COP16
COLOMBIA
Paz con la Naturaleza

Positive Incentives:
Key to progress

Global Partnership for Business and Biodiversity

Convention on Biological Diversity

Biodiversity Partnership Mesoamerica

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Content

INTRODUCTION

At CBD COP16, the UN Biodiversity Conference, we face the tragedy of the loss of Biodiversity with renewed urgency.

This report shines a light on positive incentives as a crucial part of the necessary solutions, echoing the appeal of Target 18 of the Global Biodiversity Framework:

… scale up positive incentives for the conservation and sustainable use of biodiversity.

A crisis of this magnitude requires effective and far-reaching governmental interventions but cannot be tackled without the participation of other actors, such as businesses, civil society organizations, and citizens.

The key challenge is therefore to raise awareness and knowledge, to mobilize, motivate, and involve the actors who can contribute to the necessary solutions. These solutions must go beyond fragmented and isolated initiatives, they require a high level of consensus, collaboration and partnerships.

Positive incentives play an important role in changing behavior. By positive incentives we mean measures which induce target audiences to develop and adopt measures which reduce environmentally harmful practices and increase the implementation of practices with a beneficial impact on nature.

To halt and reverse the crisis of nature requires more than individual effort: Success depends on collective cooperation, even among players who are rivals and competitors, as well as innovation as massive as occurred during the Industrial Revolution of the 19th century.

This report is a result of an initiative presented at the 2023 annual meeting of the Global Partnership for Business and Biodiversity. Our call for good examples of positive initiatives has yielded a wonderful response, resulting in 27 case studies from 14 countries which are included in this report.

We hope that a far greater effort will follow this modest beginning as the potential to expand, adopt, or build upon current initiatives can accelerate our collective progress toward global nature goals

Our thanks to all who contributed to our Positive Incentives Collaborative Project!

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FOREWORD

Peace with Nature, the theme for the 16th Meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity (COP 16), calls everyone to reflect and improve our relationship with the environment as we work towards the realisation of the Kunming-Montreal Global Biodiversity Framework.

Scaling up positive incentives for the conservation and sustainable use of biodiversity is seen as a valuable tool in accelerating necessary changes for environment conservation and restoration. While economic incentives are indispensable, non-monetary factors, such as leadership by example, education, training and research, collaboration and alliances, communication and other strategies can deliver positive incentives. These encourage voluntary action among citizens, businesses and many other individual and collective actors crucial for making progress towards the achievement of our goals.

This report prepared by the Positive Incentives Collaborative Project Steering Committee contains 27 case studies from 14 countries. These cases provide strong evidence of the efforts of the global business community to meet the KM GBF Targets 14, 15, and 18, among others. Moreover, these cases highlight the importance of expanding the collaboration among like-minded organisations and the necessity of sharing knowledge and experiences.

It is evident that humankind, especially all governments, civil society actors, and the business sector need to contribute far more to the prevention of climate and biodiversity, and pollution crises than is currently the case.

This milestone publication needs further work beyond COP 16 to inspire other business and thought leaders, capture emerging trends in the business and biodiversity space and drive meaningful progress towards our goal of achieving a sustainable future, where we live in harmony with nature.

Dr. Theresa Mundita S. Lim
Chair Global Partnership for Business and Biodiversity (GPBB)
and Executive Director, ASEAN Centre for Biodiversity

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study

LIFE Biodiversity Credits

Organizers:

Case Studies in Brazil

Life Biodiversity Credits

LIFE Institute

Summary

When the concept behind LIFE Biodiversity Credits was first developed in 2010, the purpose was to develop a science-based methodology that would allow organizations to assess their biodiversity performance qualitative and quantitatively. LIFE Biodiversity Credit is a unit of positive outcome in biodiversity evaluated through LIFE metric. It represents conservation efforts and biodiversity results in a given area, considering its biodiversity importance and the quality of the area management, reflecting the efficacy of biodiversity projects implemented, and considering its additionality and permanence. Although the general rules for management and negotiation of LIFE Biodiversity Credits (LBC) are recent, the methodology behind the calculation of LBC is well established, counting on scientific indicators and all its technical details are publicly available. It is already being used by businesses that deliver biodiversity positive performance and are willing to get into the trading market as well by public and private landowners that maintain natural protected areas.

Founded in 2009 to connect businesses and biodiversity, LIFE Institute acts as a non-profit international standard-setting organization, responsible for the development and management of LIFE Methodology for Business and Biodiversity, LIFE Biodiversity Credits, and their third-party certification system. The development of LIFE Methodology and its metrics involved 198 professionals and 96 organizations in public meetings, technical meetings, and pilot-audits, culminating in the launch of its 1.0 version in August 2011. Twelve years later (August 2023), the LIFE metrics started to be used to calculate LIFE Biodiversity Credits (LBC).

Case Study

Context

Biodiversity is essential to maintain life on Earth and the ecosystem services that guarantee the functionality of business operations and society. In addition to all its intrinsic value, biodiversity plays a fundamental role in mitigating climate change. Ecosystems that are rich in species diversity act as large natural carbon reservoirs. The conservation of habitats such as forests, wetlands and marine environments, means to invest in natural solutions to reduce greenhouse gas emissions, balancing the carbon cycle and at the same time contributing to mitigate the effects of climate change. Conservation

and restoration of biodiversity directly contribute to strengthening the resilience of ecosystems to face climate change.

After Biodiversity COP 15 and the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF), biodiversity credits are gaining visibility, and a voluntary biodiversity credit market is starting to be established. Biodiversity credits represent one of the mechanisms capable of scaling up private investment in nature.

How it works

According to the Biodiversity Credit Alliance (May 2024), a biodiversity credit is a certificate that represents a measured and evidence-based unit of positive biodiversity outcome that is durable and additional to what would have otherwise occurred without project activities. LIFE Biodiversity Credit is a unit of positive outcome in biodiversity evaluated through LIFE metric. It represents conservation efforts and results in a defined area (Protected Areas or Other effective area-based conservation measures - OECMs), considering its biodiversity importance and the quality of area management, reflecting the efficacy of biodiversity projects implemented, considering its additionality and permanence. LIFE Biodiversity credits present materiality, traceability and must be third-party audited. A minimum of 30 years commitment to the conservation of the area is required to be eligible for LIFE Biodiversity Credits generation.

Since biodiversity is complex and the permanence and maintenance of biodiversity and ecosystems cannot be evaluated with a single field evaluation, LIFE Metric establishes two levels of biodiversity assessment:

- In the short-term, conservation and/or ecosystem restoration actions are assessed, considering the quality of the area (extension and biological importance) and its management (planned and implemented actions in the area). Technically, 16 qualifiers are evaluated, including size of area, native vegetation coverage, ecoregion's importance, threatened species category, invasive potential of exotic species, stage of succession, protected area categories, duration of the actions, among others.
- In the medium /long term the results related to the maintenance of composition, structure and function of ecosystems are evaluated and accounted for credits. This monitoring considers genetic, populations and communities composition present in the area that is been protected, information on landscape, trophic structure, habitat as well as information regarding the maintenance of ecosystem services such as decomposition, nutrients cycling and carbon sequestration, among others.

Assessed through a rigorous process of independent auditing and certification, the positive performance[1] that results in biodiversity credits is calculated by LIFE Key Software and audited annually in the field. Project data are inserted into the software that has all reference data inside and are scored automatically. After applying the specific rules for generating biodiversity credits, accredited certifying bodies emit the LIFE Biodiversity Credit Certificate that indicates the amount of credits available for trading. Details on the scoring system and rules applied are available at lifeinstituteglobal.org.

Status of LBC available are accessible in the LIFE Biodiversity Credits Platform, a virtual space that gathers all the information for the negotiation of LIFE Biodiversity Credits, making available to the public the commercial contact of the holders/brokers of the LBC, the amount of LBC available for commercialization, country of origin, ecoregion and basic information about the conservation projects

[1] See the *Example of private business generating biodiversity credits in the Pantanal* below. The value demonstrated in the example represents the Positive Biodiversity Performance.

to the biodiversity generating the LBC. LIFE Institute is responsible for the management of LBC Platform.

Interested parties

Landowners, indigenous/traditional peoples and communities, governments, financial institutions and businesses are some of the parties interested in LIFE Biodiversity Credits. Potentially, any area that is protected, private or public, can generate biodiversity credits.

Landowners

LIFE Biodiversity Credits are an appealing opportunity for landowners that have invested in conservation of natural ecosystems. Those who already protect natural areas (Protected Areas and/or OECMs) might from now on generate additional income through the LBC scheme, by generating and feeding credits to the market. For those willing to start investing in conservation, LBC might stimulate the process.

Indigenous, traditional peoples and communities

The general rules for the management and negotiation of LBC stand that, in cases where communities are involved in the projects that generate LBC, at least 30% of the benefits from LCB negotiation must be directed to the guardians of the area(s). In Brazil, projects to generate LBC in indigenous land are being implemented in the Amazonian region and intending to return 100% of future sale of these credit to the community involved.

Governments

Governments can use LBC mechanism to:

- Create public policies using the credits to:
  i. offer economic incentives to landowners that voluntarily protect natural areas (Protected Areas or OECMs),
  ii. recognize and/or offer economic incentives for companies or natural persons that are generating biodiversity credits,
  iii. stimulate and encourage companies that can invest in biodiversity credits to counterbalance their own pressure on biodiversity.
- Generate financial resources that can be reinvested in implementation and improvement of protected areas.

An example of the latter can be found in the “C-Pack Creative Packaging restores local biodiversity with partners” – C-Pack Conserva case, also presented in this publication (PICP).

Financial institutions

Financial institutions play a crucial role in the biodiversity credit market. They can stimulate the creation of funds and special lines of credit for clients involved with the LBC mechanism. They can use/require biodiversity credits as a guarantee for debts, negotiating interest rates and payment terms.

Banks may also invest in biodiversity credits to counterbalance their own impacts as well as their portfolios’ impacts on biodiversity.

Businesses

Businesses are being required to position themselves in the biodiversity agenda and LIFE Methodology enables organizations to adopt a systematic approach. In this regard, the LBC mechanism provides a science-based and third-party assessed solution that is attractive to businesses and contributes to Target 15 of the GBF and other corporate initiatives requirements.

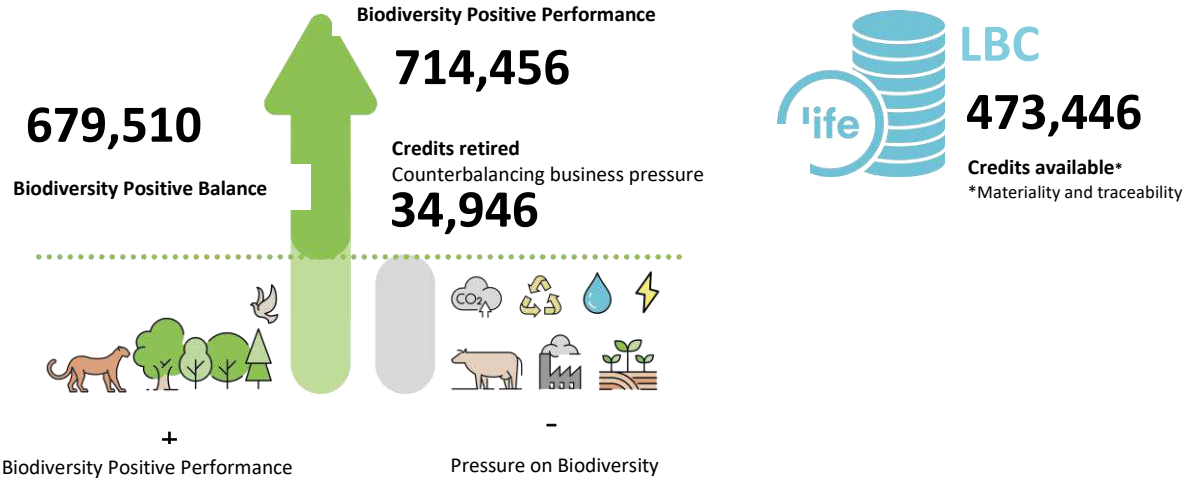
In order to generate LBC, businesses are required to calculate and counterbalance their pressure on biodiversity as well as to implement the management indicators offered by the LIFE Standard for Business and Biodiversity. This is one of the measures to prevent the use of the LBC mechanism for greenwashing.

After calculating business pressure on biodiversity, the biodiversity minimum performance to counterbalance the impact is subtracted from the biodiversity positive performance and it is 'retired'. The remaining positive performance that meets technical criteria for credit generation, such as materiality and traceability, results in the amount of credits available to be traded in the market. The example of private business generating biodiversity credits in Pantanal below illustrates how it works.

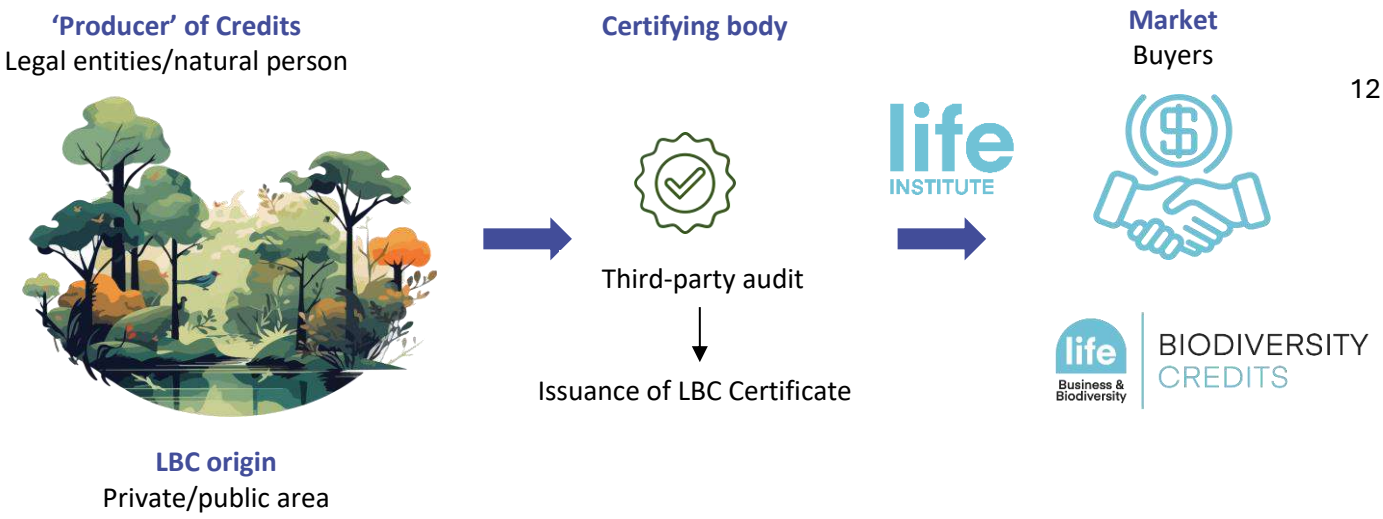
Example of private business generating biodiversity credits in the Pantanal

Caiman owns 53,000 hectares and its mission is to conserve the fauna, flora and culture of the Pantanal Biome in Brazil. Having the ecotourism as the main driver of actions for conservation and preservation of the Southern Pantanal, the initiative combines livestock farming with biodiversity conservation projects, including fauna and flora monitoring actions and reintroduction of fauna species, with emphasis on the creation of a Private Natural Heritage Reserve (RPPN Dona Aracy). With an area of 5,603 hectares, the reserve serves as home to more than 500 species of animals, including 350 species of birds. Jaguar, giant anteater, tapir, capybara, ocelot, blue macaw and tuiuiú are some of the species present in the region.

LBC calculation



Credit flow



- 'Producer' of Credits – owners of natural areas (e.g. small landowners, owners of protected areas or OMCs, public or private, companies or other organizations).
- Certifying Bodies – independent accredited certifying bodies are responsible for carrying out annual on-site audits and issuing biodiversity credit certificates.
- LIFE Institute – standard setting organization, issuer of LBC ownership titles and manager of LBC Platform.
- Buyers – entities or natural persons interested in buying LBC

The negotiation of the credits will occur directly between the credit holder and the buyer. Pricing is not established, and it is expected that first negotiations will generate great variation of values until an average price begins to stabilize, regulated by the market itself.

About LIFE Institute

Founded in 2009, LIFE Institute was created to connect businesses and biodiversity, recognizing and adding value to private and public institutions that implement actions in favour of biodiversity conservation. LIFE Institute is a non-profit international standard setting organization, responsible for the development and management of LIFE methodologies (Business & Biodiversity and Sustainable Territorial Management), LIFE Biodiversity Credits, and their third-party certification systems.

The development of LIFE Methodology for Business & Biodiversity involved 198 professionals and 96 organizations in public meetings, technical meetings, and pilot-audits, and culminating in the launch of its 1.0 version in August 2011. Headquartered in Brazil, the largest holder of biodiversity in the world, it is also operational in Europe, Mexico and Paraguay, and the finalization of a global metric is currently in progress.

Public-Private partnership case in the Paraná State – South of Brazil

The Sustainable Development State Department of Paraná State (SEDEST/PR) is engaging with BRDE Bank (public financial institution for the development of the region formed by Rio Grande do Sul, Santa Catarina and Paraná – States of Brazil) to promote the valorization of private natural areas with native and conserved vegetation, generating an extra income for the landowners that can be invested in more biodiversity conservation in these areas. Aiming to fight deforestation by valuing native forest, generate income to small private landowners and to drive the biodiversity credit market in the State of Paraná, SEDEST is going to finance, for the period of three years, the certification process of biodiversity credits for 25 private protected areas (approximately 2,500 hectares), involving several segments of society (the civil society, certifying body, financial institution, and private sector). This pilot project is going to generate an average additional income through the commitment by the bank to buying the credits.

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Brazil)

BRDE Green and Equality Fund

Mitigating impacts on biodiversity as a bank of development BRDE

BRDE
BANCO REGIONAL DE DESENVOLVIMENTO DO EXTREMO SUL

Organizers:

WHC

BRDE Green and Equality Fund

Mitigating impacts on biodiversity as a bank of development

BRDE (Regional Development Bank of the Extreme South)

Summary

BRDE has, as its main activity, since its creation in 1961, the long-term financing for projects in the South Region of Brazil, aiming for positive externalities for society that are socially and environmentally sustainable, that implement innovation, that develop micro and small rural and urban enterprises, and aimed at improvements in the infrastructure of the municipalities. Due to its very nature as a development bank, ESG practices have always been aligned with BRDE's strategy. But from the beginning of 2000, the Bank's operations in this field became more structured and were consistently strengthened year after year. Launched in 2022, **Banco Verde** is a large umbrella that makes visible the Bank's actions in promoting positive social, environmental and climate impact in the Southern Region of Brazil. In 2023, **BRDE became the first bank member of the LIFE Coalition for Business and Biodiversity.** To achieve one of the objectives as a Green Bank, Brde launched a **Green and Equality Fund** that is a financial support instrument for projects that will be selected and awarded for the exemplary and relevance in its social and environmental purpose. The BRDE is currently developing projects to use the **BRDE Green and Equality Fund.**

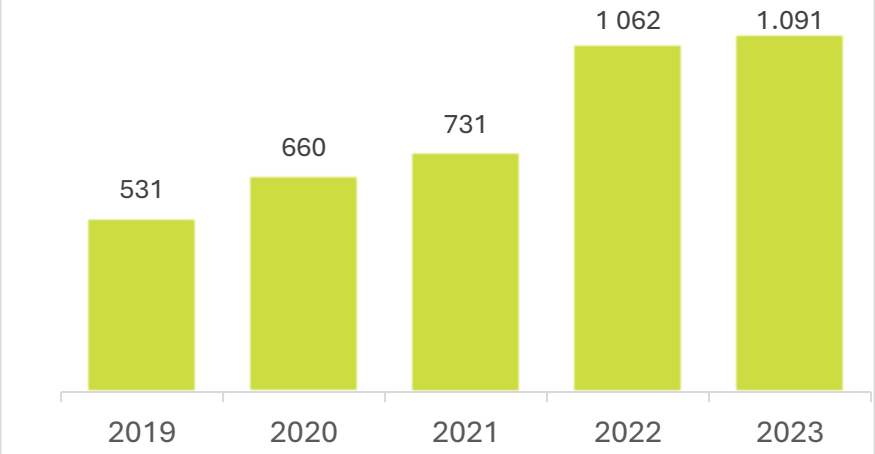
Case Study

BRDE has, as its main activity, since its creation in 1961, the long-term financing for projects in the South Region of Brazil, aiming for positive externalities for society that are socially and environmentally sustainable, that implement innovation, that develop micro and small rural and urban enterprises, and aimed at improvements in the infrastructure of the municipalities. On the other hand, BRDE provides technical assistance for the structuring of projects in various sectors, such as energy, innovation and in municipalities, in addition to the recognized support for agro-industrial cooperativism. BRDE forms strategic partnerships with credit and agro-industrial production cooperatives, and also with manufacturers of machinery and equipment to achieve greater capillarity of their operations, since, in this modality, operations are carried out directly by partners in their locations of operation. With this strategy, BRDE credit is effectively in 95,7% of the municipalities of the South Region, even though it has agencies only in the capitals of the controlling states. The Bank, for its knowledge and experience, collaborates with state governments and other institutions aimed at development, such as the Brazilian Development Association (ABDE), Alianza de Desarrollo – Alliance of Subnational Development Banks of Latin America and the Caribbean, the Latin American Association of Financial Institutions for Development (ALIDE), the Ministry of

Regional Development (MDR), the Global Compact of the United Nations (UN), among others. **BRDE is the first bank to become a member of the LIFE Coalition for Business and Biodiversity**, an initiative formed by companies that are protagonists of the transformation of business models, which recognize biodiversity as a fundamental part of the global ESG agenda (Environmental Governance, social and corporate). The bank's adherence to LIFE practice brings access to practical solutions and metrics developed for biodiversity performance. BRDE will incorporate them into its business models in intention of optimizing decision-making in investments that effectively contribute to the conservation of biodiversity. LIFE certification ensures confidence, transparency, and robustness in corporate management with their methodology.

Due to its very nature as a development bank, ESG practices have always been aligned with BRDE's strategy. This, more than a concern or a speech, is a constant practice of the Institution. From the beginning of 2000, the Bank's operations in this field became more structured and were consistently strengthened year after year. Launched in 2022, **Banco Verde** is a large umbrella that makes visible the Bank's actions in promoting positive social, environmental and climate impact in the Southern Region of Brazil, including the organization's internal climate and environmental performance, helping to capture international resources and the multiplication of positive actions.

Recent Evolution of BRDE's Green Bank contracts (R$ million)



In the last 2 years, there has been a significant increase in financing for sustainable projects, increasingly demonstrating the importance of the topic for BRDE.

As a **Green Bank**, BRDE intensifies its commitment to the incorporation of themes of a social nature, environmental and climate change in leading its business, its activities, and processes, as well as its relationship with society. There are three major priorities for **Banco Verde BRDE**:

1. Mitigation of the environmental impact generated by BRDE's operational activities.
2. Promotion of socio-environmental and climate projects with financial support from the **Green and Equity Fund**.
3. Promotion of socio-environmental and climate projects through credit operations.

To achieve the objective of Axis I, actions are carried out that reduce or compensate the consumption of electricity and the emission of CO2 in the premises of BRDE, as well as the

adequate management of the waste generated in the execution of the Bank's operational activities in each dependence. In addition, the initiatives involve: incorporating technological solutions that can improve governance; promoting the improvement of purchasing processes and contracting of services to include environmental and climate issues; considering sustainable building standards and best practices in relation to existing or future built structures; valuing and promoting appropriate environmental and climate management actions in the network of customers and suppliers, as well as among other stakeholders.
The activities of Green Bank BRDE in financial support (Axis II) and credit (Axis III) are guided by projects linked to the following themes:

I. Sustainability and water protection.
II. Pollution prevention and control.
III. Protection and restoration of biodiversity.
IV. Mitigations and adaptations to climate change.
V. Transition to a circular economy.
VI. Resilient and sustainable agriculture.
VII. Equity and economic and citizen inclusion.

The core business of a bank is credit, but in addition to credit BRDE has always been alongside entrepreneurship through the participation in Investment Funds or through institutional support with civil society entities and governments. However, it was necessary to create another line of action, capable of covering another set of initiatives, lacking resources, with a high social and environmental impact, but not yet empowered to credit. Then **BRDE Green and Equality Fund** is a financial support instrument for projects that will be selected and awarded for the exemplary and relevance in its social and environmental purpose. The Fund will value actions that respond to the challenges of sustainability in rural production and urban space, including organic production, protection of biodiversity and water, circular economy, and waste utilization, forecasting and control of pollution and climate effects. In addition to these, activities will also be considered that seek the economic inclusion of populations in situations of vulnerability or social risk, low income, precarious or informal work, including the valorization of traditional communities, such as afrobrazilian communities and Indigenous peoples, family producers and the popular and solidarity economy. BRDE hopes to bring together other institutions to expand the application of resources in the Green and Equality Fund, with responsibility, exemplarity, and social and environmental purpose, without necessarily achieving financial return.

The BRDE's Agency in Paraná is currently developing 3 projects to use the **BRDE Green and Equality Fund**.

1. Technical Cooperation Agreement signed by BRDE with the **Araucária Foundation to Support Scientific and Technological Development of Paraná and the Secretariat of Science, Technology and Higher Education of Paraná, (Seti-PR)** launched, in February 2024, the notice for the contribution of R$3.2 million, of which R$1.2 million will be invested by BRDE, non-refundable, within the scope of the Green and Equity Fund. Sixteen projects focused on research into socio-environmental and climate issues are

being selected, involving innovation and sustainable development in the territory of Paraná. In addition to these criteria, there will be additional points for projects aimed at populations in situations of vulnerability or social risk, low income, precarious or informal work, preferably in terms of race and gender, including the valorization of traditional communities such as Quilombolas and Indigenous people. The call for projects is still in the final phase. In June 2024, we will have a list of research that will be supported by the Green Fund.

2. This action is developed in partnership with **Boticario Group Foundation.** With 33 years of history, Boticario Group Foundation is one of the main corporate foundations in Brazil that works to protect Brazilian nature. The institution works to ensure that the preservation of biodiversity is prioritized in business and public policies and supports actions that bring together different players and key tools in search of solutions for major environmental, social and medical challenges. It has already supported around 1,600 initiatives in all biomes in the country. It protects two areas of Atlantic Forest and Cerrado – the most threatened biomes in Brazil –, adding up to more than 1,184,030 sqft. The objective of this cooperation is to select and support projects focused on socio-environmental issues and income generation associated with nature conservation, involving innovation and sustainable development in the municipalities of Paraná belonging to the **Great Atlantic Forest Reserve**. More specifically, the supported projects will be aimed at nature tourism, traditional communities and adaptation to climate change. The amount contributed by BRDE will be R$1.2 million, out of a total of R$ 2.9 million.

3. Project under study in partnership with the **Secretary of State for Sustainable Development of Paraná (SEDEST)** to subsidize **Private Natural Heritage Reserves,** located in Paraná, to obtain Certification as businesses committed to the conservation of biodiversity and maintenance of ecosystem services. The project also provides for a guarantee for the purchase of credits generated by the areas during a two-year period.

Our purpose, as a LIFE Coalition member is to measure the result of these three actions and their positive impact on biodiversity, promoting, as a development institution, the scalability of these practice.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Brazil)

Viva Agua Initiative

Boticario Group Foundation

Organizers:

Viva Agua Initiative

Boticario Group Foundation

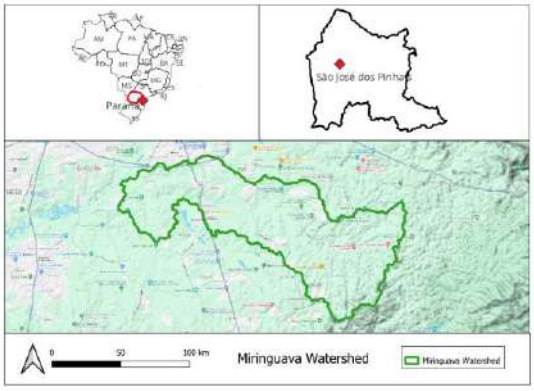
Summary

The Viva Agua Initiative (VAI), launched in 2019 by the Boticario Group Foundation (BGF), aims to address water security and climate resilience in critical Brazilian watersheds. Initially focusing on the Miringuava watershed, which supplies water to over 500 thousand people in southern Brazil, VAI expanded to the Guanabara Bay region in 2021, serving 11 million. Each region has a dedicated fund to accelerate actions, which is managed by financial organizations and works within a venture philanthropy and/or revolving fund logic. VAI employs a co-creation approach involving diverse stakeholders to develop integrated solutions to common challenges. It has influenced companies to transition towards sustainable practices, contributing to biodiversity conservation and economic development. Notable achievements include reducing plastic pollution, promoting sustainable agriculture and responsible tourism, and strengthening impact businesses. Looking ahead, VAI aims to consolidate its experiences into a national governance framework by 2030, promoting water security across six strategic watersheds in Brazil.

