use practices and shows the real cost of producing agricultural goods and services (integrating the externalities); and
2. generating financial capital based on the farmer's preservation and production of natural capital and ecosystem services.

The IVE is exploring projects that focus on converting conventional production to organic processes; restoring highly degraded and abandoned land; converting corn and soybean monoculture to grassland grazing to produce animal protein; producing specialty crops for orchards and vineyards, among others; and restoring forest lands. These types of projects are associated with positive market trends, such as growing demand for healthier, sustainable products and the need for large corporations to green their supply chains by helping their suppliers adopt regenerative agricultural practices. They are also favorable to governments that are adopting policies that aim to stem the degradation of natural resources, for example, through payments for ecosystem services.

To develop the proof-of-concept, the IVE is working on the following projects:

- **Protecting rainforests in Suriname:** Working with the government of Suriname, the IVE is exploring how to value and monetize the natural assets of 1.6 million hectares of primary rainforest, the Central Suriname Nature Reserve (IVE, 2020). The objective is to convert natural assets, in this case a healthy rainforest ecosystem, into financial capital that provides resources the government can invest in its people and ensure these resources are conserved without having to resort to extractive activities. The nature reserve and its surrounding forests are in jeopardy from open timbering, illegal mining, and road building, as well as the pressure coming from the downturn of commodity prices.

  Suriname is a country rich in ecological resources. Thanks in part to pioneering conservation efforts, over 95 percent of the country remains forested, with 80 percent representing primary rainforests, home to a rich diversity of wildlife and indigenous people. A country the size of New England, Suriname has 7 percent of the surface freshwater on the planet. The country is facing developmental pressures, particularly from those who own critical natural resources. The potential wealth of the forest is converted most easily into financial capital by extractive and unsustainable agriculture, such as palm oil plantations. The rainforest is precious, but these assets remain theoretical. A traditional industrial pathway overly reliant on extraction leads to rapid but uneven economic growth. When non-renewable resources are exhausted, the majority of the population is burdened with the real costs of a degraded natural capital without the benefit of a diverse and inclusive economy.

  A successful demonstration of the IVE platform in Suriname could open a pathway to preserving and regenerating rainforests throughout the world. The IDBG's MIF is the lead investor in the project, with US$1.2 million in seed capital and technical support to initiate the project, as well as help to form the Suriname and Central Suriname Corporation.

- **Protecting biodiversity and ecosystem functioning in Southern Costa Rica:** This ridge-to-reef project aims to integrate coastal management, strengthen protected areas, create a corridor to connect protected areas, restore degraded landscapes, and support regenerative agricultural practices.

- **Protecting critical habitat Mexico:** Water-intensive cropland is being converted into pastoral grazing and wildlife habitat.
- **Converting the supply chain to regenerative practices:** Exploring IVE tools to convert Danone's supply chain to regenerative agriculture.

2.5.3.4 Enabling Conditions to Succeed and Scale Up

Accounting is the most significant problem that the IVE must address to succeed. It is a complex problem because any accounting system must integrate externalities. The IVE is working with existing metrics and methodologies.

Recognizing that nature has vast intrinsic value that may not be measurable, one challenge is how to measure and provide numerical guidelines for the ecosystem services that nature provides. A key question is where the investment has the highest value for biodiversity. From this perspective, nature should be priced for its value, particularly vis-à-vis producing goods and services, through appraisal systems, and, just like natural resource companies, reporting on stockpiles and pricing services by pricing carbon and water.

Another problem is the sovereign risk and the legal and policy frameworks required to enable the creation of natural asset companies. For instance, until recently, Suriname did not have legislation to write agreements to license land; the country just passed legislation for natural assets. While Costa Rica has a well-developed framework for ecosystem payment services, many more countries need to follow a similar path. There are other cases in LAC and elsewhere in the world where there are land-tenure disputes and where there are questions about how to safeguard indigenous communities and their rights.

3 CONCLUSIONS AND RECOMMENDATIONS

While this report has demonstrated that LAC is a region full of opportunities for innovative finance in conservation, the pivotal question is how to scale such financing at the pace required to stop the degradation of nature and biodiversity.

A common characteristic of the innovative projects reviewed in this report is their significant potential to grow, be replicated, and expand to regional and national levels. As the discussions about investment pooled funds and direct investments, such as INOCAS, the habitat bank in Meta, and the IVE, have suggested, growth and replication depend on many factors, but fundamentally on the ability of these projects to aggregate a collection of small and medium enterprises that grow and succeed in the market by preserving nature and generating significant financial returns.

The difficulty of reaching scalability to attract more conventional and commercially minded investors is often operational, as most projects require hundreds of local farmers or fishing communities to be trained, complex supply-chain operations to be organized, and multiple partnerships to be developed. Generally, projects are small, with only a few projects being scalable beyond the US$5 million threshold for more conventional investors. Above all, replication and expansion of innovative finance for biodiversity in conservation requires a systemic approach.

Developing a pipeline of conservation projects and enterprises continues to be a significant bottleneck to accelerate conservation finance. As the Natural Capital Lab's analysis showed, LAC faces the paradox of having a growing number of private investors willing to invest in conservation projects and plenty of conservation projects and medium enterprises with innovative projects; however, the projects are not large enough to absorb the investor threshold of US$1 million (Natural Capital Lab, 2020). Further, the projects are early-stage, grant-based, developed by NGOs, and unable to become viable, scalable business models.

Furthermore, speeding the growth of medium enterprises to absorb this amount of capital takes time, as demonstrated by the early stages of development for EcoEnterprises Fund and Althelia Funds. The IVE faces a similar challenge as it embarks on creating natural asset companies that can then be traded publicly. Even green bonds, which can mobilize large amounts of financial capital, face a mismatch between project size and the minimum bond issuance. While compelled to aggregate many projects, as in the case of FIRA's green bond, a prerequisite of these projects is the producer's ability to adopt sustainable practices.

The following are recommendations to address these barriers and bring many of the innovative finance initiatives reviewed here to fruition, replication, and expansion:

- Amplify and replicate efforts such as the accelerator platform being built by the IDBG in partnership with the AFD to support innovative conservation ventures and prepare them to attract and absorb investments of US$1 million into viable, scalable business models.
- Back and encourage the creation of platforms for collaboration and knowledge sharing to address the need for more investable conservation projects. Knowledge platforms could support lenders, reduce perceived risks, and increase green lending. Amplify efforts such as the blueprints and the compilation of conservation-focused accelerators led by NGOs that is being produced by the CPIC.