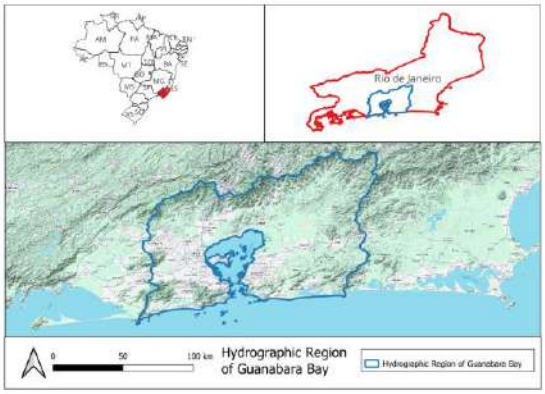
Case Study

Boticario Group Foundation (BGF) is a corporate foundation maintained by Boticario Group - a Brazilian beauty company. Created in 1990, BGF's mission is to promote nature conservation in Brazil. For over 20 years BGF has worked with water, mainly through Payment for Ecosystem Services, Ecosystem based Adaptation, and strengthening Protected Areas - involving mostly NGOs and local governments. In 2018, understanding the relevance of the private sector, BGF developed a strategy to connect the dependencies of Brazilian businesses and other stakeholders to positive impact on biodiversity. It started by evaluating the closest scenario to the Foundation's headquarters – the watershed that supplies Boticario's factory in southern Brazil. This is the Miringuava Watershed, which supplies water to over 500 thousand people in the Greater Curitiba Area.

In 2019, Viva Agua (VA) Miringuava was launched as a strategy to connect multiple stakeholders to promote water security and climate change adaptation. In 2021, it was brought to Guanabara Bay, which supplies water to 11 million people. Both initiatives are planned to last at least until 2030. Viva Agua consolidated as a private non-state initiative, which connects stakeholders from the private, public, and financial sectors; as well as local community and civil society, to ensure water security and climate resilience in strategic watersheds in Brazil. Its main pillars of action lay on nature conservation and transition to a sustainable economy.



VA-Miringuava - State of Parana - Brazil



VA-Guanabara - State of Rio de Janeiro - Brazil

By building on a co-creation logic, the actions' development considers the needs of multiple players and seeks integrated solutions for the posed challenges. This approach is changing the behaviour of the local communities involved, which are switching from an individual to a collective mindset, and recognizing sustainable practices as means to improve their livelihoods. Viva Agua has been influencing companies in transforming their dependencies on natural capital into positive impacts on biodiversity, also contributing to economic development in a sustainable and purposeful way.

For each operating region, a dedicated fund has been established to receive investments from both the private and public sectors, thus speeding up the actions' implementation. Managed by financial organizations, these funds operate within a framework of venture philanthropy and/or revolving fund logic. The Viva Agua Miringuava fund, established in 2019, has mobilized over USD$ 1 million to date, with USD$ 601,000 already invested within the territory. Similarly, the Viva Agua Guanabara fund, launched in 2022, has seen investments totalling over USD$ 402,000, with USD$ 153,000 already invested within the territory.

Intended Impacts

Looking forward to 2030, VA-Miringuava targets the reduction of average water turbidity by 20%, alongside the consolidation of 3 sustainable markets focusing on sustainable agriculture, responsible tourism, and ecological restoration through carbon offsetting. The initiative also seeks to conserve 1,500 hectares of natural areas and restore 650 hectares strategically important for water availability, while promoting sustainable agriculture across 500 hectares. Additionally, VA plans to support the strengthening of 30 impact businesses within the region.

Similarly, in the Guanabara Bay area, VA aims to deliver significant positive impacts by 2030. These include providing essential ecosystem services such as water quality maintenance, erosion control, water regulation, flood and landslide prevention, coastal resilience, and cultural preservation. Furthermore, the initiative endeavours to strengthen socio-environmental governance in the bay area, fostering connections between various sectoral agendas. Leveraging private, public, and philanthropic financial resources, VA seeks to create a sense of pride and engagement among the population of Guanabara Bay, encouraging active participation in the protection of the territory and belief in its potential.

VA-Miringuava

In the Miringuava Watershed, Viva Agua's efforts since 2022 have focused on ecological restoration, with 75 hectares of Atlantic Forest currently undergoing restoration. Part of this process is leveraged by an offsetting mechanism, developed to offset corporate emissions. Additionally, partners of VA-Miringuava are strengthening the conservation of 133 hectares of strategic natural areas for water availability through a payment scheme for environmental services. Between 2020 and 2021, 100 local farmers have taken part in a capacity building process with regards to innovation and technology for sustainable agriculture. In 2022, Viva Agua has started to activate 2 sustainable markets - agriculture and tourism. In the same year, Guaviva, an initiative to leverage marketing of sustainable agricultural products, was created. It consists of a hybrid mechanism based upon markets and delivery of products' bags, both in schools, companies and offices. So far, this business has involved 9 local entrepreneurs; delivered 29 markets and 381 bags; and earned an income of over USD$ 6,000.

Ecological restoration at VA-Miringuava. Photographer: Gabriel Marchi

Miringuava River. Photographer: Boticario Group Foundation

Moreover, in 2022, a set of strategic guidelines was developed to strengthen responsible tourism in the region until 2027. The next step built capacity in responsible tourism, including social, economic and environmental aspects, among 6 local entrepreneurs, resulting in the region's first responsible tourism route (*Destino Miringuava*), launched in 2023.

To keep strengthening responsible tourism and sustainable agriculture, VA mobilized around USD$ 200,000 in 2023. This project benefitted 12 local entrepreneurs with seed capital, which was invested in sustainable projects within their enterprises. The businesses were also strengthened through mentoring sessions on marketing and financial topics. Additionally, 4 workshops were carried out and opened to a broader audience, to inspire a sustainable future for the Miringuava region.

So far, VA-Miringuava has benefited 154 land owners including 43 women. Twelve local businesses were strengthened, 24 partnerships were established and over USD$ 1.4 million was raised.

In terms of engaging the local corporate sector, between 2020 and 2022, Viva Agua worked with a partner to strengthen their interest through several studies connecting climate change and adaptation with their realities. The initiative promoted studies to understand: how local companies relate to water resources, climate change and sustainability; and the concept of Nature-based Solutions and its

role in promoting climate resilience, water security and economic benefits in the Miringuava Region. Two workshops with local companies were carried out on "Climate Risk and Adaptation with emphasis on water security", and 3 companies were assisted on identifying climate risks and developing guidelines for management and adaptation measures. This has led to the publication of 3 case studies. A financial plan until 2030 was also developed to support and guide every member and project in terms of fundraising to achieve the planned targets.

VA-Guanabara

In Guanabara Bay, one of VA's main challenges has been addressing plastic pollution, as the Bay is one of the world's largest dischargers of plastic into the sea. In response to this, VA supported, within the "Orla Sem Lixo" project, the installation of a 300-meter-long pilot barrier capable of intercepting 1 t of floating plastic waste per day. The project involves 96 artisanal fishermen in waste collection logistics, generating a new income source for them.

Viva Agua Guanabara.
Photographer: Suzanna Tierie

Viva Agua Guanabara.
Photographer: André Dias

Another important priority is supporting sustainable businesses in the territory. Consequently, in 2021, a sustainable business assessment was carried out and 69 businesses were mapped. As a result, 3 acceleration cycles of impact businesses took place in subsequent years, strengthening 26 enterprises.

In 2022, along with this strategy, VA-Guanabara also launched the Consilium of Waters, an open innovation environment, currently with 8 participants, which aims to generate positive socio-environmental impact in the region through the exchange of ideas and co-creation of solutions for common challenges between impact businesses.

Another priority of VA-Guanabara is addressing ecological restoration, conservation of ecosystems and nature-based solutions. To address these challenges, 3 innovative ecological restoration solutions were developed and financially supported between 2023 and 2025, totalling USD$154,000. This financial support aims to improve and scale up the solutions, while promoting local economy through ecotourism practices, agroforestry systems, and socio-biodiversity value chains.

In 2022, to increase Guanabara's Bay visibility, the initiative started the implementation of a 100-km-long trail, alongside the launch of the web series "The Bay that Resists" and a study highlighting the importance of 117 protected areas for water and biodiversity in Guanabara Bay.

Collaborating with several stakeholders, VA-Guanabara has invested over USD$ 1 million in the territory, leveraging private, public, and philanthropic resources. In addition to these important local results, VA-Guanabara also participated in the development of the study on Philanthropy Operating Archetypes in partnership with Rockefeller Philanthropy Advisors, contributing to the field of strategic philanthropy.

Special Recognition

Viva Agua's impact extends far beyond the boundaries of the Miringuava Watershed and the Guanabara Bay hydrographic region, gathering attention and recognition at various nature conservation events globally. Notable appearances include serving as a case study at Climate COP26 in Glasgow, Scotland, featured in the side event "Multi-level action for biodiversity and climate: Planetary challenge & lessons from Latin America", and at Climate COP27 in Sharm El Sheikh, Egypt, as part of the panel "Bringing nature-based climate action to cities in challenging times". Moreover, Viva Agua showcased its achievements at the Biodiversity COP15 in Montreal, Canada, illustrating how Brazilian companies contribute to biodiversity conservation and promote a Nature Positive economy. The initiative has also been presented at important events such as the UrbanShift Latin America Forum in 2024, the Latin American Water Funds Alliance Workshop in Colombia in 2023, and the NYC Climate Week in 2023. VA's presence has been acknowledged in various publications highlighting its pioneering role in promoting sustainable practices and environmental stewardship. Some examples are: "Cities of the Future: Nature-based Solutions helping to tackle the climate emergency" by Urban Bioconnection Alliance and Boticario Group Foundation in 2023; "Bioeconomy, Nature and Businesses" by the Federation of Industries of Rio de Janeiro State (Firjan) in 2023; "The role of structuring organizations in strengthening local impact investment and business ecosystems", by the Corporate Citizenship Institute (ICE) in 2022; and "Nature-based Solutions for Business" by the Brazilian Business Council for Sustainable Development (CEBDS) in 2021.

Project Team

The current core team behind the Viva Agua Initiative (VAI) comprises individuals with diverse expertise and backgrounds, all dedicated to driving positive change in environmental conservation and sustainable development. The founding members of VAI include Andre Ferretti, a Forest Engineer serving as the Senior Manager at the Boticario Group Foundation (BGF); Guilherme Karam, a Biologist who holds the position of Manager at BGF; Anke Salzmann, also a Forest Engineer, serves as the Program Manager at BGF; Thiago Valente, a Biologist who holds the role of Program Manager at BGF; Luiz Weber, specialized in Social Communications and Journalism, works with Institutional Relations at BGF; Mariana Benzoni, with a background in International Relations, serves as a Project Analyst at BGF; and Rubiane Spina, specialized in Public Relations, serves as a Project Analyst at BGF. Currently, the initiative is under coordination of André Dias, a tourism expert, who holds the position of Project Analyst at BGF, and André Ferretti. Furthermore, VAI also benefits from the contributions of external members, totaling approximately 70 individuals. These external members contribute to the initiative with their knowledge and experience from various sectors, enriching the VA's collaborative efforts towards achieving its goals in environmental sustainability and community engagement.

Outlook Future

Viva Agua has demonstrated its effectiveness as a social technology, promoting water security and climate change adaptation in critical Brazilian watersheds. Its inclusive governance framework and financial mechanism, founded on principles of co-creation, have facilitated an environment where stakeholders from various sectors come together to address common challenges.

To extend the reach and maximize positive impacts nationally, Viva Agua plans to consolidate the experiences, results, and success factors of both initiatives into a comprehensive national governance framework. By 2030, this framework aims to establish and reinforce a collaborative network of local governance structures dedicated to promote water security in 6 strategic watersheds across Brazil.

Some highlights of Viva Agua in the media:

- World Water Day: Find out what actions help to tackle river and ocean pollution (in Portuguese).
  https://www.superacessoinfo.com.br/supervisualizador/visualizador.aspx?idanalisesubcanal=24683710&idemail=4088
- Study shows that riparian forests help to keep the water volume of river in dry seasons (in Portuguese).
  https://www.superacessoinfo.com.br/supervisualizador/visualizador.aspx?idanalisesubcanal=24683710&idemail=4088
  https://www.gazetadopovo.com.br/curitiba/como-agricultores-vao-plantar-agua-para-ajudar-captacao-da-barragem-do-miringuava

- Trail “Caminho Reconcavo da Guanabara” combines environmental restoration, ecotourism and sustainable development (in Portuguese).
  https://oglobo.globo.com/um-so-planeta/noticia/2022/12/trilha-de-longa-distancia-vai-unir-reservas-ecologicas-da-baixada-ao-municipio-de-cachoeiras-de-macacu.ghtml
- A long-distance trail will link ecological reserves in the Guanabara Bay (in Portuguese).
  https://umsoplaneta.globo.com/sociedade/noticia/2022/12/06/trilha-caminho-do-reconcavo-da-guanabara-une-regeneracao-ambiental-ecoturismo-e-desenvolvimento-sustentavel.ghtml
- Ecological restoration in the Miringuava Watershed (in Portuguese).
  https://ciclovivo.com.br/planeta/meio-ambiente/plantio-de-mudas-nativas-ajuda-a-restaurar-bacia-do-rio-miringuava/
- Ecological restoration helps small-scale farmers in the Miringuava Watershed (in Portuguese).
  https://bandnewsfmcuritiba.com/restauracao-ecologica-na-bacia-do-rio-miringuava-ajuda-agricultores/
- Six inspiring examples of land use and conservation (in Portuguese).
  https://ciclovivo.com.br/planeta/meio-ambiente/6-exemplos-inspiradores-para-o-uso-e-conservacao-do-solo/
- Boticario Group Foundation emphasizes the importance of sustainable practices (in Portuguese).
  https://exame.com/esg/fundacao-grupo-boticario-ressalta-a-importancia-do-aumento-de-ambicoes-sustentaveis-diz-executivo/
- Conserved soil is essential to guarantee water, food and climate resilience (in Portuguese).
  https://www.segs.com.br/demais/373529-solo-conservado-e-essencial-para-garantir-agua-alimentos-e-resiliencia-climatica

- Barrier to contain garbage is installed in the Guanabara Bay (in Portuguese). https://ciclovivo.com.br/inovacao/inspiracao/projeto-instala-barreira-para-conter-lixo-na-baia-de-guanabara-rj/

VA-Miringuava Expert Source

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Brazil)

Itaipu Hydropower Plant

Results of Biodiversity Conservation through Integrated Social, Economic, and Environmental Actions

Organizers:

Itaipu Hydropower Plant

Results of Biodiversity Conservation through Integrated Social, Economic, and Environmental Actions

Itaipu Binacional

Summary

Sated in southern Brazil, Itaipu Hydropower Plant is the largest generator of renewable power in the world, producing more than 3 billion megawatts-hours (MWh). The electricity generation from the Itaipu Hydropower Plant replaces the equivalent of 550,000 barrels of oil or 50 million cubic meters of natural gas daily. Since its conception, it has followed sustainable development principles, as reflected by its integrated actions and programs supporting social well-being, economic growth, and environmental protection, contributing to regional prosperity in Paraguay and Brazil. Itaipu's activities in the region have been recognized as excellent examples of "Best Practices" in effectively implementing the United Nations 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). In this case we show how we invested in a strategic territory to improve the conservation of natural resources while seeking to improve people's lives and cultivation practices. We use the LIFE Methodology for Business and Biodiversity as an indicator of our conservation objectives, which has interesting metrics to highlight the size of our contribution to the environment, which has been around ten times more than necessary to compensate for our negative impacts.

Fig. 1 – Aerial view of the hydropower plant and reservoir, with legally protected area in the background

Case Study

Challenges

Inappropriate forms of land use and occupation, pollution, and forest fragmentation are serious threats to biodiversity, water security, hydroelectric energy production, and a reduction in the useful life of reservoirs. It was from this reality that Itaipu Binacional was inspired to create its territorial action strategy involving the population to reduce these problems in the river basins that drain water into its reservoir, prevent solid waste from reaching the reservoir, and improve the supply of water in quantity and quality for energy production and other needs of the population.

Solution

Invest resources in projects and partnerships with public and private institutions operating in the territory, which result in a situation of environmental compliance, preventing solid waste and changing people's behavior and interest in conserving natural resources.

Strategy adopted

Sustainability has always been part of Itaipu Binacional's business, as evidenced by the care taken in forming more than 100,000 hectares of Atlantic Forest on both banks of the plant's reservoir, the handling of the river basins connected to the reservoir, and the relationship with nearby communities.

However, at Itaipu, care for the environment and people is constantly improved. In the year it celebrates 50 years of existence, the company expanded its coverage area in Brazil from 6,900 km² to 264,000km², bringing together 399 municipalities in the states of Paraná and another 35 in the state of Mato Grosso do Sul, as it is showed in the Figure 2.

To operate in this broad territory, Itaipu created the Itaipu Mais que Energia program, which encompasses the company's social and environmental actions, which have been practiced since 2003 and are widely recognized, such as Environmental Education, Sustainable Rural Development, Biodiversity Conservation, and watershed Management.

The program is aligned with the mission, vision and strategic objectives of the Itaipu Binacional that deal with sustainable territorial development and water security, including research and innovation in areas of interest such as tourism and renewable energy.

With Itaipu Mais que Energia, Itaipu offers a concrete contribution to the implementation of the Sustainable Development Goals (SDGs), which make up the United Nations 2030 Agenda, in the 434 municipalities that make up this coverage area, reaching around 11 million people and 200 thousand km2 of area.

In 2023, the program established a new line of financing for socio-environmental actions that relies on financial resources from Itaipu, distributed across four modalities: Environmental Sanitation; Renewable energy; Integrated Water and Soil Management; and Social, community and infrastructure works.

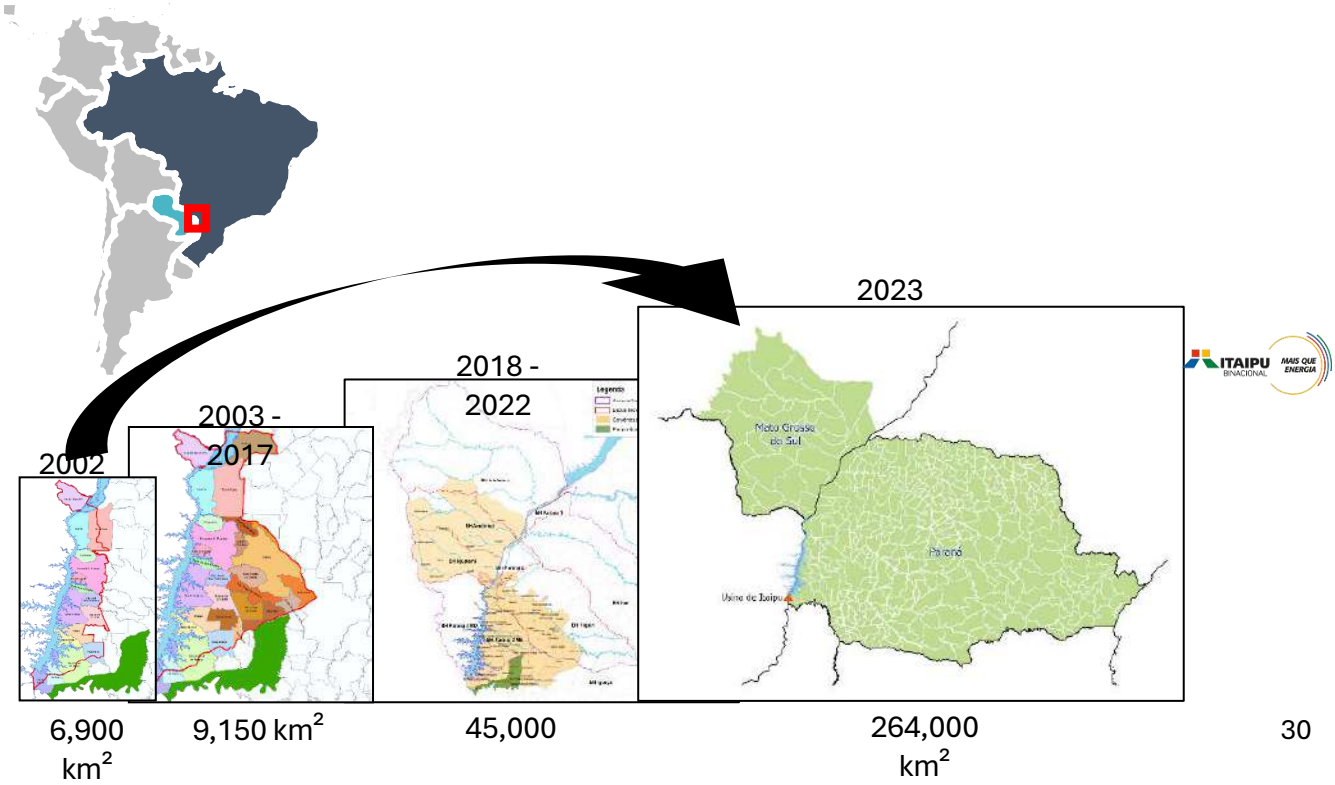


Figure 2. Location and evolution of the area of strategic action for the development of socio-environmental actions.

In the first stage, only city halls can make proposals of up to US$400,000, distributed across already established activities. In return, municipalities must pay 5 to 10% of the requested amount, according to their tax collection. In addition, each municipality must indicate at least 20 locations with water sources to be recovered in the proposal's work plan. When formalizing the transfer instrument, the municipality must prove that it has the resources available for the counterpart.

An agreement was signed with the public bank Caixa Econômica Federal for the operational management of contracts. The bank is responsible for the operational management of the transfer instruments of agreements made with municipalities, which includes evaluating technical documentation, monitoring the execution of activities and payments to suppliers, and ensuring the correct application of resources.

Our understanding is that environmental problems interface with social and economic problems, and therefore, the three must be integrated for good results in the conservation of natural resources. That is why we seek to carry out actions with direct positive results in the conservation of natural resources and the strengthening and inclusion of people so that they become multipliers in the fight against climate change.

For socio-environmental actions implemented since 2003, Itaipu has a technical team that prospects and articulates partnerships, and the institutions themselves also look to Itaipu, seeking support for their projects. Suppose synergy exists with Itaipu's strategy and approval for inclusion in the company's budget. In that case, the partnership is created, and an action plan is established with objectives, goals, and financial and execution schedules, in addition to the counterparts of the parties.

Initiatives and Results

Environmental education:
* Construction and operation of an Ecomuseum for exhibitions, environmental education practices, and local cultural collection.
* Partnership with a research foundation to offer a free Sustainability Management course: 15 classes in Portuguese, 7 classes in Spanish, and 1 class in English. A total of 2,679 participants.
* Purchase and adaptation of a truck to publicize environmental actions in several cities: 1,330 locations visited
* Permanent program of internal educational campaigns for employees, service providers and suppliers
* Training of Environmental Education Managers in municipalities: 210 managers trained, training 300 teenagers, 165 educational campaigns on World Water Day. Around 67,548 people were affected.

Social responsibility:
* Partnership with 18 civil society organizations. Assistance to 4,000 socially vulnerable children and adolescents with sports, leisure, cultural, school support, and professional training activities
* Partnership with 6 universities to train specialized labor: granting 200 scholarships.
* Implementation of a photovoltaic energy project in two charitable institutions.
* Implement and manage a working group for the integration of health services in the triple border region between Brazil, Paraguay, and Argentina.
* Partnership with the Local University to provide free legal assistance to the needy community: 4,680 people benefited.



Sustainable Rural Development:

* Agreement with two local universities and two technical advisory institutions to improve agricultural production in the region: 56 technicians involved, 1,879 farmers served, 246 agro-industries advised, 10 research projects to improve organic agriculture, 85 certified family farmers.
* Implementation of a medicinal plant garden: production and free distribution of 10,000 seedlings per year of 83 species.




Solid waste management:

* Technical assistance and infrastructure project for solid waste management: 67 waste separation and recovery units implemented, more than 2,000 recyclable collectors trained, 72 trucks adapted to collect recyclable waste, 72 kits with equipment for weighing and separation of waste, supply of 5,800 uniforms for workers.






Support for Indigenous Communities:

* Agreements with two municipalities to promote improvements in infrastructure and agricultural production in 03 indigenous communities: 1,250 indigenous people benefited

Biodiversity Conservation:
* 100,000 hectares of protected areas (Paraguay and Brazil)
* Support for 02 biodiversity corridor projects
* 300,000 Atlantic forest tree seedlings produced and allocated free of charge to restoration activities
* Veterinary hospital for wildlife care
* 54 species of wild animals kept
* 5 conservation projects for endangered species (harpy, jaguar, tapir, curassow, deer)
* 3 areas for visiting and demonstrating restoration actions: 30,000 visitors per year, germplasm bank, monitoring of fauna and flora.
* Research into commercial production of native fish in net tanks.
* Fish transposition channel: 200 species were identified, and xx species were monitored annually.
* Monitoring water quality and macrophyte species
* 1 outpost of the Mata Atlantica Biosphere Reserve – UNESCO.
* Sending animals to conservation projects in Brazil and other countries, such as The Rewilding Foundation in Argentina and Beauval Zoo in France.

Management by River Basins:
* 300,000 ha of micro river basins worked
* 1,000 km of improved rural roads
* 800 springs recovered
* 40,000 ha with soil conservation actions
* 1,300 km of fences built to protect riparian forests
* Implementation of 230 cisterns and community water supplies.

Money invested

Between 2003 and 2023: US$ 128.1 million

Between 2024 and 2028: US$200.0 million

Climate impact

Itaipu Binacional's socio-environmental actions contribute to:

• Reduction in biodiversity loss by increasing reforested areas and native fauna conservation actions.

• Creation of habitats to shelter fauna and flora

• Formation of biodiversity corridors

• Carbon fixed in protected forests

• Prevent soil loss due to inappropriate use

• Social impact that reduces deforestation

• Proper waste treatment

• Maintain the quality of life of local communities and avoid rural exodus

Main Achievements

2019

Biosphere Reserve - Itaipu's protected areas in Brazil gained the status of Biosphere Reserve – a title already obtained by areas on the company's Paraguayan margin in 2017. The territory is considered the core zone of the Atlantic Forest Biosphere Reserve (RBMA) by the "Man and the Biosphere" Program (MaB) of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

2017

Fundação SOS Mata Atlântica published a study indicating that Itaipu Binacional was mainly responsible for the regeneration of forest areas in the state of Paraná, Brazil, in a period between 1985 and 2015. Of the total area of Atlantic Forest recovered, the reforestation carried out by Itaipu corresponded to 28%.

2015

Water for Life – The socio-environmental program Cultivando Água Boa, developed by Itaipu in partnership with the 29 municipalities of the Paraná 3 River Basin, obtained recognition from the UN as the world's best management of water resources. CAB competed with 40 initiatives from all continents and won first place in the "Best practices in water management" category of the 5th edition of the 2015 Water for Life Award.

LIFE Certification for Business and Biodiversity: Itaipu Binacional is the third company in Brazil to receive LIFE Certification. This methodology evaluates the efficiency of the company's environmental management system and actions to conserve biodiversity.

Cumbres de Guadarrama - Itaipu's sustainability actions earned it the Cumbres de Guadarrama award, granted by the Community of Madrid (Spain), in January 2015. Since 1914, the award has recognized good examples of ecology, organizations, governments, national parks and people.

2013

Business for Peace Award. Itaipu was awarded the Oslo Business for Peace Award 2013, promoted by the United Nations Development Program – UNDP, International Chamber of Commerce and the Business for Peace Foundation, based in Oslo. The winners must have national or international recognition for adopting practices that generated new values for their businesses and that are also values shared by society.

2011

Americas Award. Itaipu's socio-environmental actions were chosen as an example of excellence in the environmental sustainability category by the Americas Award 2011. The award is granted by the United Nations Institute for Training and Research (Unitar), in partnership with the International Center for Training Local Actors for Latin America (Cifal) - Atlanta, United States.