- Disseminate knowledge, best practices, and success stories in public and private sector forums, as well as through NGO networks and in regional and national settings. Like producing this report, make ongoing initiatives visible and share lessons learned, influencing opinion leaders to ensure market acceptance of these initiatives. Give visibility to innovative finance projects through university networks and other specialized forums to encourage young entrepreneurs to learn about new ways to protect and restore nature.
- Assist in developing robust metrics to measure and verify the biodiversity impact and financial return of conservation projects and to enhance transparency to ensure the credibility of these innovative finance initiatives. For instance, while green bonds offer solutions to address the size challenge of impact investment, particularly for conservation bonds in the land and ocean sectors, there is continued need to develop the right metrics and ensure their transparency. An example of what can be done is the IDBG's Green Bond Transparency Platform, which provides standardized and transparent disclosure for these financial instruments. Another area of opportunity for impact investment funds is developing universal standards to give the market clearer visibility about which of these and other financial instruments support nature-based projects.
- Support the development of more robust accounting frameworks to value ecosystems, enabling faster expansion and replication of projects like habitat banks and the IVE, which depend on accounting. At this stage, there are no adequate metrics to comprehensively assess natural capital value. Developing a universal framework to value ecosystems is at the root of addressing the negative externalities of economic activities. The Dasgupta Review, an important effort in this direction, assesses the economic benefits of biodiversity globally, evaluates the economic costs and risks of biodiversity loss, and identifies a range of actions that can simultaneously enhance biodiversity and deliver economic prosperity. Others include the UN System of Environmental Economic Accounting, the Natural Capital Accounting project supported by the European Union, and the more recent initiative to create a Task Force on Nature-Related Financial Disclosures, following on the success of the Task Force on Climate-Related Financial Disclosures in offering investors and lenders consistent climate-related financial risk disclosures.
- Establish partnerships with digital firms to advance technologies that improve the transparency and measurability of the impact of conservation investments, and thus accelerate the replication and expansion of innovation finance.
- Work with universities, NGOs, and other stakeholders to develop the required skills of financial and conservation experts through curricula innovation. Increase the presence of NGOs in financial sector forums and financial experts in the conservation community, and ensure that impact investment networks understand emerging opportunities for biodiversity conservation in LAC.
- Partner with governments and other interested stakeholders to offer technical assistance to investors and project developers to transition into innovative financing for conservation. One example is the IDBG's Green Bond Program for Public Sector Issuers, which provides technical assistance before and during the issuance process. Partnerships between the IDBG and development banks and financial institutions in different Latin American countries could help target small businesses requiring loans or equity investments to build

capacity to promote impact investment and other innovative financing strategies or accelerators for environmentally sustainable business.

- Promote national and local contexts that enable innovation financing. Encourage governments to accelerate the adoption of policies and regulations, such as REDD+ frameworks, ocean and coastal laws, and enforcement mechanisms, so that their international commitments to preserve and restore nature enable the mobilization of private investments through innovative conservation finance.

As mentioned throughout, a constant in all of the innovative finance projects reviewed in this report is support from development banks, particularly the IDBG. Their role in concessional finance mechanisms and, increasingly, as anchor capital was critical for unlocking, leveraging, and catalyzing more private financing. Broader participation in offering this kind of support from other development institutions, especially national development banks and international cooperation agencies, could be instrumental in promoting the involvement of private investors and in accelerating the pace of conservation finance throughout LAC.

APPENDIX 1: CASE STUDY: ECOENTERPRISES FUND

General Description

EcoEnterprises is a venture fund and one of the private sector pioneers in natural capital investing. The Fund has been a forerunner in biodiversity-focused investment and is one of the few dedicated direct investors in natural capital that focuses on LAC. The Fund has attracted private investment for over 40 companies, many of which have achieved biodiversity conservation goals, including conserving over 6 million hectares with Funds II, and I while making a profit.

For over two decades, and through three close-end funds, the EcoEnterprises has pioneered investing in small businesses that explore novel opportunities in the land-use sector and for which preserving natural resources is essential for financial success. After a first, US$6.3 million, proof-of-concept fund (2000–10) and a second very successful US$32.5 million fund (2011–17), EcoEnterprises Fund III was launched in 2018, with a stronger biodiversity conservation focus (GEF, 2015). The Fund now considers emerging opportunities associated with carbon and biodiversity offsets, ecosystem services, and watershed management. It has also committed to supporting companies that integrate the Nagoya Protocol on Access and Benefit Sharing into their operations, working along the value chains of nature-based products, thereby boosting the resilience of rural value chains (EIB, 2017).

The Fund selects businesses that depend on the long-term availability of natural resources and ecosystem services in expanding sectors, such as organic agriculture, aquaculture, ecotourism, and wild-harvested products. Following is a list of a few of the most successful nature-based small- to medium-sized companies that the Fund has financed in the past 20 years (a longer list is included at the end of this appendix):

- **RUNA (Ecuador):** The first company to sell tea made from guayusa leaves, an Amazonian super-leaf offering as much caffeine and more antioxidants than green tea.
- **Sambazon (Brazil):** Processes wild-harvested açaí and other superfruits grown in the Brazilian Amazon.
- **Terrafertil (Peru):** A pioneer purveyor of healthy beverages and snacks that offers a variety of dried tropical fruits (e.g., golden berries), private-label snacks and juices, and famous branded retail lines, such Nature's Heart and Essential Living.

The Fund's portfolio also includes ecotourism companies that strongly rely on the restoration and preservation of biodiversity, establishing collaboration with local communities. Examples are Morgan's Rock (Nicaragua), Rainforest Expeditions (Peru), and Rolf Wittmer (Ecuador).

How Does It Work?

Through an innovative approach, the EcoEnterprises Fund has addressed many of the barriers faced by investments in biodiversity conservation. This innovative model consists of five strategies: (i) blended financing and anchor capital, (ii) a diversified portfolio and experienced management, (iii) venture financing, (iv) monitoring, and (v) third-party certifications.