2010

Clean Tech & New Energy. Itaipu's ability to produce clean and renewable energy was recognized by the British magazine The New Economy, responsible for the Clean Technology and New Energies award. Considered a "leader in the development of renewable energy", Itaipu was one of the winners, standing side by side with the largest energy producing companies on the planet.

2007

Inclusion in the list of wonders of the contemporary world, prepared by the CNN television network in January. On the list, Itaipu appears among the greatest works of engineering, technique, and design.

Inclusion in the list of the 25 Wonders of the World, made by the English publisher that publishes the Rough Guide tourist guides. The list, released in May, was compiled to celebrate 25 years since the founding of Rough Guides.

1995

The Itaipu plant was included in the list of the seven wonders of the modern world, made by the North American Association of Civil Engineers (ASCE) for the magazine "Popular Mechanics" in the United States.

Result Indicators

International recognition proves the efficiency of conservation actions promoted by Itaipu Binacional. Furthermore, we use the LIFE Certification for Business and Biodiversity (https://institutolife.org) to highlight our environmental contribution. This certification offers metrics allowing the company to monitor biodiversity performance quantitatively and qualitatively.

According to the methodology, the company calculates its pressure through an aggregate metric that considers energy and water consumption, waste generation, greenhouse gas emissions, and land use index, considering their quantity and severity and the methodology calculates a Biodiversity Minimum Performance required to counterbalance its impact (BMP in Figure 2). On the other hand, the company calculates its positive balance through the scoring of voluntary actions implemented (BPP in Figure 2). Thus, according to the LIFE Methodology, Itaipu's results show that the company positive performance is more than ten times bigger than the minimum necessary to counterbalance its impact on biodiversity (BPP/BMP in Figure 2).

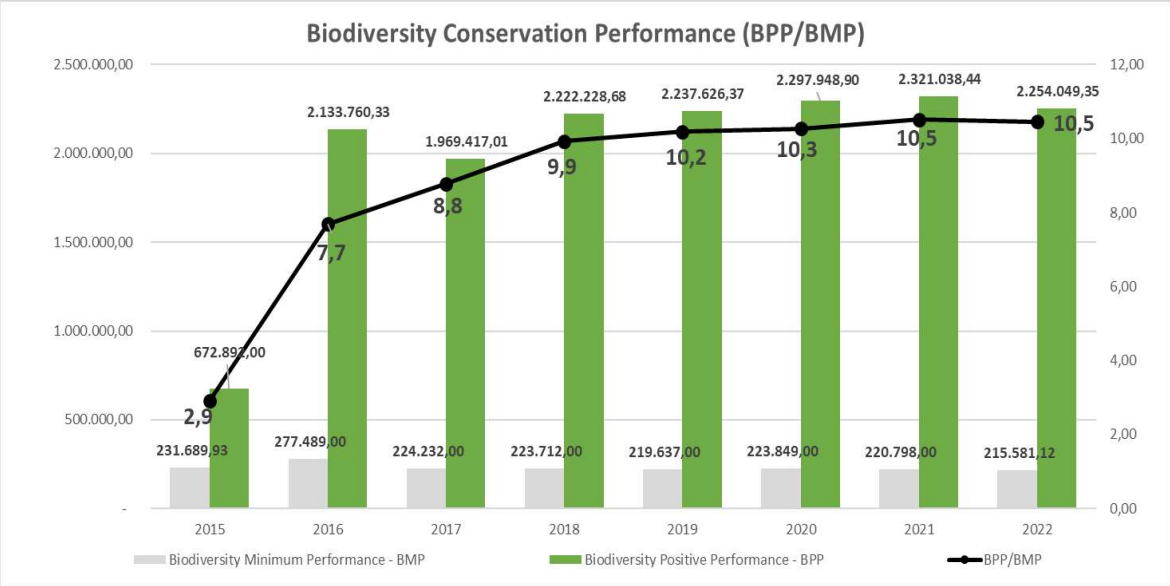


Figure 2. Score of Itaipu Binacional's environmental actions over the years, according to the LIFE Methodology for Business and Biodiversity

The score obtained in the LIFE Certification has been used by Itaipu to demonstrate how much its voluntary actions contribute to biodiversity. It is a strong indicator for decision-making in relation to the sponsorship of socio-environmental projects with the highest certification scores.

Main Learning

Making the territory recognized for its quality of life, its development model that values habitat conservation brought pride and belonging to the people who live in the territory.

Working with dozens of institutions at the same time is difficult due to the variation in rules for each one. Negotiations with institutions have given good results so that all objectives are achieved.
Global references such as the United Nations Sustainable Development Goals have been good guidelines for working effectively on actions that result in benefits for the environment and people.

Plans for the future
Itaipu intends to find ways to support and implement payment programs for environmental services so that its actions also contribute to generating more resources for the territory's population.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Brazil)

C-Pack Conserva

Restoring local biodiversity with partners

Organizers:

C-Pack Conserva

Restoring local biodiversity with partners

C-Pack Creative Packaging

Summary

C-Pack Creative Packaging, based in Santa Catarina's State in southern Brazil, is the largest producer of extruded plastic tubes in Latin America. Since 2020, C-Pack and Teia BN are working together with the Instituto do Meio Ambiente de Santa Catarina and the Instituto Tabuleiro for the restoration of nature reserve Parque Estadual da Serra do Tabuleiro (PAEST).

This pioneering private sector initiative supports official bodies in the control of Pinus, an invasive pine species, inside the PAEST. Besides drying the soil, Pinus is suppressing the native species Restinga, and thus leads to significant biodiversity loss. The highly flammable resin of Pinus trees is a factor in the spread of forest fires, which are a major problem for the neighborhood of Baixada do Maciambu.

The project includes annual definition of the area for removal of Pinus, monitoring to verify the recovery of native species, environmental education, as well as certification by third-party accredited certifying body.

Figure 1. Pinus tree inside PAEST

Case Study

C-Pack Conserva is dedicated to fostering a positive impact on biodiversity within legally protected areas, such as the Serra do Tabuleiro State Park (PAEST). This groundbreaking initiative involves voluntary collaboration with legal organizations to manage Pinus, an invasive pine species prevalent in the State of Santa Catarina, Brazil.

Pinus trees often outcompete native vegetation, resulting in significant biodiversity loss. Moreover, this species possesses a unique and highly flammable resin, which exacerbates the spread of wildfires, a major concern in the State Park area. Our efforts have been ongoing since 2020 and are evaluated using LIFE Methodology. The C-Pack Conserva Project serves as an exemplary model for conservation of biodiversity due to several key factors.

Firstly, the project targets legally protected areas, specifically the Serra do Tabuleiro State Park, indicating a strategic focused on action inside priority areas. By directing efforts towards such areas, the project ensures the safeguarding of critical habitats and the species they support.

Figure 2. Supressed Pinus Tree

Secondly, the initiative addresses the management of Pinus, an invasive species known to disrupt native ecosystems. By collaborating with legal organizations, the project takes a proactive approach to controlling the spread of Pinus, thereby mitigating its negative impact on biodiversity. This intervention is crucial for maintaining the ecological balance within the State Park and preventing further degradation of natural habitats.

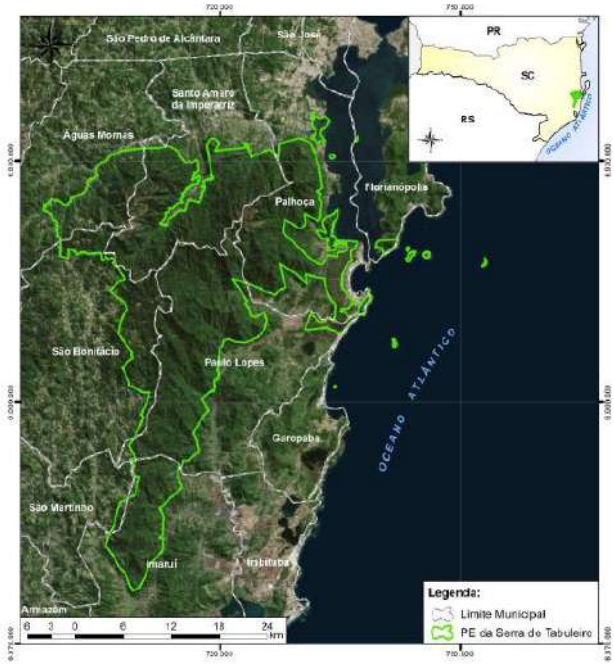
Furthermore, the project's emphasis on biodiversity performance underscores its commitment to promoting ecological resilience and ecosystem health. By utilizing LIFE Methodology for Business and Biodiversity for evaluation, the project demonstrates a systematic and rigorous approach to monitoring its effectiveness.

Background Information: Serra do Tabuleiro State Park

C-Pack Conserva operates within the expansive Serra do Tabuleiro State Park (PAEST), the largest legally protected area in the state of Santa Catarina, Southern Brazil, spanning over 84,000 hectares. This State Park is located in the Mata Atlântica biome, specifically inside the limits of Coastal Forests of Serra do Mar microbiome.

Established in 1975, the park's primary objective is to safeguard the region's abundant biodiversity and river systems.

Figure 3. PAESTs Map (Management Plan, 2018)



Background Information: C-Pack Conserva

This case involves a voluntary initiative from the private sector aimed at restoring Baixada do Maciambu, a neighborhood in Palhoça, Santa Catarina, Brazil, which has been severely affected by multiple fire incidents in the last few years.

C-Pack Conserva was launched in 2020, coinciding with the LIFE Certification of C-Pack Creative Packaging S/A by a third-party certifying body. The LIFE assessment method involves measuring the environmental impacts (based on Greenhouse Gas emissions, waste generation, water and energy consumption, and land use) attributable to a company. Based on this assessment, companies are required to implement biodiversity conservation measures to at least offset their environmental impacts and improve its biodiversity performance.

Targeting a positive impact on biodiversity, C-Pack enlisted the services of Teia Biodiversidade e Negócios, a reputable environmental consulting firm in the Florianópolis area. Together, they evaluated various options of actions that could achieve the desired impact. It was during this assessment that we decided to prioritize the suppression of Pinus trees within the Serra do Tabuleiro

State Park. The decision was aligned with the Park's Management Plan, as Pinus trees tend to outcompete native vegetation and contain a highly flammable resin.

C-Pack Conserva continues to advance with new initiatives each year. Since 2019, the project has undertaken three rounds of Pinus suppression, one symbolic planting of native seedlings, and four environmental education activities. Presently, C-Pack and Teia BN are exploring the installation of a meliponary in the areas where Pinus trees have been suppressed.

Responsible

C-Pack Creative Packaging S/A (Owner and administrator):

We are the leading manufacturer of extruded plastic tubes in Latin America. With a focus on biodiversity, we have adopted the LIFE Methodology to assess our environmental impacts and contribute positively to this important issue. In pursuit of this objective, we have engaged Teia Biodiversidade e Negócios as our environmental consultant to assist in planning and implementation of C-Pack Conserva.

Teia Biodiversidade e Negócios (Consultant):

Teia BN is a sustainability agency that adopts an innovative approach, integrating social well-being, economic development, and biodiversity preservation. Serving as the liaison between C-Pack and the Legal Organizations of Serra do Tabuleiro State Park (PAEST), Teia BN provides both theoretical guidance and practical support for C-Pack Conserva.

Other successful partnerships in C-Pack Conserva:

Instituto do Meio Ambiente de Santa Catarina (IMA/SC): A government agency tasked with ensuring the preservation of natural resources in Santa Catarina;

Instituto Çarakura; A non-governmental organization dedicated to promoting quality of life, environmental sustainability, and harmonious coexistence;

Instituto Tabuleiro: An association responsible for scientific research, public engagement, environmental education, and community mobilization within the territory encompassed by the Serra do Tabuleiro State Park and its surrounding areas;

Viveiro Camarinha: A small company specializing in the production of seedlings from native species of the Mata Atlântica and conducting studies aimed at the recovery and restoration of degraded areas.

Specific Information

C-Pack Conserva is committed to conserving and restoring biodiversity in legally protected areas, such as Serra do Tabuleiro State Park. The chosen methodology to achieve the project's goals involves implementing measures to eradicate the invasive exotic species Pinus, as well as conducting annual monitoring actions to track its regeneration in specific areas.

Suppression is carried out using chainsaws for mature individuals and machetes for younger ones. Once felled, the trees are transported to wetland areas to prevent further fire spread, aligning with the directives outlined in the park's Management Plan.

C-Pack Conserva targets Baixada do Maciambu, a flat transitional zone located between the ocean and the Serra do Mar mountains. This area is distinguished by its Restinga vegetation, which includes

flooded areas, sandy ridges, various small to medium-sized bushes and unique variety of Fauna and Flora.

Additionally, the region is home to a small community that frequently experiences the impact of wildfires.

Each year, we allocate approximately $7,500.00 for C-Pack Conserva's campaigns, which encompass Pinus suppression, monitoring of previous campaigns, LIFE Certification and consultancy services from Teia BN. To date, C-Pack has invested a total of $37,121.32 in the project, equivalent to $371.21 per hectare. All funding for the project is provided voluntarily by C-Pack.

Closure

The first phase of the project, conducted in 2020, involved the removal of 3,608 Pinus individuals in the adopted Area 1 (14 ha). As an additional action during Phase 1 of C-Pack Conserva, 24 specimens of 8 native species from restinga formations were planted, including araçá, aroeira-vermelha, butiá, capororocão, pau-leiteiro, pitanga, and tanheiro.

The project phase 2 began in 2021, leading to the removal of 3,821 Pinus specimens in a newly designated 20-hectare area. This campaign had its location adjacent to the visitor center of PAEST, enhancing visitors understanding of the park's strategy for conserving restinga biodiversity and preventing fires in the region.

The third phase of the project began planning in 2022 and was executed in late 2023. The new area of influence encompassed 60 hectares, bringing the project's positively impacted area to nearly 100 hectares.

The biodiversity of Santa Catarina is significantly positive influenced by the C-Pack Conserva project, as it conserves directly a legally protected area in which are documented over 80 mammal species, 300 bird species, 107 reptile and amphibian species, as well as various invertebrates.

Furthermore, there are 1192 botanical species documented in the region, *including Commelina catharinensis*, a rare small herb only spotted at the coast of Santa Catarina State. This herb was spotted in 2021 inside PAEST, where C-Pack Conserva's phase 1 took place. The discovery caught C-Pack's interest and since 2022 we have been funding the "ex-situ *Commelina catharinensis* conservation project" conducted by Instituto Tabuleiro and Viveiro Camarinha.

The funding provided by C-Pack for the *Commelina* project has facilitated new introductions of the herb inside PAEST, as well as new expeditions to locate additional specimens. Additionally, it has supported efforts to include *Commelina catharinensis* in Brazil's lists of threatened flora species, currently ongoing.

Both governmental and non-governmental agencies have recognized the positive impact of C-Pack Conserva's actions. In acknowledgment of this, the company has featured the C-Pack Conserva case in the media on multiple occasions and has been awarded the "Partner of State Conservation Units" seal by the Instituto do Meio Ambiente de Santa Catarina (Figure 4). It's also worth noting the project's impact on our employees, suppliers, and clients.

The local population is another group that has benefited from the project. We believe that the success of our actions can be measured not only by the metrics of LIFE Certification but also by the regeneration of natural biodiversity (Figure 5) and the mitigation of wildfires (Figure 6).

Figure 6 portrays an orange-colored area burned on December 02, 2023, spanning over 380 hectares. What's noteworthy is that the yellow rectangle remained unburned. This rectangle corresponds to the second phase of C-Pack Conserva, where we intervened by removing Pinus individuals in 2021.

Figure 4. Conservation Unit partner seal

Figure 5. Natural vegetation overcoming Pinus

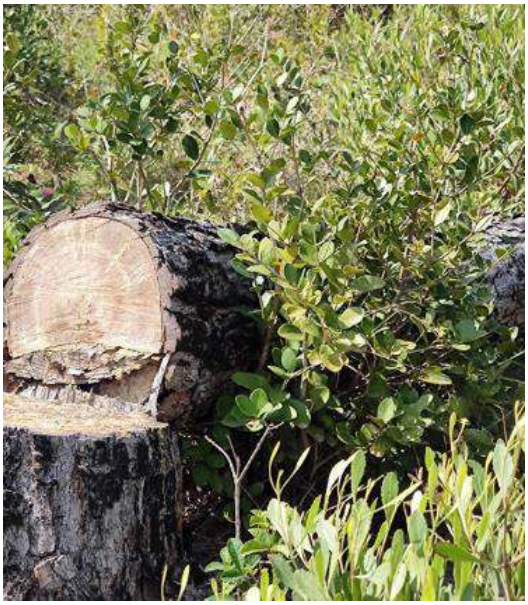


Figure 6. Impacted area of a wildfire inside PAEST

As previously mentioned, we also gauge our impacts using LIFE Certification. This certification evaluates our impact on biodiversity (IPB) and establishes a minimum performance requirement (DMB) to offset the impact we generate. With just the C-Pack Conserva Project, we have attained 42,950.41 points, exceeding the DMB by over 30,000.00 points. When considering all activities undertaken by C-Pack, our total surpasses 50,200 points.

Despite the success of the actions outlined in this case, the removal of Pinus trees results in a temporary loss of CO_2 absorption potential from the atmosphere, even though just until the natural vegetation is fully restored.

We are immensely proud of the achievements that C-Pack Conserva has demonstrated. Additionally, we firmly believe that this case holds significant potential for implementation in other legally protected areas grappling with the invasion of exotic flora species.

Currently, we are encountering some issues regarding the widespread presence of Pinus in nearby mountain regions, what facilitates the spread of seeds and leads to a faster infection of the Pinus trees in the areas we have been working. Besides that, we also face problems with land regularization in one of the areas we conducted the Pinus cutting. The 10-hectare area is owned by the State, and the legal authorities have provided us with all the necessary authorizations to carry out the work. However, a group consistently claims to have possession of the area, fencing off parcels, installing gates, threatening entry of third parties, and setting fire to the Pinus trees in the region.

The above-mentioned issue is forcing us to change our course of action moving forward. In 2024, we are finalizing the last details for Phase 4 of the C-Pack Conserva Project, but instead of cutting Pinus trees, we will be establishing a meliponary with native bees. This way, we will be able to accelerate the restoration of native flora, while also engaging the local community in the management of these structures and creating potential sources of income and sustainable forests. If this action proves to be unfeasible, we will explore the possibility of identifying other priority areas near C-Pack.

In addition to the Pinus cutting actions themselves, we believe that the advance and wider acceptance of LIFE Methodology can bring benefits worldwide.

Media and Publications

Project Video	Pinus suppression in PAEST newspaper article	Commelina catharinensis newspaper article
		
Access via Link	Access via Link	Access via Link

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Brazil)

Conexão Oceano

Communication and engagement in favour of ocean protection

Fundação GrupoBoticário

Organizers:

WHC

Conexão Oceano

Communication and engagement in favour of ocean protection

Boticario Group Foundation

Fundação GrupoBoticário

Summary

Conexão Oceano is an initiative of the Boticario Group Foundation, created in 2019 with the intention of stimulating communication to different audiences about the importance of conserving marine and coastal environments. In alignment with the Ocean Decade, it is a platform for connecting with journalists, communicators, influencers, researchers and representatives of public and private entities, which promotes and develops events, activations, publications and content for the press and social networks. Throughout its history, Conexão Oceano has engaged and brought awareness to the ocean cause to thousands of people.

Among its achievements are the *Oceano sem Mistérios* (Ocean Without Mysteries) publications, which use graphic resources and accessible language to translate technical and scientific content for society, as well as statistical and valuation studies of marine ecosystems. Some examples are the publications on *Manguezais, Valoração Econômica dos Recifes de Corais e a Relação dos Brasileiros com o Mar* (Mangroves, the Economic Valuation of Coral Reefs and the Relationship between Brazilians and the Sea). Another example is the Conexão Oceano Environmental Communication Notice, an award-winning initiative that values the production of qualified journalistic content about ocean sustainability. The public notice and *Oceano sem Mistérios* have the cooperation of Unesco.

Case Study

CONTEXT

Everyone on every continent is connected in some way to the ocean, which occupies more than 70% of the planet's surface. Half of the oxygen we breathe comes from seaweed and 19% of Brazil's wealth (GDP) comes from the ocean, indicating its relationship with various economic chains. Fish and seafood are the main source of protein for 25% of the global population, and contact with the sea brings health benefits, shapes traditions and cultures, benefits traditional communities and regulates the climate.

Despite this monumental importance, we only know 5% of the ocean and less than 4% of global research funding goes to ocean science. At least half of the sewage from 81% of Brazilian municipalities flows into the ocean and illegal fishing jeopardizes fish stocks and marine fauna, a reflection of consumer choices. Add to this the BRL 9.5 trillion in damage to the global economy caused by plastic pollution.

In a country embraced by the sea, with around 8,000 kilometers of coastline, and historically and daily connected to the ocean, what does society - including opinion leaders, decision makers, the private sector, the third sector, every individual - actually know about the ocean? How can we engage people to take conscious action and contribute to the health of the planet without knowledge and information that is accessible and easy to understand? In addition to overfishing, water acidification, climate change and pollution, communication is seen as a major challenge for society's true engagement. An essential resource to be prioritized.

It was in view of this scenario and with this concern, on the eve of the Decade of Ocean Science for Sustainable Development (2021-2030), or Ocean Decade, that the Boticario Group Foundation launched Conexão Oceano in partnership with UNESCO in September 2019. With the motto "communicate, engage, protect", the initiative aims to strengthen communication about the coastal-marine ecosystem on all fronts and by different actors.

The Boticario Group Foundation is a non-profit organization operating in Brazil and maintained by the Boticário Group, one of the largest beauty companies in the country. Created in 1990, the Foundation's mission is to promote actions in favor of nature conservation in Brazil. The institution believes that conserved nature should be the basis for social and economic development and is currently working to adapt to climate change. Today, the institution directs its efforts towards tackling three major challenges: water security, the protection of water sources such as springs and increasing the resilience of coastal zones.

In more than three decades of activity, the Boticario Group Foundation has always been attentive to the care of the ocean, having already supported 280 projects all along the Brazilian coast and directed more than 25% of its resources to ocean science and actions related to the sea. A network of action with around 150 partner institutions. The institution is recognized by UNESCO and the Brazilian government as the civil society representative of the Ocean Decade in Brazil.

THE LAUNCH

To transform Brazilian society's perception of the ocean, awaken belonging and provoke new habits and actions in favor of the health of the seas, Conexão Oceano was launched in

September 2019 at the Museu do Amanhã in Rio de Janeiro. This was the first event connected to the Ocean Decade aimed at opinion leaders in Brazil. 350 communicators, journalists, influencers, press officers, academics and representatives of the third sector, public authorities and the private sector took part in person, as well as 203,000 people reached by live streaming on social media and 208 press inserts.

The event aimed to discuss and come up with strategies on how to communicate the ocean to different audiences; present concepts and information related to ocean science to inspire interest and keep the topic on the agenda; bring to the public the transversality of the ocean and how it connects with people's daily lives; and collect information and perceptions from the public on the topic. Among the premises for the event were the approach to transversal themes, gender equity in the program, different formats and approaches, interaction between participants and the non-use of disposable materials.

Among the speakers were inspiring people from different sectors of society who are recognized for the causes they defend, such as journalist Sônia Bridi, sailor and Olympic athlete Isabel Swan, actor and advocate of the Clean Seas campaign Mateus Solano and researchers Alexander Turra, Frederico Brandini and Ronaldo Christofoletti.

Throughout the event, participants gave their perceptions on the subject: 38% thought that one of the main obstacles to ensuring more engagement from society is the disconnection of the subject from people's daily lives, while 25% mentioned the lack of knowledge and 13% indicated the difficulty of translating scientific knowledge. Climate change (61%), education (45%), health (42%) and the economy (33%) were among the topics pointed out as needing to be related in communication about the ocean.

The event also resulted in a series of recommendations related to communication about the ocean, such as integration between different areas of research and communication; greater presence of content about the ocean in schools; and free access to quality information, with simplified language and correlated with people's daily lives to ensure understanding by the general public. The document resulting from the event is available in Portuguese and English.

Awareness-raising video about the ocean presented for the first time during the event. Access the link (content in Portuguese with English subtitles)

DEVELOPMENTS

Since then, different Conexão Oceano communication actions have been launched every year to spread knowledge about the seas and bring them closer to different audiences through simple and engaging language. These actions were conceived and conducted by an integrated team from the Boticario Group Foundation (currently made up of manager Omar Rodrigues, Janaína Bumbeer, PhD in ecology and marine conservation, oceanographer Liziane Alberti and journalist Jorge Olavo Woellner Kintzel) and carried out in partnership with different institutions.

A) OCEAN WITHOUT MYSTERIES COLLECTION

Aiming to disseminate information about the ocean and coastal-marine ecosystems in accessible language and with shareable graphic resources, the first publication of the Oceano sem Mistérios collection under the Conexão Oceano banner was launched in 2020. *Oceano sem Mistérios: Desvendando os manguezais* (Ocean Without Mysteries: Unraveling the Mangroves) features a series of guidelines and tips on how to communicate scientific and ocean-related topics in an accessible way. The examples present data on Brazilian mangroves, an important ecosystem for coastal resilience, marine biodiversity and social and economic development.

The first volume of the collection (available at this link) addresses the challenge of communicating technical and scientific issues to society. The guidelines range from identifying the target audience, the best information, the dissemination channel and the best formats, to examples of simplifying language and provocations for the interlocutor to act in favor of this ecosystem and the seas.

Examples of content featured in the publication *Oceano sem Mistérios: Desvendando os manguezais*

In 2022, during the UN Oceans Conference in Lisbon, Portugal, the second volume of the series was launched. *Oceano sem Mistérios: A relação do brasileiro com o mar* (Ocean Without Mysteries: The relationship between Brazilians and the sea) brought an unprecedented survey, in partnership with UNESCO and Unifesp, on society's perception regarding various issues associated with the ocean. The study interviewed 2,000 people from 38 municipalities in 14 Brazilian states, covering all regions of the country, with and without contact with the sea.

Among the findings presented in the publication are some worrying aspects: 10% of Brazilians have never been to the beach; 25% of the population believe that the ocean has no impact on their lives; 40% believe that their actions have no impact on the ocean; 86% neither know nor have heard of the Blue Economy; and only 25% seek information about the ocean. On the other hand, some data is encouraging: 70% indicate that tourism and the climate are closely related to the ocean; 87% indicate that the ocean contributes a lot to the Brazilian economy and 82.2% of Brazilians are willing to change their habits for the sake of the ocean. The relevance of the study and the availability of the methodology and questionnaires adopted have raised the interest of other countries to conduct the survey in their realities.

The conference was also an opportunity for us to offer Brazilian journalists exclusive content, photographs, interviews and videos to publicize the event and the study. The novelty and relevance of the study and the mobilization of the press resulted in 216 insertions, 119 of them in priority media.

Examples of graphs in the second volume of the collection, available in Portuguese and English.

Two more volumes of the collection were released in 2023. The publication *Oceano sem Mistérios: Desvendando os recifes de corais* (Ocean Without Mysteries: Unraveling coral reefs) presented the economic and social benefits of coral reefs, emphasizing their relevance for coastal protection and tourism. The valuation study of these ecosystems in northeastern Brazil indicated that coral reefs generate a value of approximately BRL 160 billion in coastal protection, with each square kilometer conserved generating a value of BRL 941 million annually in avoided damage. In addition, the tourism potential of coral reefs is worth around BRL 7 billion, about 5% of the GDP of the tourism sector in Brazil.

As part of the strategy to publicize the study, a press trip was organized to visit the corals of Pernambuco. Six opinion formers took part in the expedition, including journalists and influencers. The experience and the dissemination of the study to the press resulted in 445 news stories, 125 of which were published in major media outlets. In 2024, the publication was one of the documents that provided the technical basis for a BRL 60 million public notice from the National Bank for Economic and Social Development (BNDES) to boost the Blue Economy through the recovery and conservation of coral reefs.

Oceano sem Mistérios: Construindo cidades azuis (Ocean Without Mysteries: Building blue cities), the fourth publication in the series, in partnership with the Aliança Brasileira pela Cultura Oceânica (Brazilian Alliance for Ocean Culture), reinforces concepts about ocean culture in a bid to raise awareness among public managers and decision-makers to strengthen and integrate existing or ongoing actions in cities, connecting them with ocean sustainability. The volume covers seven spheres (education, sustainable blue economy, tourism, adaptation, water and sanitation, health and well-being and conservation) connected to the Sustainable Development Goals and the challenges of the Ocean Decade.