Blended Financing and Anchor Capital from Development Banks

Given the typical challenges of aggregation, technical assistance, and capacity building with smallholder farms, multilateral organizations and development banks have played an essential role in the Fund's success. The partnership that the Fund created in 2000 with IDBG's MIF and the GEF was strategic for developing the first fund as a proof-of-concept. Fund I's structure consisted of a US$6.3 million venture fund to invest in small- and medium-sized companies that offered nature-based products. The IDBG invested US$2.6 million in Fund I, matching each dollar the Fund received from other investors (Biller and Sermann, 2002). The GEF's US$1 million grant covered operational costs and technical assistance to fund management (GEF, 2015).

The blended finance structure also included an association with The Nature Conservancy that resulted in support from business-minded conservation donors, mission-driven investors, innovative foundations, and multilateral development banks (Newmark and Peña, 2011). Support from the GEF and the IDBG was instrumental in Fund I achieving positive results and good performance, which led to the launch of EcoEnterprises Fund II.

Fund II, which became independent of The Nature Conservancy, received investments six times those Fund I received and then moved away from blended finance, coming to rely on equity investments from a more diversified pool of investors. The anchor capital was offered by credible and recognized partners, such as the GEF, the IDBG, and the EIB. Although a majority of Fund II was capitalized by development banks, there was increased participation from private sector investors. Besides the IDBG MIF's US$3 million equity investment and the GEF's US$5 million equity investment, other investors included the EIB, the Dutch Development Bank, the Hivos-Triodos Fund, Oikocredit, Calvert Foundation, and other family foundations (MIF, 2017).

Support from the GEF and the IDBG as lead investors in Fund III served as a vote of confidence to attract larger investments from other development banks, as well as other investors, including co-investors in the private sector; it also helped mainstream the investment platform for EcoEnterprises' business model. Another critical element was the Fund's accumulated knowledge and proven experience as a skilled investor in biodiversity-based small- and medium-sized companies in LAC, which explains the rapid growth in the volume of investment since its launch.

Diversified Portfolio and Prudent, Experienced Portfolio Management

By aggregating or bundling projects with distinct but complementary cash flow and risk profiles, the EcoEnterprises Fund diversifies the risk of single transactions on the basis of sector, country, and size of investment. This has allowed the Fund to match investor's risk–return–impact profiles to distinct cash flow sources and to complement risk, return, and impact expectations in one product. This approach demands superior management skills, strong structuring and origination capabilities, and a robust understanding of all projects.

The Fund's strategy to decrease risks is emphasized by a selection process, focusing on the viability of the business model, on growing experience in impact investment frontier markets, and on creating track records, along with close collaboration with the business receiving the investment (Rabobank and Alimi Impact Ventures, 2018).

A related aspect of the Fund's risk-mitigation strategy is its goal to generate stable cash flows by selecting companies that offer high-value-added products and services. The Fund's investments have been in agriculture, agroforestry, and ecotourism since these activities provide sustainable cash flow and risk-mitigation strategies. The Fund has selected companies that focus on value-added processing, packaging, and/or marketing of agricultural and wild-harvested forest products in niche market sectors to increase return and impact metrics.

"Financial exposure to any one venture must be less than 12 percent of the Fund's total committed capital and not more than 20 percent to one or more companies in an affiliated group" (Biller and Sermann, 2002, p.10). The Fund generally finances up to 50 percent of the capital needs of a project and strives to share the cost burden with co-financiers and project principals, thereby minimizing risk (GEF, 2015).

Adoption of sustainable practices by companies in the Fund's portfolio also helps maximize returns. On one hand, it helps reduce costs by making more efficient use of natural resources in the production process. On the other hand, regenerating, restoring, and preserving natural and biodiversity assets as a result of such practices contributes to the value of the assets of the individual companies in the Fund's portfolio.

Deploying financial instruments similar to Fund I and Fund II, EcoEnterprises Fund III finances the development of new business lines, the growth of existing product lines, the expansion of businesses into new geographies, and the acquisition of complementary assets. The Fund is also innovating by demonstrating the ability to mainstream biodiversity within small businesses and offering financing investment to a niche of companies that adhere to the Nagoya Protocol on Access and Benefit Sharing (GEF, 2015).

Venture Financing

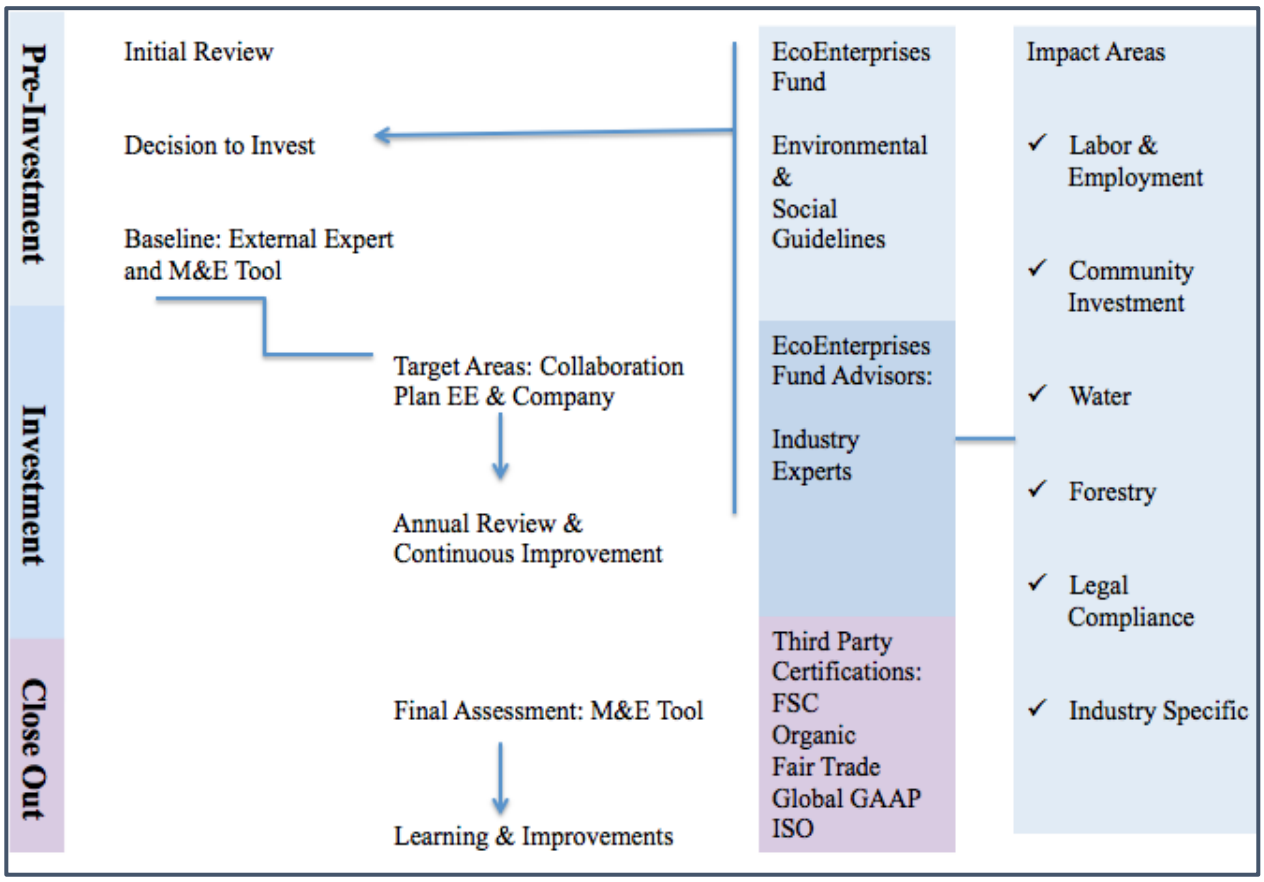
EcoEnterprises Fund has provided tailored finance instruments otherwise unavailable to the companies in its portfolio, which are small but have exceptional growth potential. The Fund offers long-term financing through a variety of mezzanine structures (e.g., royalty streams, warrants, convertible notes). Senior, subordinated, and other tailored debt in its investments offer favorable terms, especially in the start-up stages, to reduce risks for investors and kick-start market development (LAVCA, 2016).