Two more publications are planned for 2024. One relating the health of the ocean to the practice of sports in the coastal region and the other valuing the blue carbon retained by Brazilian mangroves.

B) CONEXÃO OCEANO ENVIRONMENTAL COMMUNICATION NOTICE

Communicators and opinion formers are essential in the process of informing, raising awareness and sensitizing society in favor of the ocean cause. With the aim of encouraging the production of qualified journalistic content on the sustainability of the seas, in 2021, in cooperation with UNESCO, we launched the Conexão Oceano Environmental Communication Notice, inviting press professionals from all over Brazil to submit proposals for reports on coastal-marine legislation and public policies. The submissions go through an evaluation committee made up of journalists, communicators and ocean specialists, and the five best journalistic stories receive grants to be carried out, with the counterpart of being published in the media outlets indicated during the submission.

In the following years, the initiative highlighted the relationship between the sea and climate change and Brazil's role in global ocean commitments. And in 2024, the fourth edition of the Notice will focus on the relationship between sports practiced in the coastal zone and ocean sustainability.

The first three editions received 129 proposals from professionals from all regions of Brazil, to be broadcast on different communication platforms, such as print newspapers, magazines, news agencies and portals, radio and TV. In all, 15 projects received assistance to be carried out, totaling BRL 140,000 in grants. In the same period, the Notice totaled 478 news items about the selection process and supported content, with an equivalent value of around BRL 4.5 million.

For strengthening the relationship with journalists and stimulating the production of qualified content, the Conexão Oceano Environmental Communication Notice received the Aberje - Southern Regional Award in 2022, from the Brazilian Association of Corporate Communication, in the Press and Influencers category, one of the main communication awards in Brazil; and also the silver certificate from the Columnists Award, in the Sustainability and Environment category.

C) ACTIONS ON SOCIAL NETWORKS

Another perennial and sequential work are actions signed by Conexão Oceano on the social networks of the Boticario Group Foundation (Facebook, Instagram and LinkedIn). In 2021, five debates on different topics related to the ocean involved 19 invited experts and had more than 38,000 views. We brought to social media conversations about coastal-marine legislation and public policies; trends and opportunities for the Ocean Decade; ocean resilience and health; the tourism potential that comes from the sea; and how to engage in favor of the seas.

That same year, in partnership with Australian Gold and GoPro, three influencers connected with nature took part in a press trip to visit BioFábrica de Corais, a coral restoration and regenerative tourism initiative in Porto de Galinhas, in northeastern Brazil. The action - part of the launch of a line of coral-friendly sunscreens - included qualified information on the importance and health of this marine ecosystem, warning of the risk of coral bleaching and death. This information was passed on by the influencers to more than 330,000 followers on their profiles.

In March 2022, in connection with the International Women's Day, the *(A)mar é... memórias de um oceano de mulheres* (To love is... memories of an ocean of women) campaign, developed in partnership with the Women's League for the Ocean, brought to social media around 100 posts and more than 7,000 interactions with stories, songs, photos and stories of women presenting their relationship with the ocean. The campaign started with a live stream that brought together inspiring stories from three women connected to the sea.

That same year, in June, the month of the Environment and the Ocean, the *O Oceano está Aqui* (The Ocean is Here) campaign mobilized the Boticario Group Foundation networks with posts and content from influencers to show how the ocean is closer to us and more present in our lives than we imagine. Overall, the campaign had a reach of 5.1 million, 696,000 views and 129,000 engagements, achieving a rate of 23.82%.

The campaign, which showed the presence of the ocean even in places miles away from the sea, went beyond the online environment. In partnership with the Running Heroes platform, the campaign launched a free virtual challenge inviting people to run 25 kilometers over the course of a month in favor of ocean sustainability. In all, we had 1,211 participants and 28,200 km covered. In recognition of the challenge participants' efforts, we promoted, in partnership with other institutions, the clean-up of 160.3 hectares of beaches in the Atlantic Forest Great Reserve, mobilizing hundreds of volunteers and totaling 8.5 tons of garbage collected.

D) TRAINING

Assertive and accessible communication is also the subject of training for different audiences. Following the premises of Conexão Oceano, the subject was taken to a process of co-creation of practical and innovative solutions to challenges related to the sustainability and resilience of the seas. In 2021, Camp Oceano, also promoted by the Boticario Group Foundation in partnership with the Araucária Foundation, connected 900 participants to develop 138 solutions. Lectures and online workshops provided those involved with information on the importance of assertive communication to leverage results and gather partners in favor of ocean conservation.

At the end of the process, 19 solutions were selected to receive financial support for their implementation. The following year, the selected teams underwent further training to deepen their knowledge and boost communication and the results of the actions. A total of 18 hours of communication training was provided, with theoretical and practical content covering a range of topics, such as photo and video production; social networks and content for each platform; press relations and relationships with journalists; and inclusive and sustainable communication.

As a result of this process, the Fiotrar project - which develops mats with human hair to retain oil in the ocean - took part in an action to raise awareness of society signed by Conexão Oceano at three events in Brazil. A beauty salon was set up to present the technology that makes the mats and a practical experiment showing how the oil is retained. Interested parties could get their hair cut there and donate it to the initiative. In all, over 12 days of action, around 570 people were sensitized and donated their hair.

The Conexão Oceano Beauty Salon showed how the Fiotrar project works in favor of the ocean. Watch.

Training journalists in ocean-related topics is also one of the activities carried out as part of Conexão Oceano. In 2022, an online meeting about the ocean brought together around 30 journalists to embark on topics related to the seas that would gain prominence at global events in the following months. Among the topics covered by invited experts were the transverse nature of the ocean, its relationship with the climate, the presence of the issue in public policies and the ocean as a source of innovation, solutions and entrepreneurship.

FUTURE PROSPECTS

Communication is a strategic and essential tool in the process of educating, raising awareness and engaging each individual in favor of a cause. The focus must be on engagement, on making people understand the importance of the issue to the point of making a decision and taking action in favor of a greater good. Communication actions must be constant so that the issue remains present in the interlocutor's day-to-day life, as well as differentiated and innovative so that they arouse the attention of others and also "burst bubbles", reaching people who have no affinity with the issue and are also important in a process of collective transformation.

Each action of Conexão Oceano represents a step forward in reaching new people and impacting new attitudes, whether with new individual habits, new institutional positions or new public policies and legal instruments in favor of ocean culture and the health of the seas. It is through the use of assertive language and channels that we are able to ensure that qualified content generates positive impacts. Each communication action brings different results and learnings for new projects, with the understanding that external factors also have an influence.

Conexão Oceano continues to seek to innovate, generate new knowledge, bring together more partners and impact more people, with the understanding that communication is the first step towards engagement in favor of a cause and the consequent protection and transformation of the world around us.

SPECIALIZED SOURCES

Janaína Bumbeer (Boticario Group Foundation)

Ronaldo Christofoletti (Federal University of São Paulo and Maré de Ciência)

Alexander Turra (Oceanographic Institute of the University of São Paulo and UNESCO Chair for Ocean Sustainability)

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Brazil)

Conexão Araucaria

Restoration Project: A Public-Private partnership in Brazil, Paraná State

Organizers:

Conexão Araucaria

Restoration Project: A Public-Private partnership in Brazil, Paraná State

Japan Tobacco International
SPVS

Summary

The Araucaria Connection Project, established in 2017, aims to assist small rural producers in the southeast of Paraná. Its primary goal is to restore the state's Permanent Preservation Areas (known as APPs in Brazil) within the Araucaria Forest, located in the Atlantic Forest biome, using ecological restoration techniques.

Through the restoration of native vegetation cover, the project is establishing a lasting legacy by ensuring the protection of water resources, maintaining soil quality, and contributing to the recovery of species diversity, including rare and endangered species. This initiative benefits the environment and future generations, while also enhancing the productivity of local crops. (Quote from *www.spvs.org.br/en/conexao-araucaria*)

An innovative public-private partnership among BNDES, the National Bank for Economic and Social Development and SPVS, Society for Research in Wildlife and Environmental Education and JTI, Japan Tobacco International, established the Araucaria Connection, an ecological restoration project.

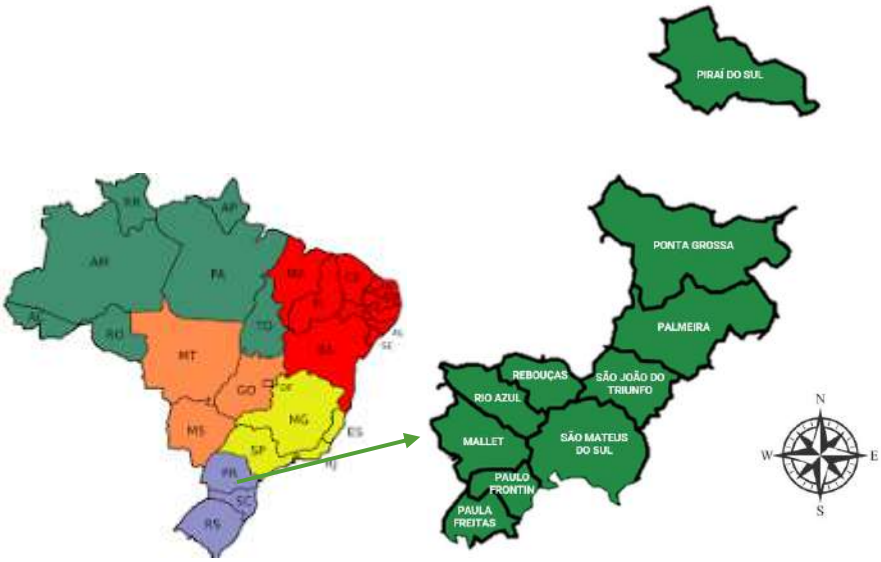
Known as the Brazilian Pine, the Araucaria tree is the symbol of the Brazilian state of Paraná. However, only 0.8% of its natural forests remain. To effectively expand the area of environmental restoration and the preservation of araucaria forest, a public-private partnership was established in 2017, including the participation of civil society organizations, the Brazilian Federal Government, Paraná State Government, Municipalities and family farmers, based on a public notice from BNDES.

Case Study

The initiative promoted joint actions with rural producers integrated to JTI, BNDES and SPVS for the restoration of Permanent Preservation Areas (APP) of Forest with Araucaria in the Southeast part of Paraná State on small rural properties, in accordance with the new Forestry Code.

Araucaria tree - source: Public use.

The project achieved the pre-established goal of restoring 335 hectares of Permanent Protection Areas of Atlantic Forest in private and public areas.



In 2015, BNDES launched a Public Notice for financial support of restoration projects, after final discussion and approval of the new Forestry Code by the Brazilian Congress.

JTI and SPVS had already developed some models of project to apply to the Public Notice and implement an ambitious restoration action, on Integrated farmers' land and in conservation units, which would bring an extra benefit of the actions to the general public.

In 2017 the partners started to mobilize family farmers to join the project.

Restoration work started in 2018 in Floresta Nacional de Piraí do Sul, in partnership with ICMBio (Chico Mendes Institute for Biodiversity Conservation), along with the first group of farmers.

In 2020, in the municipality of Rio Azul (PR) the project restored ~~of~~ 10.5 hectares in the Salto da Pedreira Environmental Park.

Finally in 2022, in Ponta Grossa, 76.6 hectares were restored in the Private Natural Heritage Reserve (RPPN) Meia Lua.

The project was concluded in May 2023, after meeting, and surpassing, the initial proposed targets.

Three main partners were responsible for all actions, according to a partnership contract, based on the BNDES Public Notice.

The funds came from BNDES, the Brazilian National Bank for Economic and Social Development. Japan Tobacco International (JTI) was responsible for funding expenses which were not covered by the contract, such as administrative fees and the technical management of the third partner, SPVS, the Society for Research in Wildlife and Environmental Education.

The execution of the actions would not have been possible without the fundamental contribution from other supporting partners such as Instituto Água e Terra (IAT), ICM BIO, Municipalities, Sociedade Chauá and the land owners who agreed to open their gates to implement the proposed plan.

The project had two main target audiences, small holding family farmers and public and private Conservation Units.

First Target Audience:

Rural farmers – 200 ha restoration in properties with up to 4 fiscal modules (74 hectares or 183 acres); Restoration only in Permanent Preservation Areas – Water Preservation Areas – springs, rivers and streams margins; No current environmental fines in the area was a requisite for participation.

Project development

- Awareness and mobilization of rural producers
  - JTI extensionist invites producers to take part in the project
  - Presentation of the project at producer group meetings
  - Registration of details/according to CAR (Rural Environmental Registry)
- Technical visit
  - Assessment of the CAR and the area
  - Preparation of the Restoration Plan (PRAD)

- Implementation of the Restoration Plan
  - 2 phases – preparation of land, fencing of area and seedling plantation
- Maintenance
  - Executed by rural producers
  - Support from JTI field advisors –regular technical visits (10 times a year)
  - Monitoring
  - SPVS sampling - based on the proposal of the Atlantic Forest Restoration Pact
  - JTI extension services in regular technical visits and rural producers on their own land

Second Target Audience:

- 150 ha in National Parks and Private Nature Heritage Reserve
- Presentation of the project to partner
- Technical visit
- Preparation of the Restoration Plan (PRAD)
- Implementation of the Restoration Plan
- Maintenance – Executed by local partner
- Monitoring – Executed by SPVS according to plan

The project had two funders, BNDES and JTI. JTI was initially responsible for funding the administration of processes by SPVS.

Because of pandemics and due to an increase of costs of execution that was not covered by the main funder, JTI brought complementary funds to guarantee the execution and deployment of all targets initially committed.

Destination/Funding	Execution with BNDES funds	Execution with JTI funds	Total expenditure
USOS	**Costs Funding in BRL**		
Restauration	3,205,421.96	522.000,00	3.727.421,96
Training and communication	199,560.43	72,386.66	271,947.09
Management	864,012.40	651,479.94	1,515,492.34
Total expenditure	**4,268,994.78**	**1,245,866.60**	**5,514,861.38**
Total per hectare	**12,743.27**	**3,719.00**	**16,462.27**

Araucaria Connection worked in different types of properties, through diverse partnerships and had extra success in exceeding the target to restore 335 hectares of Atlantic Forest in the southeast and central-eastern regions of the state of Paraná, in public and private areas.

Restoration work started in 2018 in Floresta Nacional de Piraí do Sul with 35 hectares and in the following year another area was included totalizing 46.5 restored hectares in this Conservation Unit, where more than 53 thousand seedlings were planted, in partnership with ICMBio (Chico Mendes Institute for Biodiversity Conservation).

On small properties integrated to JTI, 205 hectares in Permanent Preservation Areas (APPs) have been recovering. To this achievement, the project planted about 140 thousand seedlings of native species and installed 200 km of fences to protect the seedlings on the properties. Set of actions (or initiatives to be developed by rural owners and tenants with the aim of adapting and promoting environmental regularization with a view to compliance Law No. 12,651, the Forestry Code.

Araucaria Connection also worked in conservation units (public and private) supporting the management and restoration of important natural environments. In 2020, a partnership was signed with the municipality of Rio Azul (PR) for the restoration of 10.5 hectares in the Salto da Pedreira Environmental Park. The native environment was enriched by planting with more than 2.5 thousand seedlings in this area which are being monitored by SPVS (Wildlife Research and Environmental Education Society) and to ensure the success of the restoration and enrichment with endangered species.

In the Private Natural Heritage Reserve (RPPN) Meia Lua, in Ponta Grossa, ecological restoration was carried out on 76.6 hectares, using techniques to remove invasive exotic species in the Campos Naturais area, another ecosystem associated with the Atlantic Forest biome.

The project was concluded in May 2023, surpassing the initial proposed targets.

The intended impact was the restoration of 335 hectares of Permanent Protection Areas in small holding family-owned agriculture farms to guarantee compliance to the Forestry Code and restore areas in public and private Conservation Units.

Although the project faced some challenges, including the COVID pandemics, no harmful impacts were produced.

On the other hand, the project allowed one of the financing partners, the National Bank of Economic and Social Development, to reach a target audience that would have been too difficult for them to reach: family farmers, scattered in many municipalities.

The rich discussions and preparation among partners and supporters allowed mutual understanding of objectives and contributed to creating extra bonds in relationship, generating reputation and motivation.

These farmers had also a positive impact (intended, but collateral) of observing the enrichment of biodiversity and by consequence, better environmental services in their properties enhancing productivity and quality of the products they produce.

JTI had an opportunity of testing a model, in line of its business sustainability strategy and having tools to better plan new projects and programs to mitigate its own impacts in biodiversity and continue to get certified as Nature Positive, according to LIFE Methodology.

There was an initial delay of execution because of the resistance from farmers in joining the project. Thus, to make SPVS' technical proposals viable on rural properties, there were significant joint efforts with JTI technicians towards rural producers.

Although the program deals with the restoration of permanent preservation areas, to comply with current legislation, the producer must agree to the activities on their property. Farmers initially thought it could lead to fines and restrictions from authorities.

The Araucaria Connection project is considered to be of great complexity, considering the execution and joint efforts of JTI with SPVS and BNDES, supported by many other local partners, given that it is carried out on small properties, spread throughout the project areas.

The project needed 5 years to meet its targets and along the years, we depended on climate and weather conditions leading the project to suffer influence of drought and strong frosts.

One of most challenging situations was COVID-19, when we had to interrupt the work of restoration, but at least we guaranteed the monitoring of its development as the technical assistance to farmers by JTI continued during the pandemics, according to health protocol.

The delay of the development due to pandemics lead to another problem, inflation eroded the budget that was not possible to supplement from BNDES. JTI had to provide extra financing to guarantee the achievement of original targets. The bank declared they would possibly consider the length and unintended situation for budgetary planning for other public notices.

After planting the native seedlings – which include around 70 species from the Araucaria Forest, such as canelas, butiás, imbuia, yerba mate, and araucaria, SPVS monitored the evolution of the seedlings, through sampling.

The monitoring of the areas, which assessed the level of conservation of the Permanent Preservation Areas (APP), found that of the 204 properties, 189 managed to maintain their isolated areas, representing a total of 93% of the properties participating in the project.

In a small number of properties, agents of degradation of the Permanent Preservation Area (APP) were identified, such as the entry of farm animals into the restored areas, which occurred mainly due to the lack of adequate maintenance of fences.

The main lesson the project brought was the value of partnerships to deliver complex actions and guarantee target results.

This relatively small project may serve as an inspiration for development and improvement of public policies. Only public policies can guarantee the sustainability of bigger interventions and the necessary improvements for social and environmental development.

The Araucaria Connection was recently awarded the ABRIG Marco Maciel Award as an example of Private-Public partnership.

The project has been reported on JTI Global Sustainability report at https://www.jti.com/sustainability

More information also available at SPVS site https://www.spvs.org.br/conexao-araucaria

On YouTube (in Portuguese) https://www.youtube.com/watch?v=Yv7sm8tPA08

Responsible: JTI & SPVS

Should you need more information and clarification, please refer to Clovis Borges in SPVS or Flavio Goulart in JTI.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Colombia)

Lands with Purpose

animal bank

Organizers:

Case Study in Colombia

Lands with Purpose

Animal Bank

Summary

Tierras con Propósito® (Land with Purpose) is an initiative led by Animal Bank, part of the Portafolio Verde group, which has operated as an environmental consultant for more than 18 years, helping companies to follow the path of sustainability. This initiative seeks to promote the conservation of biodiversity and the sustainable use of natural resources on private properties with high environmental value in Colombia. It identifies and manages a portfolio of private natural areas, connecting them with organizations interested in developing sustainable projects such as ecotourism, agroforestry, environmental offsets, among others.

The main objective of Tierras con Propósito® is to encourage landowners to preserve and responsibly utilize their land. Through strategic alliances and resource management, the implementation of projects that contribute to the conservation of valuable ecosystems and sustainable development is facilitated.

The initiative has succeeded in forming a diverse portfolio of properties distributed across 23 departments of Colombia, encompassing a wide variety of ecosystems and natural habitats. In addition, it has generated positive impacts such as the effective preservation of valuable ecosystems, support for sustainable productive projects, and awareness-raising about responsible environmental practices.

Tierras con Propósito® represents an innovative strategy to reconcile biodiversity conservation with sustainable economic development, promoting collaboration between public and private sectors for the benefit of the environment and local communities.

Case Study

Tierras con Propósito® (TCP) is a portfolio of private areas with high ecological and environmental value in Colombia, identified and managed by Animal Bank, with the purpose of promoting projects on these lands that combine biodiversity conservation with sustainable and low-impact productive activities. This private initiative connects these areas with national and international organizations interested in developing ecotourism, environmental offset, agroforestry and other sustainable development projects, providing them with suitable lands.

Animal Bank, part of the Portafolio Verde group, has operated as an environmental consultant for more than 18 years, helping companies follow the path of sustainability. In addition, Animal Bank is a co-founder of the Biodiversity Roundtable and a member of the Global Compact Colombia.

History

Many national and international organizations were interested in implementing environmental protection initiatives, ecotourism, environmental offsets, agroforestry and other sustainable activities. However, they faced the difficulty of easily identifying and accessing private properties that had the required characteristics and ecological potential for this type of venture.

In response to this unmet need, Animal Bank decided to create Tierras con Propósito® six years ago as a platform to identify and manage a portfolio of private areas with high environmental and ecological value. This way, they could facilitate the connection between these lands and organizations interested in developing conservation and sustainable development projects there.

Thus, Tierras con Propósito® was born to address the lack of suitable properties for this type of environmental initiative, becoming a facilitator that promotes the preservation of natural areas through their responsible use through productive projects aligned with sustainability and conservation projects.

Operation

Animal Bank identifies and manages Tierras con Propósito, giving visibility to the properties and their owners in different spaces (social networks, spaces with organizations, forums, etc.). It also manages resources and promotes their involvement with interested organizations.

The target audience or users they want to encourage are:

Owners of private properties with high environmental value, so that they can join the initiative and preserve their lands through sustainable use, and national and international organizations interested in conservation, ecotourism, offset, agroforestry projects, etc. that need suitable lands to implement them.

Tierras con Propósito functions by connecting the supply of private natural areas with the demand from organizations seeking to develop sustainable environmental and productive projects, thus incentivizing a conservation model through responsible use.

Some Results

To date, Tierras con Propósito has formed a portfolio of 146 registered properties, covering approximately 51,200 hectares distributed across 24 departments of Colombia. These properties are selected for their high ecological and environmental value, many of which are formally recognized as Civil Society Nature Reserves.

Various projects aligned with the conservation and sustainable use of natural resources have been developed on these properties. These projects include the sponsorship of nature reserves for their effective protection, productive projects with local indigenous communities, ecological restoration initiatives in degraded areas, sponsorship of agroforestry ventures and other sustainable productive models, biodiversity monitoring, and corporate volunteering with environmental approaches.

Effective preservation of valuable ecosystems such as RAMSAR sites and endemic ecosystems, natural habitats, biodiversity, and resources such as forests, soils, and water sources has been achieved on the properties linked to Tierras con Propósito.
Through projects and activities, Tierras con Propósito has raised awareness and educated various audiences about responsible environmental practices, promoting the conservation and sustainable use of natural resources.
The initiative is part of an environmental assets market, where trees have been sold to individuals and companies interested in contributing to restoration processes.

Impacts

Desired impacts:

- Conservation of biodiversity in private natural areas of high ecological value.
- Sustainable use of natural resources such as forests, soils, water, through low-impact productive activities.
- Facilitate organizations to develop ecotourism, environmental offset, agroforestry projects, etc. on suitable properties.
- Generate income for landowners through the responsible use of their properties and thus avoid deforestation.
- Promote development models that combine conservation with sustainable production.

Other direct and indirect positive impacts:

- Preservation of natural ecosystems and habitats.
- Education and awareness-raising about responsible environmental practices.
- Generation of green jobs in surrounding communities.
- Carbon capture and positive impact on climate change mitigation.
- Protection of watersheds and water sources.

Possible undesired and harmful impacts:

- Risk of negative impacts due to improper waste management from productive projects.
- Possible displacement of communities if local populations are not appropriately involved.
- Introduction of invasive species that threaten local biodiversity.
- Impacts from infrastructure development in the case of poorly planned tourism projects.

Achievements

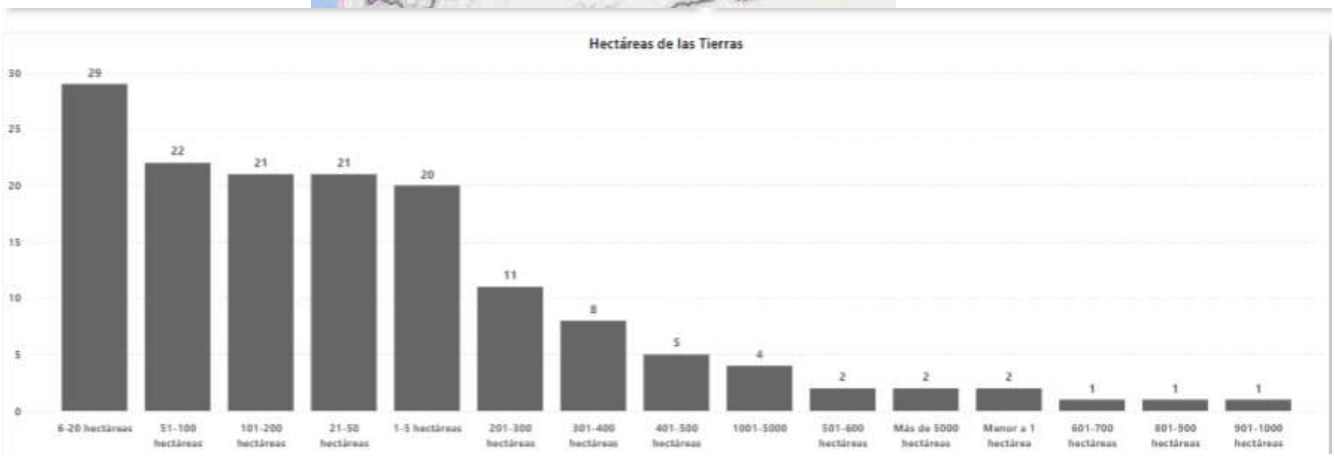
In terms of results, the initiative has formed a portfolio of 146 registered properties, covering approximately 51,200 hectares distributed across 24 departments of the country. Additionally, 11,672 native trees have been planted, contributing to ecological restoration processes in different regions and demonstrating a commitment to the preservation of biodiversity and natural resources.

The potential of Tierras con Propósito is very significant, especially given the current context in which organizations are increasingly focused on contributing to biodiversity and meeting new sustainability standards centered on biodiversity conservation.

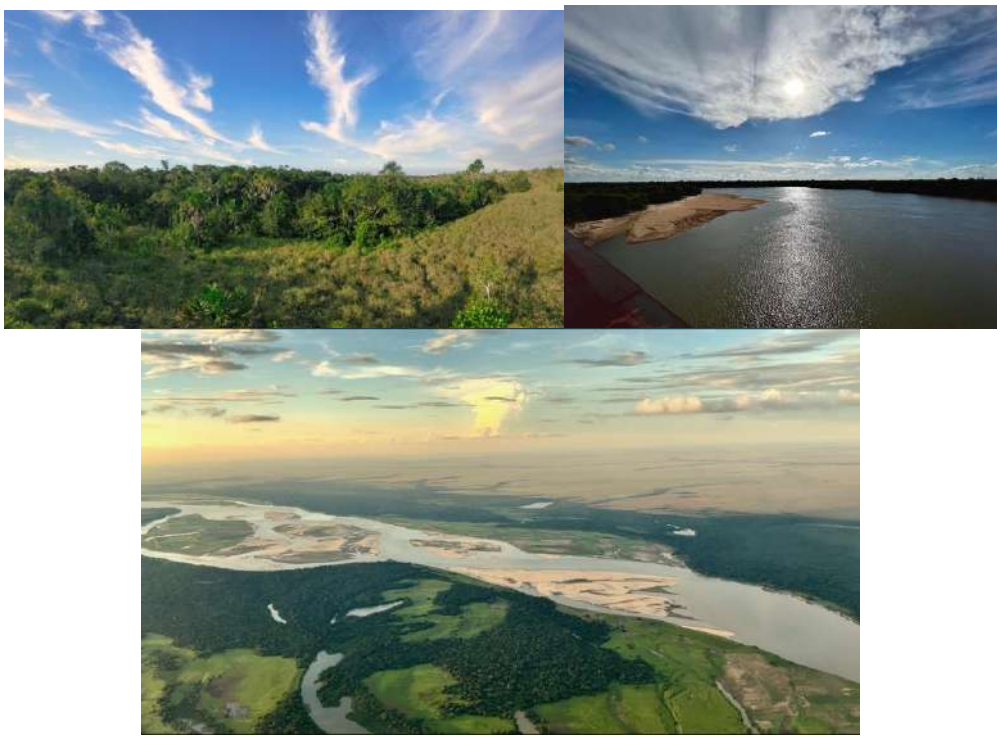
Furthermore, the presence of Tierras con Propósito in 24 departments of the Colombian territory indicates a broad and diverse geographic reach, allowing it to address a variety of valuable ecosystems and habitats in different regions of the country. This means that the initiative can meet the needs for conservation and sustainable use of resources in a wide range of environmental contexts.