The Fund also provides its partner companies operational assistance and appropriate funding plans structured for strategic growth and impact performance. The companies are small, growing enterprises from emerging or developing economies that are pioneering novel business ideas that are risky and expensive ventures. They manage complex operations, work in rural areas, rely on community partnerships, have underlying environmental and social mandates, and sell products to export markets.

Community partnerships serve as stewards and advocates for conserving and sustainably using biologically diverse ecosystems and ecosystem services throughout partner operations and supply chains. As a result, the Fund and its partners invest substantial time and capital in training, community engagement and collaboration, research, market development, and consumer education.

Companies in the Fund's portfolios introduce new ways of doing business so that they balance environmental and social imperatives with financial objectives. Further, they ensure resilient strategies that adapt to the market reality without compromising their business model.

EcoEnterprises Fund: Assessment, Monitoring, and Measurement Impacts



Source: EcoEnterprises Fund.

By bringing together investors, advisors, and technical experts through a collaborative model, the Fund facilitates innovation and the impact needed to accelerate transformative business models that address environmental and social challenges. The Fund's collaborative philosophy seeks to:

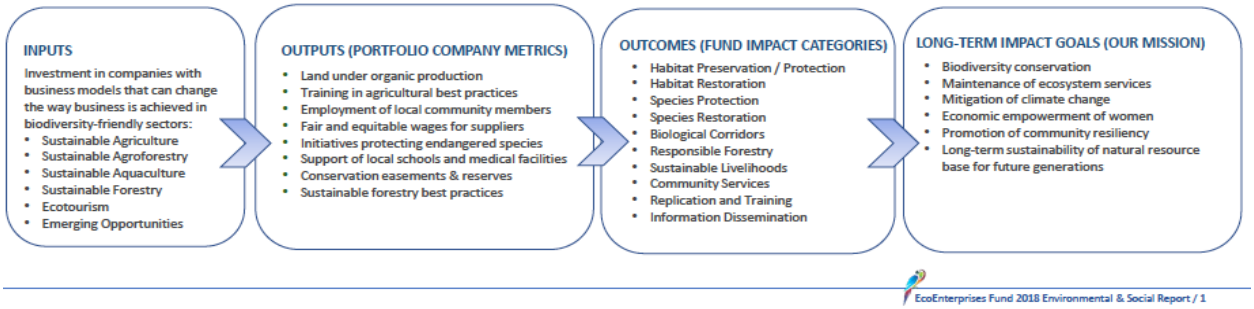
- create long-term livelihoods by increasing productivity and facilitating resilience in local communities, while encouraging sustainable use and conservation of natural resources; and
- preserve and protect critical, vulnerable ecosystems and biologically biodiverse working landscapes.

Monitoring

Monitoring systems are critical to attract private investors. They ensure that company performance is in line with the Fund's target impact areas. As a pioneer in the field, EcoEnterprises developed

its own due diligence, evaluation, monitoring, and impact measurement systems, as nothing comprehensive existed previously.

EcoEnterprises Fund: Assessment, Monitoring, and Impact Measurement



Before the Fund invests in a company it evaluates the company's actual and potential performance and risk using financial, operational, environmental, and social metrics. It also designs, jointly with the company, the appropriate financing structure and discusses ecological and social performance, as well as the areas where the Fund's direct engagement (i.e., strategic direction, industry expertise, and technical advisory) can resolve challenges or enhance impacts. Post-investment, the Fund carries out a baseline assessment in conjunction with the company and industry specialists, assessing performance and identifying gaps. Progress reviews are conducted annually to ensure continued improvement. Independent experts verify impacts throughout the investment period. In an iterative fashion and through its Impact Metrics Tool, the Fund identifies red flags and social and environmental priorities for each portfolio company, and develop and adjust action plans.

Because of the nature of the portfolio businesses, environmental and social indicators are critical to their financial success. The companies depend on natural systems and local community involvement to ensure the sustainable use and long-term viability of the resource base. As such, environmental and social criteria are not just a corporate responsibility, they are central to the Fund's impact and credibility.

Through its Impact Metrics Tool, the Fund generates quantifiable data that guide decisions and adjustments from the initial baseline through the company's exit. The Fund continually refines and updates its monitoring and evaluation tools. The list of metrics first developed by The Nature Conservancy and the IDBG for Fund I was integrated in the ESG model of 2018. The ESG includes a comprehensive set of social and environmental parameters that feed into longer term impact goals that are associated with the 2030 Sustainable Development Agenda.

Third-Party Certifications

EcoEnterprises also depends on external certifications to independently monitor performance. Many of the Fund's portfolio companies have some form of third-party certification, such as Fairtrade; Marine Stewardship Council; Verified Carbon Standard; and Climate, Community and Biodiversity Alliance, among others. Besides offering an additional layer of monitoring and verification of organic production, forestry management, ecotourism best practices, fair and ethical

treatment of employees and suppliers, and production standards, these certifications allow the companies to obtain premium prices for their natural assets and to develop niche markets.