In addition, Tierras con Propósito owners receive a monthly newsletter with specialized content. Quarterly meetings are also held with allies in various areas of knowledge to address topics of interest, and valuable information on these topics can be found on the Animal Bank blog.

The following shows the geographical distribution of our Tierras con Propósito and how the hectares are distributed.



The following shows the contributions to restoration processes in RAMSAR ecosystems.



Additionally, we have made contributions to restoration processes in a Tierra con Propósito where the “mono tití cabeciblanco” lives, located in Necoclí, Antioquia.

White-Headed Marmoset Monkey
(Necoclí, Antioquia)

Oropéndula

Strengths and Risks

The initiative has succeeded in motivating both private landowners and organizations interested in conservation and sustainable development projects. This is evidenced by the formation of a portfolio of 146 registered properties and the planting of 11,672 native trees, clear indicators of the commitment generated in the conservation and sustainable use of natural resources.

In terms of objectives, Tierras con Propósito has significantly achieved its goals related to biodiversity conservation and sustainable use of natural resources. The preservation of valuable ecosystems, the generation of economic resources for landowners, and environmental awareness are concrete achievements that reflect the effective fulfillment of its initial objectives.

These achievements have been possible thanks to the technical capabilities of our team, supported by the solid backing of the business group and the consulting firm. Additionally, the presence of Tierras con Propósito in 24 departments of Colombia is an additional strength that highlights its broad national reach. This extensive coverage demonstrates its ability to work in different environmental and social contexts, thus contributing to conservation and sustainable development in various regions of the country.

Finally, the result has been positive in relation to the resources and efforts invested. The effective preservation of ecosystems, the generation of economic resources, and environmental awareness demonstrate that the resources and efforts dedicated to Tierras con Propósito have been efficiently and effectively utilized. This indicates a significant return in terms of environmental, social, and economic impact, consolidating Tierras con Propósito as a successful initiative in promoting conservation and sustainable development in private natural areas.

One risk is the difficulty in guaranteeing projects for all registered Tierras con Propósito. This variability can create challenges in resource management and allocation, as well as in meeting the expectations of landowners seeking concrete opportunities for the development of sustainable projects.

This risk is addressed by diversifying sources of funding and collaboration to increase project opportunities for all Tierras con Propósito. This involves seeking partnerships with more organizations, public and private institutions, as well as promoting innovative financing strategies such as economic incentive programs and environmental offset mechanisms.

Additionally, expectations are managed transparently, and the possibilities and limitations in terms of available projects are clearly communicated.

Lessons learned

1. Involving private landowners and organizations: By working in collaboration with private landowners and organizations interested in conservation, a more solid and sustainable commitment to preserving biodiversity and natural resources is achieved. Furthermore, local knowledge is leveraged, and active community participation in the management of their own natural environments is fostered.
2. Effectiveness of planting native trees: Planting native trees is a proven strategy for ecological restoration. These trees contribute to biodiversity, improve soil and water quality, and help mitigate climate change.
3. Solid technical capabilities and support from the Portafolio Verde business group and consultancy: Having a trained technical team with the backing of a business group and a consultancy provides the necessary expertise to effectively plan, implement, and monitor conservation and sustainable development projects. This ensures the application of best practices, efficient resource management, and maximization of positive impact on the environment and local communities.
4. Environmental awareness and generation of economic resources: These actions are key to involving landowners and communities in conservation efforts. Awareness-raising creates understanding about the importance of nature protection, while generating economic resources provides tangible incentives for active participation in conservation projects, as it demonstrates that conservation can be economically beneficial.

Each of these lessons learned in Tierras con Propósito reflects the relevance of comprehensive, collaborative, and evidence-based approaches to achieving significant results in the conservation and sustainable development of private natural areas. These lessons are not only relevant for the project itself but also have broader implications for environmental management and community participation in the protection of our ecosystems.

Continuity

Tierras con Propósito will have continuity and significant future use in the field of conservation and sustainable development. The initiative has proven effective in connecting owners of private areas with organizations interested in sustainable projects, suggesting that its model has the potential for applicability in other similar situations and locations.

Contact

Website: https://www.animalbank.net/tierras-con-proposito/
Instagram: https://www.instagram.com/tierrasconproposito/

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study

CHILDREN´S ETERNAL RAINFOREST

Monteverde Conservation League Costa Rica

The significance of private wild areas

ASOCIACION CONSERVACIONISTA DE MONTEVERDE
BOSQUE ETERNO DE LOS NIÑOS

Organizers:

WHC

Case Studies in Costa Rica

Children´s Eternal Rainforest

***Monteverde Conservation League* (Costa Rica)**

Summary:

Costa Rica emerged as a world leader in the environmental movement in the 1970's with a daring initiative to create a National Park System. Today, the National Parks are credited with fueling a vibrant tourism industry. However, less often recognized is the significance of privately protected wild areas. In fact, they comprise one-half of all protected areas in the nation.

A leader in the network of private conservation is the Monteverde Conservation League, owner and steward of the Children's Eternal Rainforest, the largest privately-owned reserve in Costa Rica. From modest beginnings, the Children's Eternal Rainforest (or "BEN" after its Spanish name, Bosque Eterno de los Niños) has grown and prospered, with contributions from thousands of donors including many schoolchildren as well as public and private Payments for Environmental Services. This case study contributed by Lindsay Stallcup, executive director of the Monteverde Conservation League, documents this achievement as well as the challenges of sustaining the effort.

Case Study:

Monteverde Conservation League
Children's Eternal Rainforest
Bosque Eterno de los Niños ("BEN")
www.childrenseternalrainforest.org

Contact: Lindsay Stallcup, Executive Director, Lstallcup@acmcr.org

Introduction

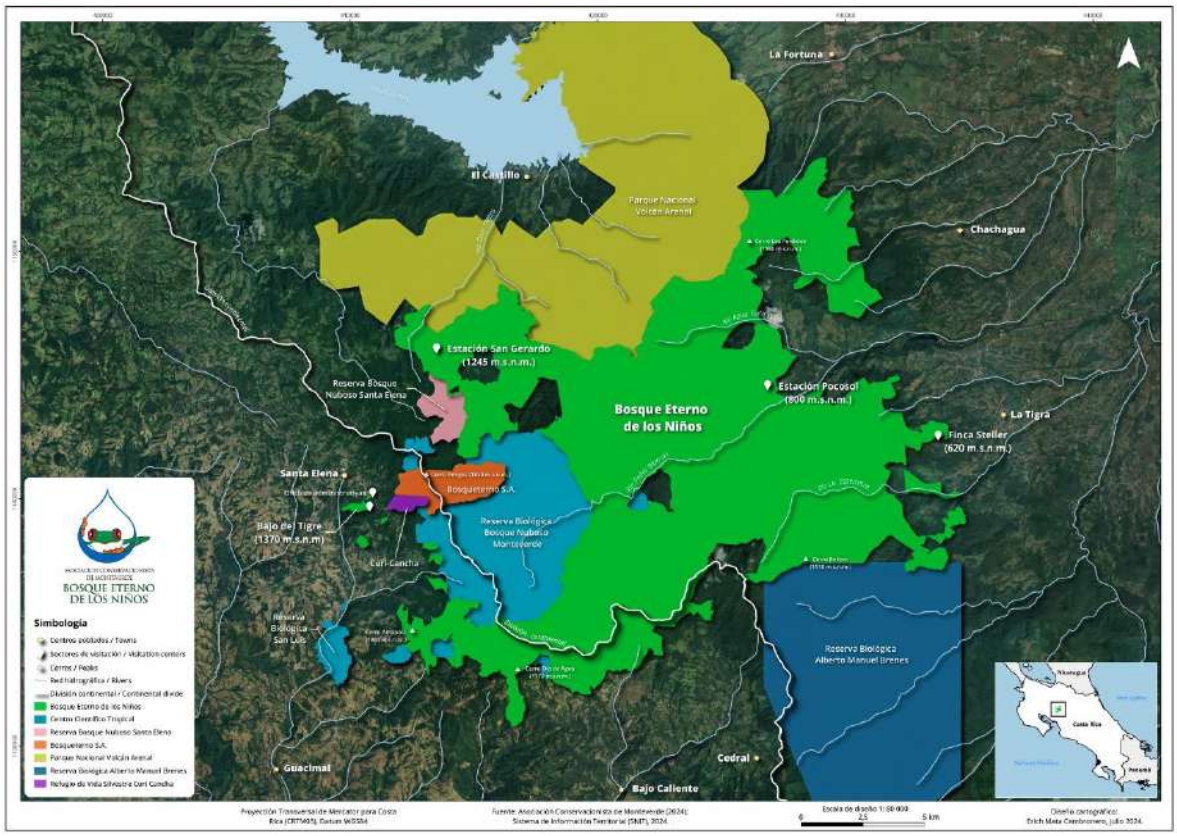
Costa Rica emerged as a world leader in the environmental movement in the 1970's with a daring initiative to create a National Park System. The visionary move, conceived against the backdrop of widespread agricultural expansion, could have flopped miserably. In fact, it paid off. Today, the National Parks are credited with fueling a vibrant tourism industry, and figure in assertions that Costa Rica represents the "best case scenario" for sustainable development. However, less often recognized is the significance of privately protected wild areas. In fact, they comprise one-half of all protected areas in the nation. Like Costa Rica's famous National Parks, a national network of private reserves helped stem the tide of agricultural expansion and deforestation by transitioning an extraction-based economy into one founded upon environmental protection and innovative, sustainable markets.

A leader in the network of private conservation is the Monteverde Conservation League, owner of steward of the Children's Eternal Rainforest, the largest privately-owned reserve in Costa Rica. The "BEN" (after the Spanish *Bosque Eterno de los Niños")* is a 22,600-hectare forested expanse that traverses seven geopolitical districts and three provinces, bridges an elevational range of some 1,300+

meters, and spans the Continental Divide that separates Atlantic and Pacific watersheds. Its geographic location is centered within a constellation of protected areas, including multiple private reserves, state-protected areas, and the renowned Monteverde Cloud Forest Preserve. Collectively, the system of protected areas covers about 50,000 hectares, consolidating diverse ecosystems, abundant biodiversity, and simply immense natural capital. As the centerpiece, the BEN is a vital nexus for natural habitats and populations.

The Bosque Eterno de los Niños was the brainchild of individuals from a small community known as Monteverde, which was settled by US Quakers in the 1950's. Early in the town's history, founders set aside cloud forest along the mountaintop for watershed protection. This act seeded efforts that eventually gave rise to the creation of the now-famous Monteverde Cloud Forest Preserve. As the region's flora and fauna was explored by scientists, its biological wealth was recognized. Nevertheless, the region was not immune to rampant deforestation that characterized Costa Rica in the 1970's and 80's. Indeed, in the early 1980's, Costa Rica held the dubious worldwide distinction as the nation with the highest annual deforestation rate. In the Monteverde region, forest destruction was rapidly claiming a hotspot of biodiversity. Although the Costa Rican government tried to protect forests around Monteverde with the declaration of the Arenal Forest Reserve in 1977, there was no indication that the government could effectively intervene in the practical task of acquiring land and preventing deforestation. It was against this bleak landscape that Monteverde residents decided to take action; in 1986, the Monteverde Conservation League (MCL) was born.
One of the first objectives of the MCL was to raise funds for the purchase and preservation of forest that would otherwise be lost or severely degraded. The land purchased would soon become known as the Bosque Eterno de los Niños. The consolidation of the properties into a privately-protected reserve resulted in the conservation of its boundless – and largely unstudied – biodiversity. The reserve is home to numerous endangered species, including mammals such as tapirs and jaguars, requiring large areas for population survival, and a host of plants and animals unique to the zone ("endemic" species). The area is also crucial for altitudinal migrants such as the charismatic Resplendent Quetzal and Three-wattled Bellbird, which attract international visitors to the country. Costa Ricans also benefit greatly by the existence of the protected area.

The conservation of five major watersheds provides a continuous supply of clean water for human consumption, agriculture, and hydroelectric production. Very significantly, neighbors benefit in material ways, such as through opportunities in the ecotourism sector, as well as via innovative outreach services of the MCL. These include facilitating participation in national programs that make direct payments to private individuals for forest protection.
In this way, the reach of the BEN extends beyond its borders, creating the human and natural connections needed to ensure the welfare of human and nonhuman communities in the future. Through the purchase of this threatened forest, and the progressive actions of the MCL, the region's biodiversity and beauty will be preserved for future generations – including children, adults, and organizations in 44 countries around the world who participated in fundraising to make the BEN a reality.



Land purchase

The MCL's immediate goal was to acquire land in order to prevent it from being deforested. Land purchase began in 1987, targeting the Peñas Blancas Valley on the Caribbean slope, and threatened Pacific slope areas near Monteverde. Much of the fundraising for land purchase was done by children, the initial spark having come from the 7 to 9-year-old students of Swedish schoolteacher Eha Kern. The movement quickly grew to include schools, individuals, and organizations in 44 countries around the world. Funds for land purchase also came from international NGO's such as World Wildlife Fund, The Nature Conservancy, and Rainforest Alliance, as well as debt-for-nature swaps. The ongoing administration and protection of the BEN has been made possible by donations, grants, payment for environmental services, income from ecotourism at field stations and trails, souvenir sales, and interest on investments.

In the 1980's and early 1990's, it was relatively inexpensive to acquire land; however, by the late 1990's, property was neither readily available nor cheap, and it became clear that land purchase alone was no longer a viable strategy for conservation. The MCL began to do what would become necessary for all successful conservation efforts in the 20th century: to look beyond the borders of the reserve itself and work in earnest with neighboring communities to bring them on board in supporting conservation. Where the Costa Rican government had been unable to prevent deforestation and the destruction of biodiversity, the MCL forged ahead with a series of innovative practices, including environmental education, reforestation, hiring former hunters as forest guards, training local youth to become naturalist guides, creating economic opportunities via ecotourism, and helping neighboring landowners receive environmental service payments for forest conservation on their properties. In this way, the MCL earned community-buy in for the BEN, helping to ensure the long-term protection of the land it had purchased.

The BEN exists today as a successful forest reserve because local communities, scientists, farmers, teachers, children, and many others worked together to make it happen (Kinsman 1991). It represents a long-term international effort at land acquisition, reserve consolidation, and biodiversity conservation. The BEN today comprises more than 200 separate properties, purchased between 1987 and 2023, which together form the reserve.

Results and impact

The purchase and preservation of the BEN has resulted in numerous specific benefits to biodiversity conservation, as well as important and unprecedented benefits for many diverse stakeholders on multiple levels.

Habitat and species protection

- **Costa Rica's largest private reserve.** The BEN consolidates 22,600 hectares of tropical rainforest, representing more than a quarter of Costa Rica's privately protected land. The BEN is strategically located as the largest and most central player in a 70,000-hectare block of protected land that includes both private and state-owned reserves (Appendix 1, Maps). As the centerpiece in this large expanse of forest reserves, the BEN is a vital nexus for natural habitats and populations. Moreover, the BEN preserves intact forest, which has recently been recognized for its value in biodiversity preservation, species recovery, carbon sequestration, adaptation to climate change and more (Watson et al. 2018).
- **Creating connectivity.** The BEN's location in the "bottleneck" of southern Central America gives it special conservation importance. The reserve spans the Continental Divide, preserving habitat in an altitudinal gradient from 450 to 1,800 meters above sea level on the Caribbean slope, and from 1,000 to 1,800 meters on the Pacific slope. Large protected areas with elevational diversity are of special importance because they support high species diversity (Young et al. 1998). The BEN provides critical habitat for species that migrate from North and South America, as well as local altitudinal migrants such as the Resplendent Quetzal (Powell & Bjork 1995), Three-wattled Bellbird (Powell & Bjork 2004), and innumerable species of migratory insects including damselflies, moths, and butterflies (Stevenson & Haber 2000). The BEN and surrounding reserves are located at the center of six biological corridors that form part of the Mesoamerican Biological Corridor (Appendix 1, Maps).
- **Species richness.** The 22,600 hectares of the BEN represent a mere 0.00015% of Earth's terrestrial surface area, and yet contain an astonishing proportion of the world's species, including 2.2% of the world's orchids, 3.7% of the world's butterflies, 6.4% of the bats, and 5% of bird species, to name just a few examples (Appendix 2, Diversity Estimates).
- The BEN is home to numerous **endangered and endemic species**, including but not limited to the following species listed by the International Union for Conservation of Nature (IUCN):
    - Baird's tapir (*Tapirus bairdii*) – IUCN Endangered
    - Jaguar (*Panthera onca*) – IUCN Near Threatened
    - Geoffroy's spider monkey (*Ateles geoffroyi*) – IUCN Endangered
    - Resplendent Quetzal (IUCN Near Threatened)
    - Three-wattled Bellbird (*Procnias tricarunculatus*) – IUCN Vulnerable
    - Bare-necked Umbrellabird (*Cephalopterus glabricollis*) – IUCN Endangered, endemic
    - Green-eyed frog (*Lithobates vibicarius)* – IUCN Vulnerable, endemic
    - Starrett's treefrog (*Isthmohyla tica)* – IUCN Critically Endangered, endemic

  Beyond those species that are threatened or endangered, the BEN preserves habitat for many other endemics, including numerous birds, insects, plants, and at least one mammal (Stiles and Skutch 1989; Timm & Laval 2014). It is also home to top predators, including all six of

Costa Rica's felines: jaguar, mountain lion, jaguarundi, ocelot, margay, and clouded tiger cat (Wainwright 2007).

- **Habitat heterogeneity.** The BEN protects 7 distinct habitat types (also known as Holdridge life zones), most of which are poorly protected and have been heavily deforested outside protected areas in Costa Rica. In addition to highland cloud forest and Caribbean slope rainforest, the BEN includes approximately 1,500 hectares of particularly threatened habitat on the Pacific slope ("rain shadow forest"). Research suggests that including rain shadow areas in reserves near Monteverde would approximately double the number of avian species under protection on the Pacific slope, also increasing protection for endemic species (Jankowski et al. 2009).
- **Resilience to threats such as disease and climate change.** The green-eyed frog and Starrett's treefrog had not been observed for nearly 20 years and were presumed extinct, when they were discovered in remote areas of the BEN in the early 2000's (Whitfield et al. 2017; M. Wainwright, unpublished data). Today, remnant populations of these endemic species are found only in a few isolated sites. It is likely that the existence of this sizeable, intact forest reserve contributed to these frogs' recovery. Large, diverse habitats are more important than ever in the face of climate change. Scientific research conducted in the Monteverde region demonstrates that the local climate is undergoing rapid change, with consequences for diverse organisms, including birds, bats, reptiles, amphibians, and plants (LaVal 2004, Pounds et al. 1999). Biological corridors, particularly ones that connect forests within and across elevational bands, are recognized by the MCL as critical for population persistence or movement (Townsend and Masters 2015). The BEN provides essential connectivity of habitat for animals and plants living within its boundaries. Very significantly, the geographic position of the BEN also effectively bridges multiple protected areas *outside* of its boundaries. This creates an integrated system that is more resilient to the effects of climate change.

Protection of water resources. The BEN protects 5 major watersheds, two on the Pacific slope and three on the Caribbean slope (Appendix 1, Maps). Their numerous rivers and countless headwater streams provide hydrological connectivity, sustain the integrity of freshwater ecosystems, and are the primary source of clean water for human consumption and agriculture in the many communities surrounding the BEN.

Active promotion of socio-ecological well-being and resilience on local and national scales

- **Economic benefits of ecotourism.** The BEN is the cornerstone of the expanse of forested land that is the primary attraction for ecotourism, the mainstay of the local economy. Neighbors in the communities surrounding the BEN benefit in significant, material ways from opportunities in the ecotourism sector. A relatively stable income from ecotourism yields additional benefits for biodiversity conservation including reduced hunting, logging, and extraction of flora and fauna.
- **Hydroelectricity.** About 70% of Costa Rica's electricity comes from hydropower, and four of the five watersheds protected by the BEN have major hydroelectric projects. At present, a significant proportion of Costa Rica's electricity is produced by rivers flowing out of the BEN.
- **Payment for environmental services (PES) for neighbors.** Scientific studies show that PES significantly and effectively reduce deforestation. Since 2013, the MCL has facilitated the participation of neighboring landowners, representing a total of 95 properties and more than 3,400 hectares, in a government program that makes direct payments to individuals for forest protection. In this way, the MCL expands its zone of conservation influence beyond the boundaries of the BEN.

- **Promote biological corridors, promote resilience.** The BEN's participation in biological corridor initiatives promotes ecosystem resilience that will serve both agriculturalists and native species in the face of threats due to climate change (Townsend & Masters 2015).

Model for conservation efforts in Costa Rica and beyond

- **Precedent-setting agreements for private payment for environmental services.** In 1998, the MCL signed the first private sector agreement for PES with a private hydroelectric project, setting precedent for other conservation efforts around the world and earning congratulations from *Defensoría de los Habitantes Costa Rica*, World Wildlife Fund, and other organizations (Rojas and Aylward 2001). The MCL currently has two such agreements, which provide crucial funding for ongoing conservation of the BEN.
- **Environmental education, "the forest protection of tomorrow".** The MCL has spearheaded environmental education efforts in and around the BEN since its inception. By working with children and adults in the communities bordering the BEN, the MCL ensures the long-term protection of natural resources, within and beyond the BEN.
- **Private-government collaboration for forest protection.** The BEN is the largest stakeholder in the Arenal-Monteverde Protected Area (*Zona Protectora Arenal Monteverde*, or ZPAM), formerly the Arenal Forest Reserve. The current limits of the ZPAM, Costa Rica's largest *zona protectora,* were drawn in large part based on the limits of the BEN and the Monteverde Cloud Forest Preserve. In theory, the government must oversee forest protection in the ZPAM; in practice, however, the BEN's own forest rangers carry out forest patrols, ousting poachers, loggers, squatters, and other offenders. In order to work more effectively and ensure that its rangers are acting within their legal authority, the MCL has taken the lead in facilitating private-government collaboration, in particular via the formation of inter-institutional commissions that include multiple public and private entities. Thus, the MCL plays a major role in supporting the Costa Rican government in forest protection, demonstrating how private NGO's can intervene where government efforts are shown to be lacking and/or ineffective.
- **Helping Costa Rica meet international commitments.** The BEN and associated outreach efforts directly support Costa Rica in its quest to achieve international commitments related to biodiversity conservation (Aichi biodiversity targets, United Nations Convention on Biological Diversity; SINAC 2014) and climate change (United Nations Framework Convention on Climate Change, or UNFCCC).

Continuity

The preservation of the BEN in perpetuity depends largely on the economic stability of the MCL, as well as on support from the Costa Rican government and residents in the communities surrounding the BEN. To this end, the MCL has taken the following steps to ensure that the BEN will truly be, as its name states, eternal:

Community support

- **Environmental education.** The BEN's two environmental educators work elementary schools, high schools, and adult populations in the communities bordering the BEN. By educating the future generation of biologists, guides, policy-makers, forest guards, and teachers, the MCL helps ensure the long-term protection of the BEN.
- The MCL **hires local staff** for the administration and protection of the BEN. This has included forward-thinking strategies such as hiring former hunters as park guards and training local youth to become naturalist guides.

- **Community involvement** efforts range from providing trees for reforestation, to helping landowners receive payment for environmental services for protecting forest on their properties. Such involvement extends the reach of conservation efforts beyond the physical limits of the BEN, cements environmental consciousness, and increases the social-economic resilience of communities surrounding the reserve.

Government partnerships

- The MCL **cultivates positive, long-term relationships** with government agencies and officials, and has a nearly 40-year track record of collaboration with the Ministry of the Environment and Energy (MINAE) the department that oversees the Payment for Environmental Services program (FONAFIFO), and others.
- The MCL has been instrumental in the creation and subsequent effectiveness of **inter-institutional commissions** that support the protection of the BEN and adjacent reserves, in collaboration with MINAE, national park staff, private reserves, District Attorneys' offices, police, firefighters, Red Cross, volunteers, and others.

Financial stability

- A successful **endowment fund** is perhaps the single most important long-term strategy toward achieving eternal protection for the BEN. The MCL's endowment fund is currently in its infancy, at approximately $650,000. Growing the endowment fund is one of the MCL's greatest priorities in the short to medium term.
- **Payment for environmental services**, both from the Costa Rican government and private hydropower projects, provide approximately half of the funding for the BEN's administration and protection. Private PES contracts are an innovative means by which the MCL secures funds to ensure to ongoing preservation of the BEN.
- **Ecotourism** at the BEN's field stations and trails provides a relatively stable source of income for the reserve's ongoing protection, and visitors often become long-term supporters.

Since its inception, the BEN has benefited from the support of **international partner organizations** in Sweden, the USA, England, Germany, and Japan, which over the years have provided important contributions for environmental education, forest protection, infrastructure, and the endowment fund.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Costa Rica)

CIRCULAR ECONOMY: FROM WASTE TO VALUE

Dos Pinos ...siempre con algo mejor.

Organizers:

WHC

Circular Economy: From Waste to Value

Cooperativa Dos Pinos

Summary

Cooperativa de Productores de Leche Dos Pinos (Cooperative of Milk Producers Dos Pinos) established in Costa Rica in 1947, markets dairy products from 1,300 producer members and employs some 5,500 employees throughout the region.

The Cooperative's vision has always been to provide wellness and health to its consumers through a diversified, high-quality portfolio, promoting responsible practices and operational excellence. Its broad product offering of over 900 varieties includes milks, ice cream, yogurt, cheeses, butters, dairy creams, juices, teas and beverages, water, candies, chocolates and proteins. Many of these products are exported to 11 countries in the region.

In accordance with the principle of the circular economy, all the liquid waste that is the final part of the Cooperative's production processes is not only properly treated but ends up as fertilizer that is marketed in its network of 18 agro-veterinary warehouses. Last year, more than 300 tons of this compost were marketed, with significant environmental and economic benefits.

Case Study

Dos Pinos R.L. Milk Producers' Cooperative: A Portrait

Cooperativa de Productores de Leche Dos Pinos R.L. was founded on August 26, 1947 by 25 associated producers through the cooperative model, through which it has been possible to generate welfare and progress for Costa Rica and the Central American region.

Those 25 visionaries founded the Cooperative with three objectives that are still valid 75 years later:

1. Sell the milk to a company that, being their own, will pay them a fair price.
2. Acquire the necessary inputs for their farms, at a better price.
2. Promote the development and welfare of Costa Rica.

Under a model of social democratization, the Cooperative is made up of 1,300 producer members and close to 600 worker members. In addition, it employs about 5,500 employees

throughout the region, of which 4,500 are located in Costa Rica, in the six production plants of milk, cheese, drying, balanced food, Dulces Gallito and beverages.

Every day the Cooperative collects 1.4 million liters of milk from the farms of our 1,300 producer members located throughout the country, milk of the highest quality that allows us to develop innovative and flavorful products.

The Cooperative's vision has always been to provide wellness and health to our consumers, through a diversified portfolio of high quality, promoting responsible practices and operational excellence. With a wide range of products that exceeds 900 varieties, it offers milks, ice creams, yogurt, cheeses, butters, dairy creams, juices, teas and beverages, water, candies and chocolates and proteins, with the recent incorporation of the La Granja brand. Many of these products are exported to 11 countries in the region.

Innovation is the guiding theme with which the Cooperative has developed complete families of products over 77 years, considering the contributions to wellness and quality of life with clearly defined nutritional properties for all age groups. The Cooperative develops more **than** 50 new products per year, which is equivalent to at least one new product per week, allowing us to fulfill our promise to always surprise with something better.

Dos Pinos also has an agro-commercial and Member Service Department focused on providing integral technical assistance, quality balanced feed and 18 Agro-veterinary Stores with an offer of more than 3,000 products to support the producers.