Indicators of Success

EcoEnterprises is a success story by several different measures, where each successive fund received more capital and attracted an increasing number of more diversified investors. Funds I and II leveraged seven times the Fund's capital deployed by other financiers, which was fundamental to ensuring the success of this biodiversity-focused business (GEF, 2015).

The Fund has gained unmatched experience in over two decades as an investment manager in conservation in LAC. The Fund's track record of implementing successful risk-mitigating controls and developing the management capacity to structure innovative financing mechanisms is critical to improving efficiencies and increasing the cost-effectiveness of new investments.

The Fund's conservation impact has helped to protect and sustainably manage over 6 million hectares through highly innovative projects in the agricultural, agroforestry, in addition to ecotourism sectors. In parallel, impacts are delivered with high returns of an average 11 percent for Fund II (Global Nature Fund and Oro Verde, 2017) and an expected 13 percent to 15 percent for Fund III (GEF, 2015). At the close of its operating period, Fund I had not made a profit, but it had broken even, excluding operating costs, and succeeded in demonstrating proof-of-concept, in becoming independent of The Nature Conservancy, and in mobilizing funding from over 35 investors and stakeholders since 1998 until 2010 (Jones, 2017; GEF, 2015).

The Fund has demonstrated that innovative small LAC companies in the land-use sector can overcome enormous challenges and achieve positive financial and biodiversity results when they have access to capital. Fund I invested US$50,000 to US$800,000 (average investment of US$225,000) in companies at all stages of development with sales revenues up to US$3 million (Biller and Sermann, 2002). With its focus on leveraging and expanding impacts, and investing in companies with potential to grow, Fund II offered lending of between US$500,000 and US$5 million, thus requiring companies to have a minimum turnover of US$5 million (Global Nature Fund and Oro Verde, 2017). Most of the more than 35 projects supported before Fund III was launched in 2018 succeeded in the market, offering differentiated and unique products. And, at least two, RUNA and Terrafertil, were acquired by large corporations.

The Fund has demonstrated the effectiveness of its model in identifying and developing a diverse portfolio of projects with a rigorous and more standardized evaluation process, based on predefined impact and investing criteria. By moving from proof-of-concept to tested, medium-scale project implementation models and more established conservation products, the Fund is starting to diversify its investment sources and become more attractive to the mainstream investment market. The Fund's success is strengthened via strategic partners, such as the GEF, the IDBG, and the EIB, which have increased their anchor investments over the years.

Building on a successful track record and proven experience as portfolio manager, Fund III is exploring and pioneering investing in small- and medium-sized companies working along the value chains linking producers and users of genetic resources in countries that have signed the Nagoya Protocol or intend to do so (GEF, 2015).

Long-Term Sustainability

In 2018, RUNA and Terrafertil were sold to All Market Inc. (AMI) and Nestlé, respectively. While underscoring the fact that more significant players are now valuing the sustainability approach and robust supply-chain relations, a Global Impact Investing Network report on exits notes that "Prior to investing[,] impact investors seek to understand whether the impact is deeply embedded in company business models or operational practices" as a way to "ensure continuity of impact after exit" (GIIN, 2018, p.1).

The Fund provided Terrafertil start-up capital through Fund I in 2003 and then took a lead financing role, supporting the company's expansion to seven countries and attracting additional investments, especially from other impact funds. A final Fund II follow-on financing of US$600,000 was disbursed in April 2017. In February 2018, Terrafertil was sold to Nestlé.

In July 2018, RUNA repaid the Fund's loan, following confirmation of their sale to AMI. After the purchase of RUNA by AMI, its non-profit initiative RUNA Foundation joined forces with another social business working with rainforest communities to form Aliados, a new organization to expand their impact. Terrafertil is working with Aliados, a spin off from Runa Foundation, to develop its long-term Corporate Social Value Strategy, the Goldenberry Plan 2020, to do better for communities, the environment, and the marketplace.

The Fund relies on its existing track record and previous experience to identify investments at an early stage and ensure that positive environmental and social benefits remain core components of its business model. When a company's reputation is tied to its positive environmental and social impact, that reputation becomes part of the asset being sold.

Like other impact investment funds in conservation, the most evident growth challenges that EcoEnterprises faces are the length of time needed for pipeline development and the relatively small size of the Fund.

EcoEnterprises' proof-of-concept was not emulated. After 15 years, the investors behind EcoEnterprises Fund were the same group of dedicated institutions and private individuals, and only one similar fund, the ACF, had been launched in LAC (Jones, 2017). With many new ventures and higher capital flows into sustainability, EcoEnterprises Fund is well positioned to lead the move from a niche to a mainstream investment domain.

Selected Examples of the Fund's Portfolio of Companies

Agricultural Businesses	**Sustainability Practices**	**Certifications**
Terrafertil: A pioneer purveyor of healthy beverages and snacks in Latin America that launched in 2005, Terrafertil offers a wide variety of dried tropical fruits (e.g., goldenberries), private-label snacks and juices, and famous branded retail lines (Nature's Heart and Essential Living).	Guided by a commitment to the welfare of local communities and the environment, Terrafertil's founders sought to build a company that would bring sustainable development to the Andean region. Launched in Ecuador, where the pesticide-heavy cut-flower industry has generated negative environmental and social impacts, Terrafertil focuses on providing an alternative source of income to local farmers and promoting organic cultivation and fair trade.	Terrafertil was the first company to develop the technology to farm goldenberries organically, an effort that was supported by Fund I's technical assistance facility.

Agroforestry		
RUNA: Since the launch of its energy drinks in 2013, RUNA has seen success in this category and has become the fourth-largest natural and fastest-growing energy brand.	The company sources its product, the green leaf guayusa, from the Amazon's Kichwa indigenous farms of Archidona, providing sustainable livelihoods that support local knowledge and create a conservation incentive to protect the surrounding forest. The company operates the first and only guayusa processing plant through its Ecuadorian subsidiary. It built its entire supply chain from scratch, and ensured that all its products are certified organic and Fairtrade.	RUNA'S products are B Corp certified, Non-GMO, Fair Trade, and USDA Organic certified.
Sambazon processes wild-harvested açaí and other superfruits grown in the Brazilian Amazon, where it partners with local communities. A first mover in the market, the company remains a global leader in organic, fair trade, and non-GMO açaí foods and beverages marketed to retail and industrial customers in the U.S., Brazil, Asia, and Europe. Since its inception, Sambazon has raised over US$54 million in equity and has built a strong network of committed investors that continues to fuel its growth through capital and leadership support. EcoEnterprises Fund provided start-up capital through Fund I.	Since its launch in 2003, the company has been committed to protecting forest resources by partnering with more than 10,000 local farmers to harvest the fruit using organic techniques to double their yields and protect more than 1.2 million hectares of rainforest. Between 2016 and 2017 Sambazon committed to protecting 30 species in 30 days through its #PurpleforthePlanet campaign. The company conserves five acres of rainforest through Rainforest Trust for each person who colors their hair purple and tags @SAMBAZON and #PurpleforthePlanet in pictures. To date, the movement has helped preserve 126,000 acres of rainforest and protect 216 species. The funds were directed to the Airo Jai Community Reserve in Peru, the missing link in creating a joint 7.8-acre tri-national corridor between Ecuador, Colombia, and Peru.	Sambazon was the first in the market to establish a Fairtrade, non-GMO, and certified organic supply chain of açaí. As a pioneer, the company helped certifying agency EcoCert develop the standards for Fairtrade certification of açaí.

Ecotourism	Sustainability Practices	Certifications
Morgan's Rock: A pioneer in the ecotourism industry in Nicaragua, Morgan's Rock is a quality purveyor of a Central American coastal rainforest experience. Nearly half of the 4,000-acre property in which Morgan's Rock is situated has been designated as a private preserve, Reserva Silvestre El Aguacate. This reserve, the largest private reserve in the country, also represents one of the last large sanctuaries of the Central American Pacific coast. Through reforestation, ecotourism, and environmental education, the company protects against poaching, illegal logging, and deforestation, thus contributing to the conservation of regional wildlife, including the howler, whiteface and spiker monkeys, sloths, hawk bills, anteaters, and green turtles, all of which have returned to the reserve after the previous deforestation.	With Packard Foundation support, Morgan's Rock worked with Cornell's Ornithological Research center to generate a Strategic Development Plan for the area and to develop electronic platforms, such as Ebird, to monitor local bird species. The company also partnered with conservation NGO Paso Pacífico to implement a monitoring plan for the yellow-naped parrot and provided biodiversity training for tour guides and the company's board of directors. The lodges at Morgan Rock were built with minimal impact on the surrounding environment and respect for local indigenous communities. They use certified wood for their furniture, solar panels, and a centralized system for gray and black water with a biofilter. Treated water is used for irrigation.	
Rainforest Expeditions: A pioneer in the ecotourism industry, Rainforest Expeditions has been hosting tourists in the Peruvian Amazon for over 20 years. Ecotourism is a critical conservation activity in the Tambopata region, where illegal gold mining, hunting, and slash-and-burn agriculture have threatened natural ecosystems. The valuable biological treasures of flora and fauna in the Tambopata region in Peru includes a crucial habitat for the scarlet macaw. Rainforest Expeditions' integration of tourism, environmental education, research, and local, sustainable development has been critical to its success. The company's consistent growth, long-term perspective, focus on community engagement, and support of conservation activities (such as protecting macaw nurseries) reflect the essence of its business model.	To preserve the valuable biological treasures of flora and fauna in this region, Rainforest Expeditions brought together the indigenous community of Infierno, local government, universities, and businesses to develop a comprehensive conservation plan to generate economic benefits while preserving the rainforest, in particular macaw and parrot habitat. From 1997 to 2018, the company generated US$10 million in additional benefits to the local communities. In 2017, Rainforest Expeditions went 100 percent carbon neutral. It incorporates sustainability throughout its operations, employing solar-powered, energy-efficient lighting, heating, and cooling, offering guests the chance to reuse linens to save water, and using biodegradable products and composts. In 2016, it was the first tour operator in the Tambopata region of Peru's Lower Amazon to offset its carbon emissions fully. The company transferred 60 percent of the revenues from carbon offsets to local communities who protect the forests.	

APPENDIX 2. GREEN BONDS

Green bonds have become the most popular instruments for sustainable investments, particularly for large, mainstream investors. Global green bond and green loan issuance reached US$258 billion in 2019, marking a new global record and up 51 percent from US$171 billion in 2018. Between 2007 and 2017, green bonds totaled US$694 billion, almost a hundred times public sector investment across development sectors (CBI, 2019; Clarmondial and WWF, 2018).

The thematic bond market includes transactions that range from US$300 million to US$1 billion. Applied to any debt format (private placement, securitization, covered bond, and sukuk), green bonds require that their issuer have a strong credit rating and suitable green assets and/or obtains green loans (Climate Bonds Initiative, 2018). Green bonds have generally been issued by development banks, municipalities, or corporations with green holdings in renewable energy, low-carbon transport, low-carbon buildings, sustainable water, waste management, sustainable land use, and climate change adaptation measures, including flood defenses. These factors make green bonds preferable to impact investments for large, mainstream investors.

Green bonds are a simple product of financing that also have interesting levels of liquidity in comparison to regular bonds. Most green bonds have been issued for low-carbon transport and renewable energy infrastructure projects, which can quickly reach the minimum US$100 million to US$200 million required to interest bond investors. Less than 1 percent of green bonds have been invested in the land sector and only 2 percent has been invested in water infrastructure (The Nature Conservancy and Environmental Finance, 2019; Clarmondial and WWF, 2018).

Green bonds could help attract large asset owners, including pension funds, to conservation finance. While agricultural projects have traditionally relied on bank lending and only a few green bonds help conserve natural capital, agriculture, and the land sector, introducing sustainable agriculture projects represents a multibillion-dollar opportunity for green bonds. One example is the Tropical Landscapes Finance Facility, a collaboration of UNEP, The World Agroforestry Centre, BNP, and Asian investment manager ADM Capital that seeks to raise US$1 billion to finance, through loans, sustainable agriculture in Indonesia (The Nature Conservancy and Environmental Finance, 2019).

The launch of climate bond mechanisms by development banks like the GEF and International Finance Corporation is a new frontier. GEF's blue bond aims to improve fisheries management and coastal conservation by including local fishing communities. The International Finance Corporation's forests bond, developed in collaboration with Conservation International and mining company BHP, was issued to protect forests and prevent deforestation.