Abroad, Dos Pinos also has a plant in Panama with Planta Nevada, one in Nicaragua with Planta la Completa, one in Guatemala and one in the Dominican Republic. In addition, in Honduras and El Salvador we have a local marketing scheme.

Definitions

The following are the technical terms of reference according to Costa Rican law:

Compost: A mixture of decomposing organic matter under aerobic conditions used to improve soil structure and provide nutrients.

Sludge: Mixture of solid waste and wastewater from water treatment processes**.**

Waste: Solid, semi-solid, liquid or gas material, whose generator or holder is required to dispose of it, and which can or must be valorized or treated responsibly or, failing that, handled by adequate final disposal systems.

Valorization: A set of associated actions aimed at recovering the value of waste for production processes, health and environmental protection.

Industrial sludge treatment

Dos Pinos processes the sludge. The process of using industrial sludge to convert it into fertilizer involves several steps that seek to stabilize the organic matter and eliminate pathogens to obtain a safe and nutritious product for crops. The process consists of the following steps:

1. Sludge Characterization: The physical, chemical and biological composition of the sludge is analyzed to determine its suitability for composting.
2. Stabilization: Sludge undergoes processes such as aerobic or anaerobic digestion, where microorganisms break down organic matter, reducing pathogens and odors.
3. Composting: Stabilized sludge is mixed with bulking agents such as sawdust or compost to balance the carbon/nitrogen ratio and promote microbial activity.
4. Compost Curing: The mixture is placed in piles or reactors where temperature, humidity and aeration are controlled to promote complete decomposition and sanitization.
5. Maturation and Cooling: After reaching high temperatures that eliminate pathogens, the compost cools and matures, allowing it to stabilize and develop beneficial microflora.
6. Screening and Sorting: Mature compost is sieved to separate non-composted materials and obtain a uniform texture.
7. Storage and Use: The resulting compost is stored in conditions that preserve its quality until it is used in agriculture, improving soil structure and providing nutrients..

This process not only recycles waste, but also contributes to environmental sustainability and agricultural production.

The technique of using industrial sludge as fertilizer is used in various places and contexts, mainly in agriculture. Some examples are:

- **Agriculture**: Treated sludge is applied to agricultural soils to improve their fertility and structure, providing nutrients such as nitrogen (N), phosphorus (P) and potassium (K), as well as organic matter.
- **Reclamation of Degraded Soils**: In areas where the soil has been eroded or damaged, sludge can be used to restore soil quality and promote plant growth.
- **Energy Production**: Some sludge can be dewatered and used in thermal furnaces to generate energy.
- **Construction**: In certain cases, sludge can be reused in the construction industry.
- **Re-injection in Production**: There are industrial processes that allow the use of sludge in the production circuit, although this is less common and depends on the specific industry.https://es.airliquide.com/soluciones/tratamiento-aguas/saber-todo-sobre-los-lodos-de-depuracion-tratamiento-de-aguas-residuales

Environmental benefits

The environmental benefits of using industrial sludge as fertilizer are significant and contribute to ecological sustainability. Here are some of the most important ones:

- **Reduction of Greenhouse Gases:** through the valorization of sludge, Greenhouse Gas (GHG) emissions are avoided. In 2023, the generation of GHGs was avoided by

capturing 1,269 tons CO2eq through this technique. The compost also retains carbon in the soil, improving the soil's potential as a carbon reservoir.

- **Waste Recycling**: Transforming sludge into fertilizer allows the recycling of a by-product that could otherwise fill landfills and generate pollution. Use of industrial sludge on farms through composting, minimizing the use of fertilizer produced with virgin raw materials and therefore of natural resources.
- **Odor Reduction**: Modern sludge treatment technologies can significantly reduce odors during the composting process.
- **Improved Soil Quality**: The use of sludge as a fertilizer improves soil structure, increases water retention and favors nutrient assimilation. Preventing erosion and soil degradation by improving its structure and biochemical composition.
- **Protection of Aquatic Ecosystems**: Proper sludge treatment prevents water pollution and protects aquatic ecosystems, ensuring clean water for human consumption and wildlife.
- **Contribution to Food Growth**: Treated biosolids are used as fertilizers in agriculture, which contributes to food growth.https://www.orozcolab.info/lodos-y-biosolidos-una-mirada-profunda-al-tratamiento-de-aguas-residuales
- **Savings on Chemical Fertilizers**: Sludge composting reduces the need for chemical fertilizers, which reduces the carbon footprint and costs for farmers.

These benefits demonstrate how proper management of industrial sludge can have a positive impact on the environment and the circular economy.

The Dos Pinos case.

Based on a circular economy model, the Dos Pinos Milk Producers' Cooperative has managed to convert 100% of industrial sludge into fertilizer through composting.

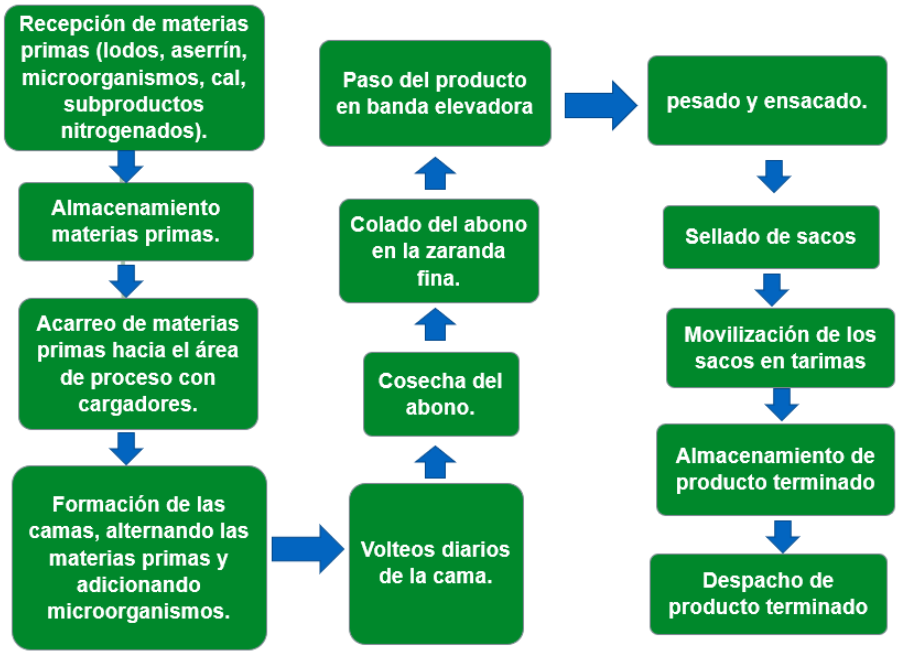
The sludge management process is in line with the circular economy, in that the sludge (waste) generated from the treatment of wastewater from the manufacturing processes of Dos Pinos products is reincorporated and used to the maximum extent possible, returning to some farms as fertilizer, from where the extraction of the main raw material, milk, begins. Approximately 20% of all sludge returns to the producers' farms and the rest is placed in agricultural and livestock farms in the country.

Through authorized managers in the country, industrial waste is managed and through a valorization and treatment process, which involves combining it with other components such as sawdust, lime and fruit peels, it is possible to generate fertilizer with the necessary quality for farm pastures.

The biochemical transformation of industrial waste is carried out at the plants of two of the cooperative's suppliers in the Cartago and San Carlos areas. These suppliers have operating permits to operate and carry out these processes.

At Dos Pinos we are committed to managing the waste we generate in a responsible and permanent manner, in line with our environmental policies and current legislation. In addition, we provide our suppliers, who are small and medium-sized enterprises (SMEs), with services which enable them to contribute to the national economy and support the environment.

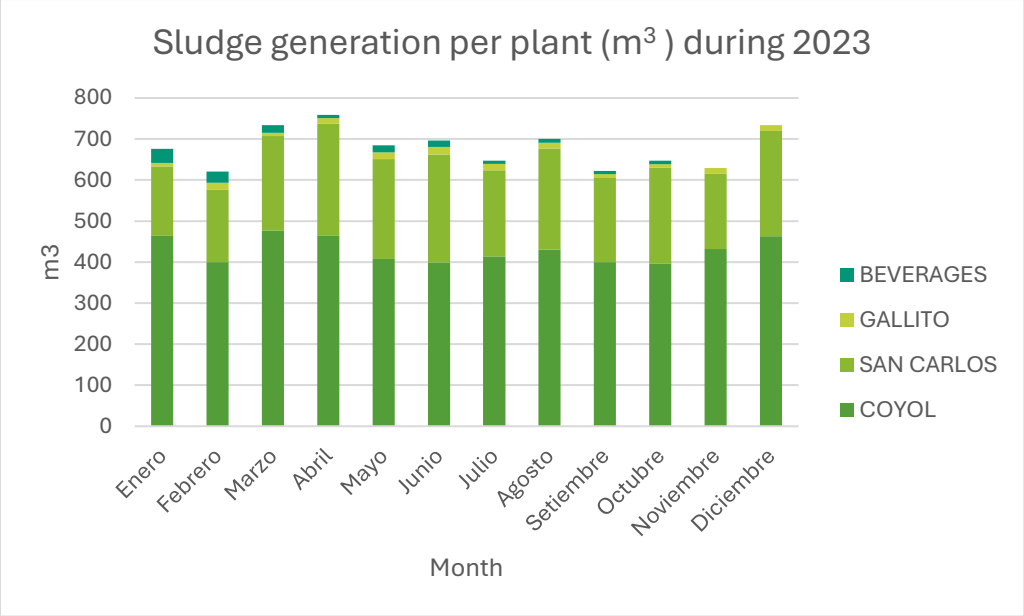
The flow of the sludge composting process carried out by our suppliers to treat sludge is outlined below:



Translation of the previous image:

1. Receipt of raw materials (sludge, sawdust, microorganisms, lime, by-products, nitrogenates)
2. Storage of raw materials
3. Transport of raw materials to the process area with loaders.
4. Formation of the beds, alternating raw materials and adding microorganisms.
5. Daily bed turning
6. Compost harvesting
7. Sieving of the compost on the fine screen
8. Product passage on elevator belt
9. Weighing and bagging
10. Bag sealing
11. Mobilization of bags on pallets
12. Storage of finished products
13. Dispatch of finished product

The quantities in cubic meters of sludge generated per production plant and sent for composting during 2023:



Fertilizer marketing

As part of the circular economy model, this compost is marketed in the Agro Veterinary Stores (AV) and purchased by the cooperative's producer members. Last year, more than **306 tons** were marketed in the cooperative's AVs.

This fertilizer used on approximately 20% of the farms in Dos Pinos. One of the challenges is to increase the extent of its use.

Composting process (Agrocentro Tropical, supplier)

Temporary storage area for maturing product.

Finished product (fertilizer).

Commercial product

Information for partners, suppliers and customers:

Translation:

"At Dos Pinos we manage 100% of our industrial sludge in a sustainable manner."

1. *All sludge generated from the processing of Dos Pinos products is correctly processed and distributed by authorized facilities.*
2. *In this way, we promote the circular economy in our industrial management.*
3. *We stimulate the economy and support the SME businesses of authorized outlets.*
4. *Authorized waste processors treat these wastes in a responsible manner.*
5. *Thanks to the transformation of these wastes, we prevent them from ending up in landfills.*

Compost production from dairy sludge:

- *By means of a biochemical transformation, it is converted into high quality fertilizer that is used on the farms of the partners where the milk is produced.*
- *Greenhouse gas emissions are reduced.*
- *During 2023, we marketed 306 tons of compost in our AV warehouses in the country.*

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Costa Rica)

ALLIANCES FOR MOBILIZING CLIMATE AMBITION

Private Public Collaboration

aliarse

Organizers: WHC aliarse

Alliances as a Means of Mobilizing Climate Ambition

Public-private collaboration

aliarse

Summary

Climate change is the main challenge for sustainable human development. According to the 2023 IPCC synthesis report, global temperatures have risen by 1.1 degrees Celsius from pre-industrial levels due to fossil fuel burning and unsustainable practices. This warming has increased the frequency and intensity of extreme weather events, severely affecting vulnerable people and ecosystems.

Ecosystem-based adaptation solutions are essential to tackle climate impacts, protect biodiversity, and improve food security, according to the World Resources Institute. Some impacts are so severe that urgent action is needed to avoid, minimize, and address losses and damages.

Public-private collaboration is crucial in this context. The Climate Action Alliance, established in 2019 in Costa Rica, brings together partners from both the public and business sectors to promote more ambitious climate action. It has been fundamental in mobilizing the business sector in Costa Rica towards decarbonization, climate resilience, and sustainable development.

Importantly, the Alliance has grown stronger year after year, as this collaborative system has evolved into a platform that enables sectors to support national initiatives and strengthen cross-sector dialogues. The organizations within the Alliance believe in collaboration as a powerful and transformational tool for generating incentives that mobilize the private sector.

The Alliance has become a benchmark in climate leadership in both the public and private sectors. Its participation, through the determination and implementation of incentives, has been crucial to achieving national climate action goals.

Case Study

1. **Background:**

Climate Change in Costa Rica

Costa Rica has demonstrated remarkable ambition in combating climate change. Since 2007, the country set the goal of being Carbon Neutral by 2021. This objective was integrated into the country's Nationally Determined Contributions (NDC) in 2015 and was reinforced with the presentation of the National Decarbonization Plan in February

2019. The carbon neutrality initiative significantly involves the private sector through the National Carbon Neutrality Program, established in 2011. This voluntary program allows organizations to be officially recognized as Carbon Neutral, reflecting the private sector's commitment to sustainability and climate resilience.

A significant challenge is getting non-state actors to take ownership of the NDC goals. In Costa Rica, the adoption of these objectives by the private sector is essential to foster innovation and discover business opportunities that contribute to climate goals. To achieve this, it is necessary to develop capacities and offer incentives that motivate business action.

What is the Alliance for Climate Action?

The Alliance for Climate Action is an initiative created by the Directorate of Climate Change, INTEL, CoopeAnde, BAC Credomatic, Pozuelo, EBI, Banco Nacional de Costa Rica, and ALIARSE, with the aim of including incentives in the National Carbon Neutrality Program (PPCN). Currently, it consists of the participation of more than 15 public and private organizations. This alliance seeks to increase the participation and ambition of the private sector in Costa Rican climate action, responding to the identified need to incorporate incentives in PPCN 2.0, and strengthen the involvement of the business sector by removing barriers and improving knowledge about climate change and governance in Costa Rica.

The Alliance works to generate incentives and train non-state actors, thus supporting the fulfillment of Costa Rica's new Nationally Determined Contributions (NDC) and serving as a counterpart in the review processes of these commitments defined by the Paris Agreement. Additionally, it promotes capacity building within the private sector to ensure an effective transition towards a sustainable and climate-resilient economy.

Objective as an ALLIANCE

We are a public-private alliance that seeks to mobilize the business sector in Costa Rica towards climate action, fostering greater participation, action, collaboration, and ambition around these efforts

The alliance aims to be a nationally and internationally recognized Public-Private Partnership for Development (APPD) in business climate action, creating spaces for coordination focused on business climate action, empowering more companies, and combining efforts to meet Costa Rica's climate commitments. It operates under the following principles:

Relevance to National Policies

The AAC supports the implementation of the National Decarbonization Plan and the National Adaptation Plan, promoting economic modernization, job creation, and low-GHG emissions growth resilient to climate change. These strategic policies until 2050 ensure that the country meets its NDCs to the UNFCCC.

The decarbonization strategy is crucial for the transition to a sustainable economy, with benefits including the creation of green jobs and the promotion of innovative sectors. Furthermore, the National Adaptation Plan strengthens the resilience of communities and ecosystems to climate change impacts, ensuring inclusive and sustainable development. The Alliance for Climate Action aligns with these objectives, working closely with various actors to ensure that national policies translate into concrete and effective actions at the local and sectoral levels.

About ALIARSE

ALIARSE is a non-profit, non-governmental organization dedicated to promoting multi-sectoral partnerships for sustainable and inclusive development. We believe that the most relevant societal problems can only be solved through the collaboration and commitment of all sectors. In our 16 years of experience, we have designed, managed, and facilitated multi-sectoral partnerships that have improved the quality of life of thousands of people in Costa Rica and Central America. This has been possible thanks to collaboration with public institutions, private companies, foundations, academia, civil society organizations, and partners.

2. Climate Incentives for Business Mobilization

The Alliance for Climate Action (AAC) has identified climate incentives as a key tool for the business sector, focusing on prioritizing and enhancing climate action. Recognizing their importance, the AAC, in collaboration with the Costa Rican business sector, the British Embassy in Costa Rica and the Spanish Agency for International Development Cooperation (AECID), has developed a document titled "Climate Incentives for Business Mobilization." This catalog addresses the gaps and challenges of climate action, highlighting among the main causes: the lack of access to information on climate change, the need for resources and favorable financing conditions, and the high costs associated with emission reduction actions. The catalog classifies incentives into six levels of business climate mobilization (identified as the Climate Mobility Ladder) : dissemination, awareness, training, action, leadership, and empowerment, relating these levels to business effort and expected contributions.

The levels developed within the climate mobility ladder have made it possible to outline a clear work path for designing and analyzing potential climate incentives for the business sector. As a result, a matrix has been created that links the categories of incentives with the initially selected levels, allowing for the organization of climate incentive ideas in a progressive ambition framework.

It is crucial to highlight that incentives are mechanisms designed to promote specific behaviors, and they can be either financial or non-financial. According to the paper "Climate Incentives for Business Mobilization," financial incentives are divided into two main types: economic incentives, which provide monetary benefits to motivate organizations to take actions or make decisions, such as grants or access to financing; and fiscal incentives, which consist of tax-related instruments developed by the state, like exemptions or tax reductions.

On the other hand, non-financial incentives, as outlined in the same paper, can be grouped into four categories. First, there are service-based incentives, which focus on providing training and professional development through courses or certification processes. Second, there are communication and recognition incentives, aimed at highlighting leadership in implementing best practices, facilitating timely access to relevant information, and disseminating key knowledge. The third category pertains to political influence, which encompasses opportunities for open and effective dialogues and active participation in the formulation, implementation, and evaluation of public policies. Finally, incentives related to climate governance seek to promote transparent and timely collaboration mechanisms between the public and private sectors.

In this context, the AAC policy paper highlights essential aspects for generating incentives. First, the importance of training processes that facilitate access to scientific knowledge, enabling more accurate decision-making and the creation of sustainable business models. It also emphasizes the need to recognize the current efforts of the private sector, enhancing more accessible and less costly evaluations and certifications, to allocate investments to relevant processes that drive climate action. Finally, it stresses the need to promote the openness to thematic, green, and social bonds, and other financial mechanisms that increase competitiveness from a sustainability perspective, as well as the encouragement to integrate climate change into business strategies.

3. Public Policy Implications for Business Climate Incentives

In the context of analyzing mechanisms to implement climate incentives in the business sector, the Climate Action Alliance has identified six key elements for the development of public policies that can also have a positive impact on biodiversity conservation:

- **Business Training in Climate Action:** It is essential to integrate training processes that not only address climate change but also include relevant topics such as biodiversity conservation. Training companies in environmental management, sustainability, mitigation, and adaptation will not only help reduce carbon emissions but also promote the protection of critical ecosystems.
- **Access to Scientific Information for Decision-Making:** Facilitating access to data and scientific knowledge related to both climate change and biodiversity is crucial. An open data approach can enable companies to make decisions that

contribute to the preservation of natural habitats and endangered species, while also mitigating climate impacts.

- **Recognition of Climate Leadership:** Developing mechanisms that recognize business efforts in biodiversity protection, along with climate mitigation, is key. By reducing the costs of access to evaluations and certifications, companies can increase their investments in sustainable practices that benefit both the climate and ecosystems
- **Promotion of Thematic Bonds and Financial Mechanisms:** The promotion of green bonds, social bonds, bonds for biodiversity conservation, and other sustainable financial instruments would strengthen business competitiveness in markets that value sustainability and environmental responsibility.
- **Business Dialogue and Collaboration in Climate Policies:** It is crucial for the business sector to actively participate in the creation of policies and programs that integrate climate change. This dialogue will ensure that business strategies contribute to the protection of natural resources and ecosystem resilience.
- **Strengthening Public-Private Collaboration:** Strengthening collaboration between the public and private sectors is vital to ensuring that climate policies are effectively implemented. This cooperation can facilitate the implementation of integrated solutions that address both climate challenges and biodiversity loss.

4. Incentives Promoted by the AAC

Public-Private Partnerships for Development (APPD) are an innovative approach that goes beyond just cooperation between the public and private sectors. The practical implementation of APPD directly influences the desired development vision, requiring continuous articulation of actions and efficient operation of organizations promoting development initiatives.

The Alliance has established four key types of climate incentives for the business sector:

First, it has created virtual spaces that act as a specialized information and knowledge hub, allowing the exchange of best practices, lessons learned, and challenges in climate action.

Second, the Alliance organizes workshops focused on discussing and co-creating critical topics within the public climate agenda, such as business opportunities in decarbonization, climate resilience, and tools to drive climate action and collaboration, including climate networking.

Third, the Alliance, together with its partners, promotes new financial mechanisms that incentivize the adoption of climate actions, for example,

generating financial incentives that allow electric mobility in the country's private transport services, supporting the transition to a more sustainable model.

Finally, capacity building for developing projects and accessing financing is fundamental to boost climate actions.

In summary, the Alliance for Climate Action seeks to promote the sustainability and resilience of the business sector through positive incentives that encourage effective climate action and the transition to a low-carbon economy. The Alliance for Climate Action is an initiative that continues to work annually in an ongoing manner, integrating new organizations that wish to mobilize the climate sector.

Final Analysis

The Climate Action Alliance recognizes that climate change is a global challenge that demands collective action from all sectors of society, with the business sector playing a crucial role in the economy. Climate incentives are key to directing efforts towards effective climate mobilization, and they also serve as tools for promoting the creation of knowledge and the implementation of effective solutions, shaping public policy, and fostering cooperation among companies, while incorporating elements that contribute to biodiversity protection.

Through the identification of the positive incentives and proposed strategies, the Alliance aims to strengthen the business sector's commitment to sustainability. Its goal is to drive a transition to a low-carbon economy that not only addresses climate challenges but also supports biodiversity conservation and ecosystem integrity.

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Costa Rica)

FINANCIAL RESOURCES FOR COSTA RICA´S FORESTS

Costa Rica´s Payment for Environmental Services Program

Héctor Arce Benavides,
independent consultant

Organizers:

Mobilization of financial resources for Costa Rica's forests.

Héctor Arce Benavides
Independent consultant

Summary

Costa Rica's Payment for Environmental Services Program (PES) has been the leading program in the mobilization of financial resources for the conservation of forest ecosystems. Since its implementation in 1997, it has achieved

- Increased forest cover: More than 1 million hectares of forest have been protected.
- Carbon sequestration: Forests under PES have captured millions of tons of carbon dioxide.
- Socioeconomic benefits: PES has generated significant economic benefits for local communities, providing more than $600 million in payments to forest owners and farmers.
- Engagement of marginal and vulnerable groups: PES has made efforts to integrate marginal and vulnerable groups, such as rural women and indigenous peoples.
- Tools to access other markets: PES has provided FONAFIFO with sufficient tools to access REDD+ and payment for results markets.

PES has been a fundamental program for forest conservation in Costa Rica. Its achievements are an example for other countries seeking to protect their natural resources and improve the well-being of their communities.

The article also mentions the lessons learned during the life of the PES and concludes by pointing out the main challenges.

Case Study

Background

The flagship program for mobilizing financial resources for forests in Costa Rica has been the Payment for Environmental Services (PES). It has undergone a remarkable evolution that began several decades ago. The path towards its consolidation started in 1969 with the implementation of fiscal incentives aimed at promoting reforestation, with a special emphasis on timber production. This first step showed the Costa Rican state's interest in promoting the conservation and sustainable use of forest resources, recognizing the economic value of forests. However, these initial measures were mainly

focused on tangible benefits, such as timber production, and not so much on environmental services in a broader sense.

In 1986, Forest Credit Certificates were introduced, which were titles issued by the state in favor of those engaged in reforestation. Subsequently, these certificates were also extended to those who managed forests and were dedicated to their absolute protection. This measure represented a significant advance towards the inclusion of sustainable forest management practices and environmental conservation. Finally, in 1996, the Payment for Environmental Services program was formally created, along with the legal foundation of the National Forest Financing Fund (FONAFIFO). This institution became a fundamental pillar for the implementation of PES, consolidating the approach of recognizing and remunerating the environmental services that forests provide, such as carbon capture, biodiversity protection, conservation of water resources, and scenic beauty.

Until now, the main source of funding has been a percentage (3.5%) of the tax on hydrocarbons that is mobilized to finance this program. Among other aspects, PES instituted in a practical form the principle that the polluter pays.

Operation of the Payment for Environmental Services Program

Institutionality

The institutionality of the Payment for Environmental Services (PES) in Costa Rica is structured so that various entities play specific roles to ensure its effectiveness and sustainability.

- The Ministry of Environment and Energy (MINAE) acts as the program's rector, establishing general guidelines and policies.
- The National Forest Financing Fund (FONAFIFO) is the executor and responsible for the administration of financial resources, ensuring that payments reach environmental service providers.
- The National System of Conservation Areas (SINAC) oversees assigning responsibilities and coordinating conservation actions.
- Private forest regents, regulated by the College of Agricultural Engineers, play a crucial role in the elaboration and monitoring of PES projects, ensuring that conservation and sustainable management objectives are met.
- In addition, producer organizations have played a very important role in the implementation of the program, collaborating with different actors and contributing to the dissemination and adoption of sustainable practices among farmers and landowners.

Other institutions with important roles in PES are: The Ministry of Finance, which is responsible for allocating the financial resources necessary for the operation of the program, ensuring that funds are distributed efficiently and in a timely manner. Likewise, the Comptroller General of the Republic

supervises and audits the use of these resources, ensuring transparency and proper management of public funds allocated to PES, thus guaranteeing accountability and integrity of the program.

Financing

The financing of the Payment for Environmental Services (PES) in Costa Rica comes from various sources that guarantee the sustainability and continuity of the program. Primarily, it is funded by taxes on fossil fuels, implemented as part of the 1996 Forestry Law, which allocates a specific percentage of these revenues to FONAFIFO. Additionally, the program receives funds from the water fee, which originated as a financial mechanism created by the Water Law to ensure sustainable management of the country's water resources. Another source of income that is becoming increasingly relevant are agreements with companies that use Environmental Services and recognize a payment to forest owners through FONAFIFO. In recent years, FONAFIFO has managed resources through the sale of carbon credits and other market mechanisms. These diverse sources of funding allow the PES to maintain its operability, facilitating payment to environmental service providers and ensuring the protection and sustainable management of natural resources in the country.

Environmental Services of Forest Ecosystems Recognized in the PES Program

According to Article 3 of Forestry Law No. 7575, four types of environmental services provided by forest ecosystems are specifically recognized. These services include mitigation of greenhouse gases through the fixation, reduction, sequestration, storage, and absorption of carbon dioxide (CO2); protection of water for urban, rural, or hydroelectric use, essential for water supply and energy generation; protection of biodiversity, which encompasses the conservation of ecosystems, species, and genetic resources; and the provision of scenic beauty services, which are fundamental for tourism and recreational well-being.

The Process of Payment for Environmental Services

The process of payment for environmental services (PES) in Costa Rica follows a series of structured steps to ensure the transparency and effectiveness of the program. Initially, a "prioritization" is carried out using a matrix based on ecological and socioeconomic conditions to assign a score to the pre-applications submitted. Subsequently, in the "pre-application submission" stage, these are evaluated against the priority matrix and assigned a score. For approved pre-applications, "forest regents" develop and present detailed projects, which are submitted for "project evaluation" by FONAFIFO's regional offices. Finally, once evaluated, approved projects move to the "contract elaboration and signing" phase, where FONAFIFO's legal advisory ensures that all legal aspects are in order before formalizing the contract with PES beneficiaries. This process ensures that funds are efficiently allocated to projects that meet established criteria and contribute to the conservation and sustainable management of natural resources in the country.

PES Modalities

The main modalities of the Payment for Environmental Services (PES) in Costa Rica are designed to incentivize various conservation practices and sustainable management of natural resources. The modalities can be grouped into four important categories, which include: reforestation, through plantations or natural regeneration that promotes tree planting in degraded or deforested lands; management of natural forests, which encourages sustainable practices in existing forests to improve their health and productivity; forest protection, aimed at conserving intact forest areas, ensuring their permanence and ecological function; and agroforestry systems, which integrate trees and agricultural crops to improve soil productivity and biodiversity.

Main Achievements of the PES Services in Costa Rica (1997-2023)

Costa Rica's Payment for Environmental Services (PES) Program has been an overwhelming success in environmental conservation and sustainable development. Since its implementation in 1997, it has achieved:

- Increase in forest cover: Over 1 million hectares of forests have been protected. As of December 31, 2023, there were around 210,000 hectares with active contracts. This represents a significant increase in the country's forest cover, which rose from 21%.
- Carbon sequestration: Forests under the PES have captured millions of tons of carbon dioxide, contributing to the fight against climate change.
- Socioeconomic benefits: The PES has generated important economic benefits for local communities, providing over 600 million dollars in payments to forest owners and farmers. This has contributed to improving the quality of life in rural areas.
- Biodiversity: Forest conservation has protected Costa Rica's rich biodiversity, home to a wide variety of plants and animals. The PES has contributed to the creation of biological corridors that allow for species migration.

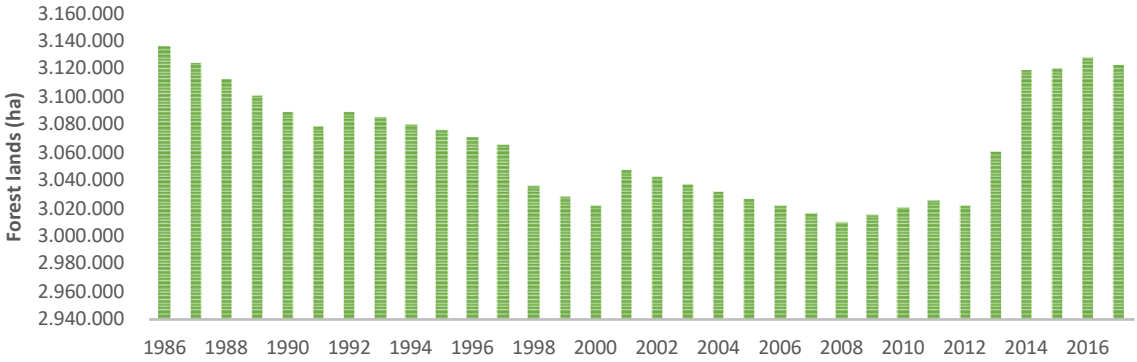
The Social Face of PES

By 2023, more than 15,000 hectares owned by indigenous peoples received payments for environmental services. In fact, forests located in indigenous territories are high priority for incorporation into the program.

Moreover, despite the historical imbalance between men and women in terms of land ownership, FONAFIFO has made a significant effort to incorporate women into the program, considering them a priority group. This recognizes the role of women in promoting activities for the conservation and sustainable use of natural resources.

Increase in Forest Cover

Despite the social and socioeconomic implications of the PES, its main objective remains the protection of forest ecosystems. The following figure shows the evolution of forest cover in the country from 1986 to 2018.



As seen in Figure 1, the recovery of forests has been very significant, especially during this 21st century.

Other Benefits of PES

The experience in developing PES has led to the generation of other mechanisms aimed at channeling resources towards the natural resources sector. Some of these are:

Consolidation of the Environmental Bank Foundation (FUNBAM)

FUNBAM is a non-profit foundation, created through Law 8640 "Approval of loan agreement No. 7388-CR and its annexes between the Republic of Costa Rica and the International Bank for Reconstruction and Development (IBRD) and GEF Donation No. TF 05666-CR". Its mission is to assist the State in mobilizing and administering financial resources to ensure sustainable development.

To date, it manages projects worth around 30 million dollars.

Fund for Sustainable Biodiversity

The FBS was created with the objective of providing financing for long-term biodiversity conservation in a sustainable and inclusive manner on private lands, using only the returns from its assets.

- Number of farms entered (as of December 31, 2020): 113
- Number of hectares (as of December 31, 2020): 9,297.67
- Number of beneficiary families (as of December 2020): 120
- Amount transferred to PCB beneficiaries (between 2015 and March 2021): US$ 1,991,277

The Negotiation of Forest Emission Reductions

The existence of the PES program has allowed, among other things:

- To have reliable monitoring and verification systems.
- Deep knowledge of relevant stakeholders
- Experience in conducting consultations, including with indigenous peoples.
- Establishment of jurisprudence regarding benefit distribution processes.
- Deep knowledge of the non-carbon benefits of forest ecosystems.

In this way, Costa Rica was able to become a pioneer country in negotiations with the Forest Carbon Partnership Facility (FCPF) for REDD+ pilot projects.

Thanks to forest recovery processes, it was demonstrated that Costa Rica's forests reduced around 20 million tCO2 equivalent during the period 2018-2021. A high percentage of these emission reductions have been purchased by the FCPF, which is guaranteeing the income of 60 million dollars for the year 2025.

Likewise, through the results-based payment window of the Green Climate Fund, Costa Rica made a sale of forest emission reductions to this organization. The amount of this transaction was $54.1 million for 14.7 million tons of carbon dioxide equivalent reduced between 2014 and 2015.

This sale was part of the REDD+ Results-Based Payments program (Reducing Emissions from Deforestation and Forest Degradation) of the Green Climate Fund.

Additionally, there are other advanced negotiations that will allow the entry of more financial resources that will be directed to guarantee the protection of more financial resources, which will be distributed through the PES program or similar mechanisms, for the protection of both private and public domain forests.

Lessons Learned from PES

Costa Rica has demonstrated that with political will, it is possible, with resources from the Costa Rican budget, to sustain and transfer millions of dollars to forest owners. This political will, which has been respected by 9 administrations of different political parties, has been maintained thanks to:

- The existence of strong institutions
- Robust monitoring and accountability schemes
- Communication with different relevant groups and actors
- Transparency in the use of resources
- Social awareness of the importance of maintaining and preserving forests

This high credibility of the program among the different actors of Costa Rican society is reinforced by the fact that in 37 years of existence, the PES has not been involved in any act of corruption or misuse of funds.

Some other lessons learned are:

- Continuity and adaptability: The program has been in operation since 1997, demonstrating that long-term continuity is crucial. It has adapted over time to improve its effectiveness.

- Solid legal framework: The success of the program is based on a robust legal framework that recognizes environmental services and establishes financing mechanisms.
- Diversification of funding sources: Initially, it depended on the fuel tax, but significant efforts have been made to diversify its sources, including private sector participation and REDD payments.
- Focus on small and medium owners: It has mainly benefited small and medium owners, contributing to rural development.
- Monitoring and evaluation: The implementation of monitoring systems has been crucial to measure impact and adjust the program.
- Equity and access: There have been challenges in ensuring equitable access to the program, especially for poorer owners or those without clear titles.
- Integration with other programs: PES has been integrated with other forestry and conservation policies, increasing its effectiveness.
- Valuation of environmental services: It has helped create awareness about the value of ecosystem services beyond carbon.
- Flexibility in modalities: The program has included different modalities (protection, reforestation, agroforestry systems) adapting to different contexts.

Finally, Costa Rica has demonstrated that significant economic growth is possible without detriment to natural resources and without destroying forests.

Challenges for FONAFIFO and PES

While it is true that Payment for Environmental Services has been a fundamental program for environmental conservation and sustainable development in Costa Rica, and its achievements are a replicable example for other countries seeking to protect their natural resources and improve the well-being of their communities, it is also true that PES faces some important challenges for the future. Some of these are:

Costa Rica aims to become a decarbonized economy by 2050, which implies that more and more versatility and other mechanisms will be required, as its main source of financing continues to be the hydrocarbon tax.

FONAFIFO is limited to recognizing four environmental services from forest ecosystems. After 37 years of existence, it is necessary to expand the ecosystems that are protected and, of course, expand the environmental services. The importance of incorporating ecosystem services such as soil carbonization, pollination, decontamination, biological control of pests and diseases, protection against natural disasters, regulation of the water cycle, marine ecosystem services, etc., has been discussed.

Likewise, FONAFIFO must have even greater flexibility for international negotiations around forest emission reduction processes (REDD+).

The points mentioned are being subjected to debate, dialogues that should be deepened soon and that may possibly involve changes in current legislation. It is essential that after 37 years of existence, the PES be improved and expanded to maintain its value for society.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Finland)

Working with private owners to create marine protected areas

BSAG
Baltic Sea Action Group

Organizers:

!

Case Studies in Finland

Working with private owners to create marine protected areas

Baltic Sea Action Group

Summary

The Living Baltic Sea Finland (LBSF) project was launched in 2019 by the Finnish non-profit organization Baltic Sea Action Group (BSAG). BSAG was founded in 2008 and its goal is to save the Baltic Sea, mitigate climate change, and protect biodiversity. BSAG collaborates with companies, decision makers, media, farmers, private citizens, and all other relevant actors in society. The work is focused on regenerative agriculture and forestry, responsible maritime traffic and protecting underwater marine biodiversity.

The LBSF is a non-state initiative but works in close collaboration with Finnish environmental management officials. The project operates in Finnish marine areas. LBSF is financed by the Bank of Åland's Baltic Sea Project, which finances initiatives that benefit the Baltic Sea. The yearly budget for LBSF is approximately 80 000 euros. The project is ongoing.

The aim of the project is to establish new marine protected areas (MPAs) in Finnish marine areas, focusing especially on water areas owned by private landowners.

Case Study

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The aim of the project is to establish new marine protected areas (MPAs) in Finnish marine areas, focusing especially on water areas owned by private landowners. We want to increase the number of good quality private MPAs, and to do this in collaboration with voluntary landowners. The LBSF also aims to create a positive image of private MPAs and marine protection in general. The project demonstrates that marine protection can be a positive, empowering experience for the landowners.

The main target group is people, organizations or municipalities that own water areas in Finnish marine areas. Most of them are private citizens, such as people who own summer cottages in the Finnish archipelago. Many are probably not aware of the fact that private owners can establish MPAs in Finland.

Through the project we also want to raise awareness on underwater biodiversity in the Baltic Sea. The project highlights the Baltic Sea's underwater biodiversity as a "hidden treasure" that deserves protection. In Finland many people's view of the state of the Baltic Sea is negative. The shallow sea is badly eutrophied and polluted, and climate change further accelerates these problems. However, though the sea is in poor condition, it is not dead, and we still have a chance to save it.

Figure 3 The Baltic Sea has a lot of valuable underwater life in need of protection. This picture shows a community of blue mussels and a broadnosed pipefish weaving through a species of red algae called Furcellaria. © Juuso Haapaniemi / Metsähallitus

Finnish underwater marine nature has been closely studied and mapped for the last 20 years in the Finnish Inventory Programme for Underwater Marine Diversity (VELMU) (more info: https://www.ymparisto.fi/en/nature-waters-and-seas/natural-diversity/conservation-and-research-programmes/velmu-programme). BSAG is not involved in the VELMU programme but we work in close collaboration with it. The VELMU data shows that 2/3 of underwater biodiversity falls outside of the current Finnish MPA network. It also shows that underwater biodiversity hotspots are usually found in shallow waters around islands, which in Finland are often privately owned areas. This means that it is important to bring these privately owned areas under protection if we want to strengthen the Finnish MPA network.

So far the LBSF has identified 44 privately owned marine areas that could be suitable for protection due to their nature values. We contact the landowners directly and propose that they could establish an MPA. We also offer to help in the protection process. In addition, we have created a so called "protection path" which gives landowners instructions on establishing an MPA.

We have also organized numerous events for schoolchildren, families, journalists, decision makers etc. We have published articles and blogs on BSAG's website, as well as in Finnish magazines and newspapers. We hope that this would encourage landowners to contact us if they are interested in establishing an MPA.

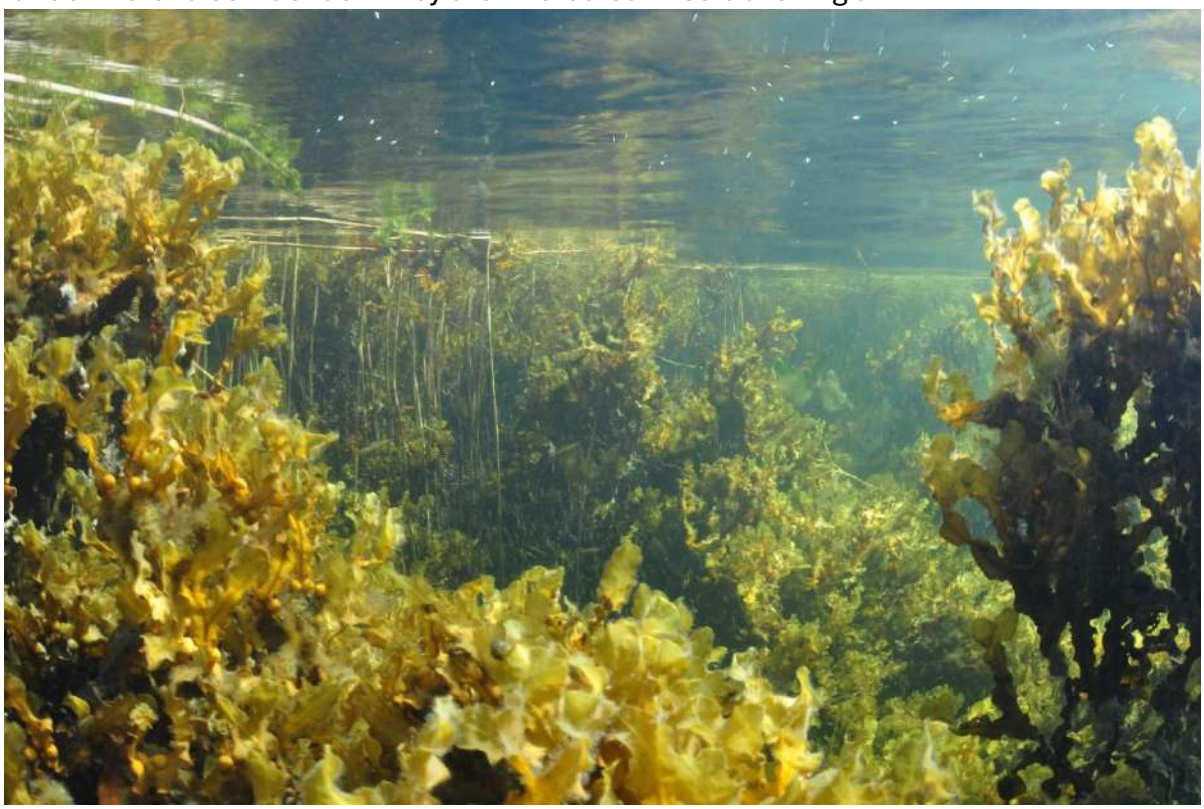

Figure 4 Shallow waters around islands can be hotspots for underwater biodiversity and important habitats for key species, such as bladder wrack. © Heidi Arponen / Metsähallitus

The project's first MPA, the Gullkrona Marine Protected Area, was established in 2022 in the Archipelago Sea. It is 4800 hectares, which makes it the Archipelago Sea's largest private MPA. The area is shared between 22 landowners, who were all involved in the process from the beginning.

The restrictions in the MPA were negotiated between the landowners, the Finnish Centre for Economic Development, Transport and the Environment, and the Finnish Forest and Wildlife service. The negotiations were facilitated by BSAG. The protection process took three years, most of which was spent honing the restrictions. The restrictions need to be sufficient to genuinely protect the area's nature values, but they must also be reasonable from the landowners' perspective.

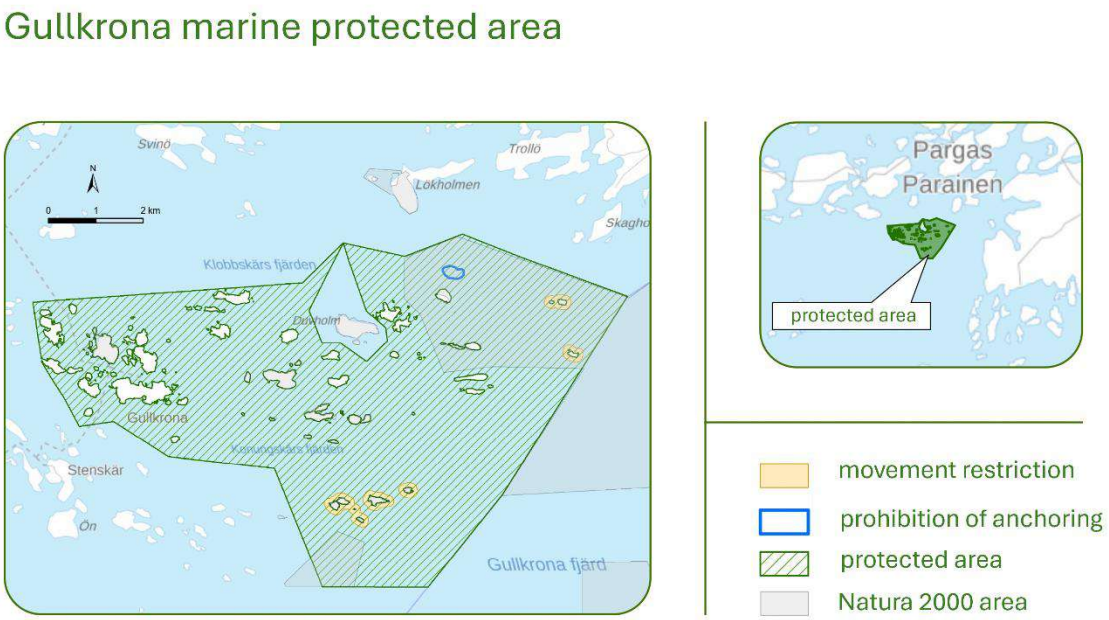

Figure 5 The Gullkrona MPA's surface area is 4800 hectares, and it is shared by 22 private landowners.

In the Gullkrona MPA there are restrictions on dredging and other activities that harm the sea floor, such as mining. Fish farms and other such facilities are prohibited. There are restrictions on movement around certain bird nesting sites, and a prohibition of anchoring above an eelgrass meadow (see figure 4 for details).
However, there are also certain exceptions to these restrictions. The landowners are allowed to dredge their harbours, as well as build and maintain docks and jetties. Fishing and hunting are allowed. The MPA covers only the water area, so it does not restrict activities on land.

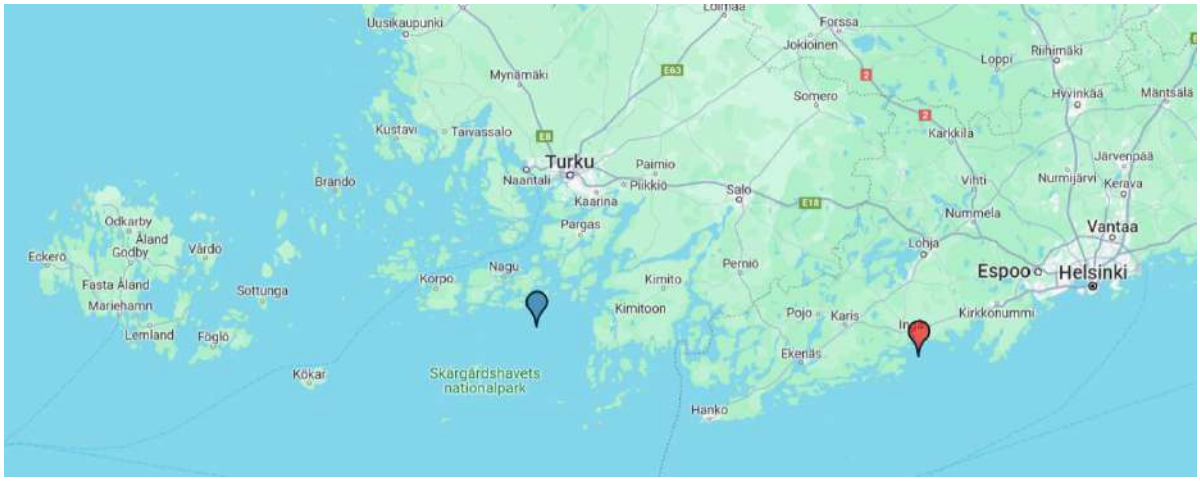

Figure 6 The approximate locations of the Gullkrona MPA in the Archipelago Sea (blue dot) and the Stora Fagerö MPA in the Gulf of Finland (red dot).

The LBSF's second MPA was established around Stora Fagerö island in the Gulf of Finland. It is owned by the Inkoo congregation. Stora Fagerö's protection process began in the beginning of 2023 through BSAG's initiative and was finalized in the April of 2024. The Stora Fagerö MPA's surface area is 262 hectares, so it is a lot smaller than the Gullkrona MPA. However, the water area is an excellent habitat for eelgrass, which is an important key species in the Baltic Sea.

The Stora Fagerö MPA's restrictions and their exceptions are very similar to those of the Gullkrona MPA. Anchoring is prohibited in larger areas because of the amount of eelgrass meadows. It is also prohibited to hunt waterfowl inside the MPA.

Figure 7 Eelgrass grows on underwater sandbanks. © Mats Westerbom / Metsähallitus

LBSF's biggest achievement so far has been the aforementioned Gullkrona MPA. It has also gained a lot of attention in the Finnish media. The Gullkrona MPA works as an example for other landowners, and we have utilized it to explain the benefits of a private MPA. Some of the area's landowners have also acted as spokespeople for private protection.

So far, we are not aware of any negative consequences from the MPAs. There is always a possibility for friction and conflict when dealing with private landowners in these types of situations. In our experience, the friction has mostly been caused by the landowners' false assumptions about the suggested MPA (for example, a fear that the landowner is no longer allowed to live or move inside the MPA, or that the MPA requires seizing the landowner's property). This can be avoided by clear communication from the beginning. It is also important to compose each MPAs restrictions carefully to make sure that they are reasonable from the landowner's perspective. The landowners have valuable insights about the requirements of living in the archipelago, such as the need to maintain jetties or other such structures. This further highlights the importance of involving the owners in the protection process so that these types of needs do not get unintentionally ignored. Globally, one problem with MPAs has been the lack of communication with locals, which has led to restrictions that are impossible to follow, as well as general mistrust and negative views on marine protection.

Figure 8 The Gullkrona marine protected area is located in the Archipelago Sea. © Jaakko Ruola

In the case of the Gullkrona MPA, most of the area's owners were glad about the protection initiative, but some had doubts. However, even the sceptical landowners eventually came on board as they were genuinely heard and respected during the process.

So far, the most important lesson is that private MPAs are more likely to succeed when landowners are involved in the process from the beginning. Clear and direct communication and honesty are key to winning the landowners' trust. The environmental officials' bureaucratic language can feel alienating and frustrating to the landowner, which can create misunderstandings and mistrust. It is important to "translate" this language for the landowner.

The LBSF project is a cost-efficient way to increase good quality MPAs in the Finnish marine areas. As the project focuses only on privately owned water areas, it cannot be directly applied to countries where marine areas are not privately owned. However, the project offers valuable lessons on communicating about protected areas to landowners and other locals. These can be applied in many situations where nature protection is perhaps clashing with other interests of the general public.

At the moment LBSF has funding until the end of 2024, but the funding is expected to continue. We have several potential MPAs that we intend to work on. We also seek to influence the Finnish government so that the state could also encourage private MPAs and make the bureaucracy easier in the future.

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Finland)

HELMI-HABITATS PROGRAMME, FOR AND WITH LANDOWNERS

Goverment of Finland

Organizers:

WHC

Helmi-Habitats Programme, for and with Landowners

Government of Finland

Summary

The main objective of the Helmi habitats programme is to enhance the biodiversity of Finnish nature by protecting, restoring and managing mires, waterfowl habitats, semi-natural grasslands and forests habitats, as well as small waters bodies and shore habitats. The aim is also to promote ecosystem services, water protection and carbon sequestration, and climate change adaptation.

Almost half of the habitat types and 12% of the species in Finland are threatened. The main reason for this is the decline and deterioration of habitats. The Helmi programme is an important package of measures for halting the decline of biodiversity in Finland. The implementation of the programme is based on voluntary action by landowners.

Objectives extending to 2030 have been set for the restoration and management of habitats, both for protected and non-protected areas. The programme is implemented through a total of 40 measures, including actions related to communication and strengthening the knowledge base.

The Government Resolution on the Helmi programme was adopted on 27 May 2021.

The Helmi programme is a joint programme of the Ministry of the Environment and the Ministry of Agriculture and Forestry, implemented together by the administrative branches of both ministries and municipal authorities and organisations.

Case Study

Introduction

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The Helmi Programme adopts a broad and holistic approach to habitats. The aim is to establish 30 to 50 Helmi areas that are comprised of key habitats with respect to biodiversity. The restoration and management work done in the Helmi areas is planned in cooperation with the local stakeholders, which enhances its effectiveness and impact. Besides the Helmi areas, measures are also targeted to certain individual sites.
The Government Resolution on the Helmi programme was adopted on 27 May 2021. Work under the Helmi programme started already in 2020 including action plans, surveys and inventories, as well as conservation, restoration and management of habitats.
The Helmi programme is a joint programme of the Ministry of the Environment and the Ministry of Agriculture and Forestry, implemented together by the administrative branches of both ministries and municipal authorities and organisations. Actions are carried out both within and outside protected areas. The participation of landowners is voluntary.
The SOTKA project of the Ministry of Agriculture and Forestry is part of the Helmi programme. In this project, wetlands and a network of resting areas are built, mires and catchments are restored and small invasive non-native carnivores American mink (*Mustela vison*) and common raccoon dog (*Nyctereutes procyonoide)* are captured.

Functioning

A broad-based **steering group** has been appointed for the Helmi Programme. It monitors the overall progress of the programme and selects regional Helmi-areas, based on applications prepared by the regional cooperation groups. Steering group consists circa 25 organizations from many administrative disciplines and other sectors of the society.
The main responsibility for the progress of the Helmi actions is within the **Working group** which meets monthly. It is led by the Programme Manager (Ministry of the Environment). The group also includes Helmi programme coordinator, 4 theme coordinators, data specialist and communications specialist. Finnish Environment Institute SYKE has an ongoing project (HelMet) funded by the Helmi programme. Its main focus is on managing the Helmi-reporting, but it is assisting the working group with various other tasks as well. Project manager of the HelMet-project is also a member of the working group. Each habitat theme has also **regional coordinator(s)** across the country within organizations from both administrative branches.
Within the Ministry of Agriculture and Forestry (MoAF) there is a general coordinator of the Helmi actions assigned for the MoAF. In addition, the project manager of SOTKA – project, whose aim is to reverse the trend in declining gamebird populations, is working at MoAF.
In addition, **regional cooperation groups** are appointed for areas covered by different Centres for Economic Development, Transport and the Environment (ELY centres). The restoration and management work done in the Helmi areas is planned in cooperation with the local stakeholders within these groups. These groups also prepare the applications for the regional Helmi areas to be sent for the steering groups assessment.
Within the Ministry of Agriculture and Forestry (MoAF), there is a general coordinator of the Helmi actions assigned for the MoAF. In addition, the project manager of SOTKA – project, whose aim is to reverse the trend in declining gamebird populations, is working at MoAF.

The excavator fills the ditch of a drained mire with peat, which is one of the most widely used restoration method in drained peatlands in Finland. The amount of restoration of drained peatlands in Finland has increased because of the Helmi programme (Picture: Maarit Similä).

Financials

The estimated costs during the whole programme period are about EUR 423 million. The programme also includes a commitment to continue the Forest Biodiversity Programme for Southern Finland METSO in 2026–2030, with estimated costs of EUR 332 million.

Funding for the programme will be determined for one government term at a time. At the start of the programme, in 2020-2023, the funding level was around EUR 41 million per year. During the current government term, the annual funding level of the programme is approximately EUR 23 million.

The programme's funding consists of funding granted by the state, i.e. the Ministry of the Environment and the ministries of agriculture and forestry, to the organisations implementing the programme. The organisations responsible for the implementation of the programme will organize the necessary restoration measures or grant state aid or subsidies for their implementation. Within the framework of the programme, discretionary government subsidies are awarded to municipalities and associations (Kunta-Helmi and Järjestö-Helmi) for habitat restoration projects organised by them.

The LIFE programme, the EU's funding instrument, supports and supplements the implementation of the Helmi programme. The Helmi programme is a significant source of self-financing in many projects of the EU's LIFE programme in Finland. Over the years,

Finland has received a significant amount of EU LIFE funding for many projects that maintain and improve biodiversity.

Results (intended)

The following table includes the main goals of each theme. It is not a comprehensive list of all the 40 specific actions of the programme.