Global green bond issuance started with multilateral development banks raising funds for climate-related projects in 2007/08. Green bonds have been issued in eight Latin American countries since the first one was launched in the region in 2014 (CBI, 2019). Brazil leads the way, with 41 percent of total regional issuance, followed by Chile, at 25 percent, and Mexico, at 14 percent. Chile is the only country to have issued sovereign green bonds (Climate Bonds Initiative, 2019). At the same time, in the rest of the region, private sector issuers prevail, with local government green bonds in Argentina and Mexico (two deals in Mexico City).

While globally only a tiny percentage of green bonds has been invested in land use, their use in this sector is more common in LAC than elsewhere. Energy allocations are high, similar to

other markets, while buildings and water have a lower share. There is also a high share of private placements compared to public issued bonds. Buildings and water, two of the most funded sectors globally, are among the least funded in LAC. All issuers in water projects related to water treatment are developed by non-financial private companies, such as Essal (owned by Aguas Andinas in Chile), Grupo Rotoplas (Mexico), and large municipal companies in Brazil (CBI, 2019).

In August 2019, the Quito Stock Exchange, Ecuador's Ministry of Environment, and the country's Internal Revenue System signed an agreement to link financial products such as green bonds with tax incentives to protect and conserve the environment. By issuing approximately US$150 million worth of green bonds, this alliance seeks to mobilize corporate investments and climate financing to support Ecuador's National Biodiversity Strategy. BIOFIN (Biodiversity Finance Initiative) has been a critical driver of the strategic alliance as part of the innovative solutions that will foster resource mobilization from the private sector as part of the Biodiversity Finance Plan (BIOFIN, 2019). BIOFIN is also supporting other countries, including Cuba, in greening their finance sector. Another first in the region is Mexico's Sovereign Sustainable Bond, supported by the United Nations Development Program (UNDP), which was issued in early 2020 by the Ministry of Finance and is aligned with SDG14 and SDG 15, among others.

Challenges

There are several challenges to issuing green bonds in the land-use sector. This sector, particularly agriculture, is both economically significant and a major source of carbon emissions and nature and soil degradation. However, it continues to represent a very small share of the green bonds issued, despite having the highest average deal size in LAC. Forests are one of the least funded sectors, globally and in the region, through green bonds (CBI, 2019).

LAC is among the most biodiverse regions and among the most vulnerable to climate change in the world because of its direct exposure to climate risks, its high sensitivity to such risks, and its low adaptive capacity (CBI, 2019). Therefore, the opportunities for green bonds measure in the billions of dollars. So far, the majority of the green bonds in the land-use sector have been issued by private companies for certified forestry pulp and paper, especially from Brazil (CBI, 2019). Suzano SA, LAC's biggest pulp and paper producer, is the largest issuer, with four green bonds totaling US$1.2 billion. Other issuers with more than US$300 million outstanding are Klabin (US$468 million), Duratex (US$312 million), and Chile's Masisa (US$322 million) (CBI, 2019).

In contrast with green infrastructure projects, the biggest challenge for investors, issuers, and underwriters in land-use projects, and conservation projects more broadly, is agreeing on project revenue. Unless there is a commodity being produced that has a clear and relatively stable market value (e.g., agricultural or forest products) and its expansion is not detrimental to conservation impacts, green bonds for sustainable land use and conservation are still being issued on the full faith and reputation of credit issuers, meaning development banks for the most part. Investors tend to perceive uncertainty in these cash flows due to vulnerability to macroeconomic shifts and agricultural market dynamics.

Valuing cash flow for credits for ecosystem services, such as water or carbon credits, is challenging. One way is to define a value for the environmental benefit; however, this requires the borrowers of such credits to be convinced to accept the valuation and pay for those services. Lack

of history and political uncertainty around pricing mechanisms may lead investors to discount the future value of the cash flow from this type of project. A strong regulatory environment and enforcement can help create the foundation for markets that value ecosystem services.

Many conservation organizations are skeptical about green bonds because of the lack of an agreed on standard definition for what constitutes "green." Others accept the bond issuers adopting their own criteria for green investments as long as the criteria are clear. In the green bond market, the best practice already includes an assurance report confirmed by an external party in compliance with the Green Bond Principles and the Green Loan Principles (Green Bond Principles, 2018); a second party opinion; a green rating by evaluating the green bond and its framework; and the verification report for a Certified Climate Bond, which adheres to the Climate Bonds Standard and sector criteria, as well as the Paris Agreement 2ºC goal (CBI, 2020; Dupont et al., 2015).

In LAC, most issuers provide post-issuance reporting and many issuers provide reporting on allocations and impacts, which is critical given that many deals in the region are private placements. Following global trends, the higher the amount issued, the more reporting, and countries with larger green bond markets, such as Brazil, Chile, and Costa Rica, tend to have more stringent reporting levels (CBI, 2020).

Finally, one of the key challenges for funding land conservation through green bonds is the scale mismatch between the project and the minimum size of bond issuance. Large investors are seeking to fund large projects to avoid transaction costs. Finding land conservation opportunities of this size can be challenging. In LAC, land conservation initiatives of any significant size generally involve government partners that can help assemble a portfolio of small projects into a larger issuance or develop regional, multi-country initiatives. Examples of such efforts are the FIRA Green Bond in Mexico and the Jaguar Bond in Central America.

FIRA Green Bond

Mexico issued the US$130 million FIRA Green Bond in February 2020 with the support of the IDBG. This innovative bond is the first to receive the international Climate Bonds Initiative certification in the forestry sector. The goal is that the certified emitter of bonds attracts investment for more than 500 sustainable agriculture production projects that include efficient use of water and solar energy. One expected outcome is increased productivity in the agri-food and non-timber products sectors while reducing GHG emissions, decreasing the use of agrochemicals, making water use in agriculture more efficient, and promoting soil conservation. Sustainalytics verified that the bond adopted the Green Bond Principles of the International Association of Capital Markets and the CBI standards.

Jaguar Bond

The Jaguar Bond is a project of the IDBG Natural Capital Lab that is still in its concept phase. The bond would be the first biodiversity bond in the region, starting a whole new chapter on conservation finance in LAC.

Jaguars play a vital role in their habitat by controlling other species' populations and helping maintain a healthy ecosystem by keeping balance in the food chain. Protecting jaguars and the

places where they live supports other wildlife and the people who live in the region. Jaguars are a proxy for intact ecosystems. Only 50 percent of the jaguar range (Mexico to Argentina) remains.

There is a symbiotic relationship between jaguar and biodiversity conservation and forest and landscape restoration. The governments of Costa Rica and Guatemala in particular understand this and, since 2000, have implemented jaguar corridors, protected pathways that allow the stealthy, nocturnal animals to safely traverse areas of human civilization. Partnerships with the Panthera Foundation and the Wildlife Conservation Society, among others, are establishing foundations to enable local rural sustainable development strategies to align with conservation goals.

In an unprecedented global commitment to saving the jaguar, leading international conservation organizations and 14 jaguar range states have joined to launch the Jaguar 2030 Conservation Roadmap for the Americas, presented at the Conference of Parties 14 of the Convention on Biological Diversity. This regional initiative aims to strengthen the Jaguar Corridor by securing 30 priority jaguar conservation landscapes by the year 2030. Through international cooperation and by raising awareness of ongoing jaguar protection projects, including those mitigating human–jaguar conflicts and connecting and protecting jaguar habitats, the project also seeks to stimulate ecotourism and regenerative agriculture.

Like other sub-regions in LAC, Central America needs to establish mechanisms to attract private investment to scale up ongoing efforts to conserve forests and other natural resources. Through the collaboration of various national and regional entities, Central America is developing the structure necessary for international climate funds and private investment. Examples of public, private, and public–private financing entities include the Green Development Fund, the Environmental Investment Fund of El Salvador (FIAES), the Environmental Bank Foundation (FUNBAM) of Costa Rica, and the Forestry and Climate Fund.

While these efforts and the Jaguar Conservation Roadmap are necessary steps, they provide little reason for the private sector to consider investing in such an initiative. The Jaguar Bond proposes to attract US$200 million to be allocated by the private sector to SDGs and impact investing. The goal is to generate profits through conservation finance in the agriculture and forestry sectors, while supporting biodiversity conservation and sustainable economic development in jaguar landscapes in LAC, with special focus on Central America.

Attracting financial resources could start with a small grant to design a special purpose vehicle that will evolve into a thematic bond with a market return rate (depending on the portfolio and investor appetite). Potential partners include international cooperation agencies such as the AFD; GIZ; the U.K. Department of Environment, Food, and Rural Affairs; and the UNDP. In addition, potential partners could expand to private networks like Ceres and PRI's Investor Initiative for Sustainable Forests, which leads the Investor Statement on Deforestation and Forest Fires initiative in the Amazon, endorsed by 244 investors, representing approximately US$16.2 trillion in assets (Ceres).

This proposed special purpose vehicle will guide investments for strategically selected projects/sites to benefit jaguar/biodiversity corridors following a strategy that offers attractive opportunities for both investors and project/business owners. Specific outcomes include:

- more community engagement in jaguar conservation (increased awareness, behavior change);

- more income for local communities from productive activities in agriculture, forestry, agro-forestry, REDD+, and potential biodiversity offsets/banks and forest reserve banking;
- expanded NGO support for jaguars beyond existing projects by providing guidance on investments not identified by NGOs;
- training and agricultural extension services; and
- greater exposure to initiatives for jaguar conservation within impact and SDG investing and conservation finance communities.

Broader benefits include stewardship through more resilient and sustainable communities, economic development in and around jaguar corridors and surrounding core areas, support for meeting several SDGs, and reduced carbon emissions.

This special purpose vehicle will structure investments that balance jaguar and habitat conservation with the economic needs of local communities, entrepreneurs, and farmers in Jaguar Corridor landscapes. Project investments are expected to contribute to the SDG 13: Climate Action and SDG15: Life on Land. For impact investors that follow/use the impact measurement and management system IRIS+, the primary impact metrics will be related to biodiversity, with other metrics drawn from agriculture, smallholders, and climate. IRIS+ is still evolving (with support from the IDBG) in relation to climate and sustainable forestry, and therefore it is part of the design and operation to ensure consistency and transparency at all times.

Impact, Replicability, and Scale

Although the international community is now more awareness of the need to address the financial needs of our climate, private capital needs to be mobilized to breach the financial gap in biodiversity conservation. Governments and companies throughout LAC are increasingly aware of the urgent need to invest in green infrastructure and to introduce climate and sustainable development initiatives. Most LAC countries have submitted Nationally Determined Contribution targets under the Paris Agreement to reduce GHG emissions by 20–30 percent by 2025–2030. To meet such objectives, green finance needs to scale up significantly (CBD, 2020). Many countries, particularly Colombia, Costa Rica, Mexico, and Brazil, have actively adopted specific policies on climate and green finance (CBD, 2020). Coherent and supportive policy is instrumental in scaling up investment in green projects. Both public sector entities and national and multilateral development banks could help build the market by becoming green bond issuers not only in the much-needed investments in green infrastructure, but also in sustainable agriculture and ocean/coastal projects that present growing opportunities.

By acting as anchor investors for local issuers and by developing green/social bond guidelines, multilateral development banks have facilitated green bond issuance (CBI, 2019). This signals to foreign investors that borrowers are credible and have a critical role to play by offering guarantees, de-risking mechanisms, investment funds, platforms for collaboration and knowledge sharing, and support for the issuance process. For example, the IDBG has launched a green bond program for public sector issuers through which h it provides technical assistance before and during the issuance process (e.g., preparing documents, identifying green budget lines, and bond structuring). Chile's sovereign bonds were issued with support from this program (CBI, 2019).

While most issuers in LAC have adopted sound reporting methods, the IDBG's Green Bond Transparency Platform, supported by a private stakeholder consortium, provides standardized and transparent disclosure (CBI, 2019). One important area of opportunity is developing standards to give the market clearer visibility about which bonds support nature-based projects (The Nature Conservancy and Environmental Finance, 2019).

Through increased engagement, expansion of networks, and more research on innovative instruments, such as through IDB's Natural Capital Lab, conservation organizations and green bond issuers could

- disseminate knowledge, best practices, and success stories;
- help develop methodologies;
- assist project developers to articulate better revenue sources from conservation projects; and
- encourage greater transparency in the use of bond proceeds.

This knowledge sharing could support lenders, reduce perceived risks, and scale up green lending. There should also be more pilot green bond projects in the land-use sector and in conn servation by partnering with philanthropists, governments, stock exchanges, and banks that can provide support to reduce perceived risks and play a role in promoting green finance (CBI, 2019; Dupont et al., 2015).

LIST OF INTERVIEWS

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