Action	Goal	Unit (hectares = ha)	% reached so far (2023)
Identifying regional Helmi-areas	30	sites	23
Mires protected based on negotiations and voluntary action by landowners	60000	ha	38
Mires restored in total	59300	ha	30
Special protection areas (SPA) designated under the EU Birds Directive and other valuable aquatic bird habitats in the conservation area network restored	200	sites	29
Wetland habitats for birds established and restored outside the conservation area network	500	sites	9
Intensified hunting of nonnative predators in some of the restored SPA sites started	70	sites	103
Network of protection and resting areas for birds supplemented through voluntary action models	150	sites	16
Surface area of managed semi-natural grasslands increased by	18000	ha	11
Restoration and nature management in conservation areas and other valuable woodland sites	800	sites	57
Nature management measures in state-owned multiple-use forests (2021–2025)	2850	ha	48
Springs restored	1050	sites	8
Brooks restored	600	km	20
Flads and glo-lakes restored	80	sites	22
Migration connections restored and barriers to migration removed from small water bodies	1670	sites	14
Shore habitats restored and managed in and outside conservation areas	200	sites	38

Impact

The measures of the Helmi Programme support the functioning of ecosystem services and water protection and contribute to climate change mitigation and adaptation. The measures improve the conservation status of tens of threatened habitat types and numerous species. Healthy ecosystems also help species adapt to inevitable climate change.

Indirect impacts of the Helmi programme are varied from research, communication and stakeholder cooperation, knowledge, education, and potential business opportunities.

Inventories, broader studies, and surveys are carried out to support the achievement of the programme objectives. There are various research, methodological improvement and development projects as well as new procedures under preparation or ready in most themes.

Timely and effective communication is important for the success of the Helmi programme. Communication makes the programme and its measures better known and more readily acceptable. This will ensure that nature sites suitable for the programme can be found. Communication links the Helmi programme to the public discussion on biodiversity loss and tells about measures by which it can be halted. In the programme that involves a broad spectrum of actors a key focus is on interaction and working together.

The ruff (*Calidris pugnax*), left, is a critically endangered wader in Finland. Thanks to Helmi bird wetland and mire restorations the breeding population is now increasing in the coastal areas of northern Baltic Sea. Another winner of the Helmi programme is the willow grouse (*Lagopus lagopus*), right, which inhabits different mire habitats and benefits significantly from Helmi mire restorations.

An ongoing training project LUOTU is set up to enhance knowledge and skills in nature management and restoration. This project is targeting entrepreneurs in commercial forestry to learn new skills which enables them to provide their services for restoration and nature management projects. In Finland there is a deficit of professional contractors with suitable equipment and machinery for nature management and restoration work.

Helmi programme also provides a discretionary application process for special subsidies to municipalities and associations (NGOs, Kunta-Helmi and Järjestö-Helmi).

The aim of this funding is to activate and encourage new operators to take action and restore degraded habitats locally.

Negative Impacts

Very few, if any, negative impacts have emerged. Helmi programme is based on voluntary participation, so it has been extremely well received across society. Any potential negative ecological impact of restoration can be prevented with careful and high-quality technical planning processes.

Strengths

In Finland, government owns only one third of the country's land area. The rest is privately owned. Even some conservation areas are privately owned and thus any restoration or management activities in these areas require permission from the landowner. In this kind of ownership structure non-voluntary methods of conservation, management and restoration are not socially acceptable.

Finnish administration and society are very well organized and also technologically advanced. The GIS and ecological data that exist from the conservation network is high level. These are some underlying factors which have enabled Helmi programme to be so successful.

Weaknesses and problems

Helmi programme is based on Government Resolution. Helmi is thus mainly funded from the state budget that is approved annually. This makes the programme susceptible to political sway.

At the moment, limited resources are a bigger restriction than the eagerness of landowners to participate. There are constantly more high-quality areas on offer for conservation than there are funds to purchase or restore them.

Planning total management of larger areas is sometimes challenging if there are objections from some of the landowners. For example, some large mires may have dozens of landowners, and all have to be willing for the entire area to be successfully restored.

Information deficits

Finland is a relatively large country, and there is insufficient information on the number and restoration needs of many habitats outside protected areas. Resources for species and habitat monitoring are insufficient, and it is essential to develop effective methods for monitoring the state of habitats. Standardized and cost-effective indicators for the effectiveness of restoration measures can only be developed based on sufficient monitoring.

Lessons

Starting a programme as ambitious as Helmi is a massive operation. It has required significant and fast expansion especially of the environmental administration. Completely new operation models and connections between administrative branches have been forged. State governments are slow ships to turn, and it does require careful planning to make this a smooth reform. In a small country such as Finland, it has not been self-evident to easily find enough experts for the implementation of restoration and management work.

Future

The Helmi programme is an important tool to halt biodiversity loss in Finland and at the same time an important tool in the implementation of international commitments and agreements. Therefore, the implementation of the Helmi programme should be continued effectively, while also examining actions and possibilities for scaling up of the programme. In the future, we will identify ways how to mobilise private funding to support the implementation of the programme and how landowners in large areas would be encouraged to invest more in the implementation of the Helmi programme actions on their owned areas.

Publications

Brochure: Helmi Habitats Programme 2021-2030. https://ym.fi/documents/1410903/33891758/Esite-english-001-web.pdf/c9f96b5a-9421-ed1d-a745-7c5edd010066/Esite-english-001-web.pdf?t=1658746658640

Helmi Habitats Programme 2021–2030 Government Resolution (in Finnish, description in English) http://urn.fi/URN:ISBN:978-952-383-899-4

The Helmi programme has drawn up many habitat restoration guides in Finnish, including Guide for the restoration of springs (LÄHTEIKKÖJEN ENNALLISTAMISOPAS, Pohjois-Savon elinkeino-, liikenne- ja ympäristökeskus. https://urn.fi/URN:ISBN:978-952-398-201-7), Coastal small water restoration guide: fladas and glo-lakes (RANNIKON PIENVESIEN KUNNOSTUSOPAS FLADAT, KLUUVI-FLADAT JA KLUUVIT, SEKÄ NIIDEN LASKUPUROT. Etelä-Pohjanmaan elinkeino-, liikenne- ja ympäristökeskus. https://urn.fi/URN:ISBN:978-952-398-237-6 Inland water sandy beaches restoration guide (Sisävesien hiekkarantojen kunnostusopas. Pohjois-Savon elinkeino-, liikenne- ja ympäristökeskus. https://), urn.fi/URN:ISBN:978-952-398-225-3)

Expert sources

The persons responsible for the programme are listed below:

Ministry of the Environment: Maaret Väänänen (Program manager and management of woodland habitats), Inka Keränen (Program coordinator and mire restoration), Esa Pynnönen (protection of mires), Martina Reinikainen (managing semi-natural grasslands), Antton Keto (restoration of aquatic and shore habitats), Saku Härkönen (monitoring of habitat restoration, data management), Sarita Laine (communication)

Finnish Environment Institute SYKE: Markku Mikkola-Roos restoration of wetlands and aquatic bird habitats), Tupuna Kovanen (monitoring of the programme)

The Ministry of Agriculture and Forestry: Heidi Krüger (Project manager of the SOTKA project), Ville Schildt (management of woodland habitats in commercial forests)

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (France)

THE NEW FRENCH BUSINESS & BIODIVERSITY PLATFORM

French initiatives on the international stage

Organizers:

The New French Business & Biodiversity Platform

French initiatives on the international stage

ORÉE

Summary

ORÉE, French business network launches a new Business & Biodiversity national platform financed by the French government

As the French focal point for the Biological Diversity Convention, ORÉE led the project to create a new French *Business & Biodiversity* platform with the support of the French Biodiversity Agency (OFB), a public body dedicated to safeguarding biodiversity. Numerous partners and biodiversity experts were also involved in this project (companies, business networks, institutional bodies, NGOs, scientists and qualified experts)

The new platform aims at:

- Being a national relay for the government's objectives towards the Kunming-Montreal Global Biodiversity Framework (COP15).
- Mobilizing networks of economic players to gather feedback from companies involved in existing schemes ("Engagée pour la nature" Program, act4nature International, SBTN, TNFD, etc.).
- Centralizing and providing free access to inspiring resources (technical and academic resources, feedback, useful websites, methodologies, tools, etc.).
- Targeting all types of companies and all sectors, so that each one can start and progress in approaches that are favourable to biodiversity and proportionate to its impacts and dependencies.
- Animating and mobilize companies through workshops, webinars, etc.

The platform is a showcase for French initiatives on the international stage and a means for French companies to access international initiatives. The official international launch of the platform was during COP16.

Case Study

The new French Business & Biodiversity Platform

This platform is a showcase for French initiatives on the international stage and a means for French companies to access international initiatives and all useful biodiversity tools. This is a project initiated by ORÉE, a non-governmental multi-stakeholder network, and financially supported by the French government through the French Biodiversity Agency (OFB).

ORÉE is a multi-stakeholder association set up in 1992, with almost 200 members (companies, local authorities, etc.). It leads working groups, develops tools and guides, etc. In particular, it is the French focal point for the Global Partnership for Business and Biodiversity set up at COP10. In effect, ORÉE has been running a "Business & Biodiversity" platform since 2013. A project to create a new one has been initiated to align with the new Plan for Biodiversity's targets.

The restructuring of the platform is a project steered by 3 governance bodies. The project team, made up of ORÉE and a web service provider, is responsible for the operational aspects of the project. The Strategic Committee, made up of ORÉE and the French Biodiversity Agency (OFB) (a public body dedicated to safeguarding biodiversity), is responsible for taking decisions on the directions taken by the platform. Finally, the Technical Committee, made up of some 24 partners (companies, business networks, institutional bodies, NGOs, scientists and qualified experts, see list below) led by ORÉE, provides suggestions and expertise for the project.

Technical Committee's members:

- Companies (ORÉE's members) : EDF, Michelin, Pierre Fabre, Séché Environnement, Sycomore Asset Management
- Business networks : Act4nature International, College of Sustainable Development Directors (C3D), La Coopération Agricole, French network of UN Global Compact, National Union of Landscape Companies
- Institutional bodies : French Public Investment Bank, French national biodiversity committee, French general secretariat for ecological planning
- NGOs: Humanity & Biodiversity, Noé – Preserve biodiversity, IUCN France, WWF France, Birdlife France
- Scientists (Muséum national d'Histoire naturelle) and qualified experts (Luc Abbadie, Didier Babin, Sylvain Boucherand and Guillaume Neveux)

The project is supported by a grant from the French Biodiversity Agency (OFB) (a public body dedicated to safeguarding biodiversity) and funds from ORÉE.
The new platform aims at:

- Being a national coordinator for the government's objectives towards the Kunming-Montreal Global Biodiversity Framework (COP15).
- Mobilizing networks of economic players to gather feedback from companies involved in existing schemes (an initiative supported by the French government under its NBSAP, SBTN, TNFD, etc.).
- Centralizing and providing free access to inspiring resources (technical and academic resources, feedback, useful websites, methodologies, tools, etc.).
- Targeting all types of companies and all sectors, so that each one can start and progress in approaches that are favorable to biodiversity and proportionate to its impacts and dependencies.
- Animating and mobilize companies through workshops, webinars, etc.

The platform is a showcase for French initiatives on the international stage and a means for French companies to access international initiatives. The official international launch of the platform will take place during COP16.
The platform project has mobilised the French economic networks through the creation of the Technical Committee. Its members are fully involved in the project and have helped to consolidate its structure and content. Thanks to the work of the various people involved in the project, the most inspiring and useful resources for businesses have been centralised on the platform, making it a sort of central biodiversity station. As part of this objective, a toolbox has also been developed to sort the various tools available to businesses according to their accessibility, objective, the sector concerned, the scope studied or the size of the organisation using them (more than 70 listed tools).
The aim of this platform is to appeal to all types of company, whatever their sector, size or maturity in terms of biodiversity issues. It has therefore been a real challenge to meet the needs of all French economic players, requiring a number of adjustments which have

resulted in a platform tailored to the needs of the various companies wishing to embark on their biodiversity approach.
Given the large number of partners (some of whom are governmental) involved in the platform and the diversity of viewpoints associated with it, the project team had to do a great deal of coordination and reconciliation work. However, this wealth of expertise was essential to making the platform relevant and accessible to as many organisations as possible.
The new French platform "Entreprises & Biodiversité" aims to endure over time, providing maximum utility to businesses. Its ongoing updates are made possible by the project team, our partners, and user feedback. The remote side-event organized by ORÉE during COP16 aims to introduce this new project and highlight other national initiatives, inspiring further action.
The 24 partners comprising the platform's Technical Committee played a crucial role in its development. They contributed relevant content, validated materials, and facilitated expert testing in the fields of economics and biodiversity. Additionally, a partnership with the French government ensured the platform's existence.
The platform will be freely accessible during COP16. In the meantime, you can visit our LinkedIn page.

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Germany)

The Nature And Biodiversity Conservation Union

Citizens for Biodiversity

Organizers:

Case Study in Germany

NABU - The Nature And Biodiversity Conservation Union

Founded in 1899, NABU (The Nature And Biodiversity Conservation Union) is the oldest and largest environment association in Germany. It encompasses more than 940,000 members and supporters, who commit themselves to the conservation of threatened habitats, flora, and fauna, to climate protection and energy policy. Together with its partners, NABU also looks back on over 30 years of successful international conservation work.

NABU's main objectives are the preservation of habitats and biodiversity, the promotion of sustainability in agriculture, forest management, and water supply and distribution, as well as to enhance the significance of nature conservation in our society.

About **70,000 volunteers play an active role in practical nature conservation work**, with great success: This is something that is special to NABU. These active NABU members look after more than 110,000 hectares of valuable protected reserves in Germany. NABU also has volunteer groups working on an international level to conserve nature, protect species and support livelihoods in Africa, Eurasia and the Caucasus. This work is backed by professionals at our regional offices and at our national headquarters in Berlin, who take care of public relations, project development and management, and political lobbying.

NAJU, NABU's own youth organisation, has more than 85,000 young members. It is the biggest environment organisation for young people in Germany. It offers a framework for children and young adults aged 6 to 27 to protect nature and the environment.

A Portrait of NABU
This is our vision and misión

NABU inspires people to get involved with nature. We want **future generations to enjoy a world worth living in** – one that offers a great variety of habitats and species as well as

good air, clean water, healthy soil and as large a reserve of natural resources as possible. Our **vision** is an Earth with intact ecosystems, a stable climate and a high level of biodiversity. Our **mission** is to structurally reduce damage to nature and the climate, while working with strong local actors to protect and restore biodiversity, the climate, ecosystems and their services. We want to make land use and other economic activities eco-friendly, promoting climate neutrality and a circular economy.

In 2010, NABU's highest body, the General Meeting of Federal Representatives, adopted the **'Key Issues Paper for NABU's Future International Work'**. A year earlier, **the decision had been made to establish the NABU International Foundation for Nature.** Since then, NABU's international work has steadily expanded. All over the world, NABU uses its experience and skills to provide long-term structural support for nature conservation, working with strong partner organisations and holistic concepts. In comparison to 2010, however, there has been a sharp acceleration in climate change **and species extinctions. In 2010 we talked about climate change; today we are talking** about an urgent climate and biodiversity crisis. We desperately need to change the way we act politically and individually, the way we do business and run our economies, and the way we treat the environment. However, this cannot be resolved with individual national contributions: even if Germany, for example, were to meet its climate commitments in full, the effects could be nullified by deficits in other countries – and vice versa. If birds have good chances of survival on their migration routes outside Germany's borders, this boosts the effectiveness of bird protection within Germany. So NABU's international work requires global, joined-up thinking and action – because crises don't stop at borders.

Our framework of action:

NABU has therefore decided to develop a new strategy for its international nature conservation operations up to 2030. Not only do we need to take appropriate measures to tackle the climate and biodiversity crisis in Germany; we also need to complement these measures with strategic international work. Our aim is to recalibrate NABU's international profile, taking into consideration our 'Compass 2030'[1]. At the heart of our strategy are five priorities that NABU has established as its core goals:

- protecting and restoring ecosystems,
- preserving species and biodiversity,
- building sustainable and climate-friendly economic and work structures,
- strengthening civil society to support nature conservation,
- and taking action on climate protection as well as mitigating climate change.

[1] https://www.nabu.de/wir-ueber-uns/was-wir-tun/29639.html

Committed to our goals

NABU is the only German environmental NGO that works on all levels – from local projects all the way up to EU decision making. With more than 940,000 members and supporters, NABU is the largest member-based environmental association in the EU's strongest economy. With that, NABU bears a special responsibility for protecting the environment within the EU's borders and beyond.

Civil Society

Conservation needs lobbying. That's why at NABU we also take initiative to foster civil society and strengthen NGOs.

Green NGOs play a critical role worldwide in conserving unique habitats and protecting threatened species. They promote environmental awareness, lobby for ecosystem services, and represent interests of local communities and minorities. But missing skills, capacities and funding, and little room for organizational development weaken the NGOs.

NABU is looking back to many years of experience in supporting and strengthening civil society partners. We are part of a global alliance of conservation organizations. These include the likes of BirdLife International and proudly work together in close collaboration. The network counts more than 100 partners around the world.

BirdLife International is the **largest international Partnership for nature conservation of more than 120 national partners**. By working together, we can increase our effectiveness and influence and of course, nature conservation doesn't just stop at a country's national frontiers. **NABU is the organisation's German partner** and utilises the partnership to extend its work internationally.

EU Policy

Our efforts for shaping better EU environmental policies

The EU is of great significance for the protection of biodiversity in Germany, and for combatting climate crisis worldwide. For example, the EU Birds and Habitats Directives mark the binding foundations and standards for nature and species conservation in all 27 EU Member States. The EU's "Natura 2000" network is one of a kind – worldwide. Many of its designated protected areas, however, require better management. A novel approach to bring back nature in Europe is the **EU Nature Restoration Law – a historic chance to restore our degraded ecosystems**.

For mitigation of global emissions and to keep global warming below 2°C above pre-industrial levels binding climate targets are implemented across the EU. Two of its important pieces of legislation are the **EU Climate Law and the Renewable Energy Directive (RED)**, which enshrine **binding EU goals in energy and climate politics**. Unfortunately, the RED has abolished environmental safeguards like environmental impact assessments and may therefore come at a cost for nature.

At the same time, **it's imperative to reform one of the oldest and most impactful EU policies, the EU's Common Agricultural Policy (CAP)**. The CAP is a prime example of untargeted subsidies that we deem damaging to nature's interests. Instead of supporting a rewarding system for good land-stewardship and ecosystem services, CAP payments are responsible for large scale environmental-degradation and the loss of small- and medium-scale farms and only profitable for highly industrialized farming systems. To change this, we form strong alliances for this with our partners from the BirdLife International network.

Our work on EU level

NABU engages not only in Berlin and on a federal level in Germany, but also in Brussels, to make sure that environmental protection and climate mitigation are integrated and sufficiently funded. For our work, we form strong alliances with our umbrella organisations such as BirdLife International, Climate Action Network Europe, the European Environmental Bureau and Transport and Environment, as well as with their partner organisations in other Member States. Our work on EU level allows us to accelerate the poor implementation of environmental law in Germany.

As such, NABU has already successfully filed numerous EU complaints that have led to either infringement proceedings by the European Commission or even rulings of the Court of Justice of the EU – for example, in the matter of designated protected areas for birds. **Proof of the success of our joint effort is to be found in adoption of key environmental legislations** such as the Nature Restoration Law, which got adopted against severe political blocking.

EU funds and programmes also are important for our work at NABU. Our federal and local organisations are participating directly or indirectly in many EU projects, mainly through the LIFE program.

NABU Brussels Office - Contacts

Dr. Raphael Weyland Head of Brussels Office
Raphael.Weyland@NABU.de
"In Brussels, amongst others, I fight for an ambitious EU Nature Restoration Law and its implementation on the ground. For this, also participation of NGOs in decision making and the overall rule of law is important!"

Lukas Traup EU Nature Policy Officer
Lukas.Traup@NABU.de
"To sustain our livelihoods, we urgently need to change the way we interact with nature. In Brussels, I am fighting for land-use and nature policies benefitting both people and nature on a long term."

Carla Freund EU Environmentally Friendly Energy Transition Officer
Carla.Freund@NABU.de

"I am fighting to ensure a holistic transition to a sustainable and resilient European Union. Where transport, circular economy, energy, and climate policy work hand in hand and don't come at a cost for nature."

Konstantin Kreiser NABU Head of Global and EU Agricultural Policy

Biodiversity

Biodiversity is defined as the variety of life on earth, comprising all organisms, species and populations, their genetic diversity and the diversity of communities and ecosystems. Biodiversity thus encompasses three levels that must be considered in relation to one another: Genetic diversity, species diversity and ecosystem diversity.
Biodiversity is declining rapidly: within the last 150 years, the earth has lost 83 % of its wild mammal biomass and over 40 % of its plant biomass. One million species are in danger of extinction as a result of human activities. Three quarters of the terrestrial environment and around two thirds of the oceans have already been substantially modified by human interventions.

Globally, we count 36 so-called *hotspots of biodiversity* – these are the areas with the richest biodiversity on the planet. Although they only cover 2.4% of the earth's terrestrial surface, these areas support more than half of the world's plant species and more than 40% of terrestrial vertebrate species as endemics. The loss of these species is therefore irreversible.

Because ecosystem functioning needs to be seen as a global task, NABU activities go beyond the biodiversity hotspots. As part of the BirdLife network, bird conservation has a long tradition for us. Its efforts contribute to biodiversity as a whole.

The NABU Foundation for National Natural Heritage
The abundance of rare species and the valuable countryside in the new German Federal States were described by the former German Federal Minister for the Environment Klaus Töpfer as the 'silverware of German unity'. More than 100,000 hectares of these natural treasures were the property of people. With reunification, these areas were merged into the property of the Federal Republic and became privatised. Today **The NABU Foundation for National Natural Heritage** buys and develops valuable nature conservation land in Germany: More than **390 natural paradises** offer permanently protected habitats for endangered animals and plants.

Havel river - Photo: NABU/Klemens Karkow

Climate Change

Climate change and biodiversity loss are the most pressing challenges to humanity. More and more people begin to realize they are both sides of the same coin. NABU stands with science and its conclusion that climate change is mostly anthropogenic (= man-made).

A major impact on climate is the use of fossil fuels. NABU demands and supports all efforts to reach a net-zero carbon economy globally. To achieve this, emissions from land-use, deforestation and peatland drainage must be reduced rapidly down to zero. This requires close cooperation with industry, electricity production and transport sectors.

But phasing out fossil fuel use alone is not sufficient. Dysfunctional ecosystems need to be restored in order to bring back all regulatory ecosystem functions. One of particular importance is the net carbon sink quality some ecosystems possess. In its international programme, NABU helps mitigating climate change by restoring and protecting these ecosystems. They include peatlands and tropical forests on a landscape scale.

And lastly, helping humans and nature adapt to climate change is also an important part of NABU's activities.

Ecosystems

An ecosystem is a complex of living organisms, their physical environment and all their interrelationships in a specific environment.

Intact ecosystems are essential for human life. They provide a variety of ecosystem

services, such as climate regulation, carbon storage or drinking water and food. However, due to anthropogenic impacts there are only few ecosystems left intact. The greater part is damaged, degraded or destroyed.

NABU focuses on restoring ecosystems to their original state and the most important regulatory functions such as carbon sequestration. Restoration is ideally done by creating conditions in which the ecosystem can recover on its own. NABU carries out ecosystem restoration projects nationally, for example, restoration of the Lower Havel. Internationally, NABU engages in tropical rainforests like Sumatra and Sulawesi, Indonesia.

The NABU International Nature Conservation Foundation
Globally active for nature conservation

NABU International Nature Conservation Foundation has been working on behalf of people and nature, for the protection of endangered species and valuable biosphere reserves **around the world, since 2009.** We are active in places where intact natural areas still exist but are coming under increasing pressure. In close cooperation with local communities and partner organisations, we work to protect lions and white storks in Tanzania, elephants in East Africa and Asia, and endangered rhinos and tigers in Northern India and the Indonesian rainforests. The Foundation has also been supporting selected international NABU projects for many years, such as biodiversity monitoring in Hutan Harapan.

Forest protection in Nigeria
Conservation of the community forest Iko Esai and its biodiversity

Drill monkey in the Nigerian rain forest

photo: Fabian/ stock.adobe.com

The **Iko Esai community forest** in south-eastern Nigeria is mostly covered with tropical primary rainforest and forms an important buffer zone for the transboundary Cross River National Park. The community forest is home to a **wide variety of species**, especially primates such as wet-nosed monkeys and drills, but also rare great apes such as chimpanzees and the endemic Cross River gorilla. Other inhabitants include mammals such as forest elephants and buffaloes, and also approximately 350 bird species. The community forest provides livelihoods for about 12,000 people in the remote and rural region. This entails severe anthropogenic pressures: **overexploitation and deforestation** endanger the habitat for many animal species and reduce income

opportunities for people in the long term.

The goal of the project is to **preserve these exceptional forests in a joint effort with community representatives**. The project is based on the needs of the local communities and is implemented in cooperation with our local partner organisation, "Nigerian Conservation Foundation".

Hutan Harapan
Protecting and restoring forests for future needs

With an area of about 100,000 hectares, Hutan Harapan - Indonesian for **"Forest of Hope"** - comprises Sumatra's last large lowland rainforest on mineral soil. It is one of the last refuges for numerous endangered species, such as Sumatran tigers, Sumatran elephants and rhinoceros hornbills. In addition, the forest's countless ecosystem functions secure the livelihood of the indigenous Batin Sembilan and other local population groups.

However, Hutan Harapan is facing **enormous pressure from surrounding land use**. Deforestation for infrastructure projects, plantations and arable land threaten the precious forest. Additionally, illegally set forest fires and prolonged dry seasons fuelled by the global climate crisis aggravate the situation. It is therefore crucial to ensure the long-term preservation and restoration of the forest and its ecosystem functions.

Together with the local population and its partners, Burung Indonesia, Royal Society for the Protection of Birds (RSPB), BirdLife International and KfW Entwicklungsbank, NABU has been working since 2007 to **protect and restore this valuable lowland rainforest**. In this way, the project makes an important contribution to the current UN Decade for Ecosystem Restoration 2021-2030. The project is funded by the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV).

BirdLife International

BirdLife International is the **largest international Partnership for nature conservation of more than 120 national partners**. By working together, we can increase our effectiveness and influence and of course, nature conservation doesn't just stop at a country's national frontiers. **NABU is the organisation's German partner** and utilises the partnership to extend its work internationally.

Wetlands - Underestimated super ecosystems
Inside the fight to save and restore wetlands

Wetlands are havens of biodiversity and extraordinary carbon stores. However, after decades of damage, their loss is more rapid than that of any other ecosystem. NABU works with scientists, governments, NGOs and communities to restore and safeguard wetlands.

NABU project area Lake Tana, in Ethiopia.
photo: Bruno D'Amicis

Note: Text based on en.nabu.de, with NABU approval (June 13, 2024)

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Japan)

SUPPORT TO THE GLOBAL EFFORTS FOR NATURE CONSERVATION funded by Japanese Business Community

31-year Contribution – Activities for 2030 Nature Positive

Keidanren Nature Conservation Council
Keidanren Nature Conservation Fund

Organizers:

WHC

Case Study in Japan

Support to the Global Effects for Nature Conservation

funded by Japanese Business Community

31-year Contribution - Activities for 2030 Nature Positive

Keidanren Nature Conservation Council

Summary

Keidanren Nature Conservation Council (KNCC) is a sister organization of Keidanren, a comprehensive economic organization in Japan. KNCC has been supporting NGOs projects through Keidanren Nature Conservation Fund (KNCF) for 31 years, running by contributions from various Japanese companies (mainly Keidanren member companies) and executives and employees as an individual donor. The total amount of support by KNCF up to June 2024 is more than 5 billion yen and the number of supported projects has reached over 1,700.

The case studies focus on events since CBD´s COP15 (2022), in particular:

- KNCF´s contribution to UNDP´s COMDEKS* Phase 4, in collaboration with the Japanese Ministry of Environment
- KNCF´s new grant program for projects contributing to the Kunming Montreal Global Biodiversity Framework (GBF)
- KNCC´s key activities after CBD・COP15 such as revision of the Keidanren Declaration for Biodiversity and Guideline, TNFD Promotion, Policy recommendation to incentivize nature-positive management, G7-Alliance on Nature Positive Economies, and Questionnaire survey on corporate biodiversity efforts in Japan.

**Community Development and Knowledge Management for the Satoyama Initiative*

Case Study

1. **About Keidanren Nature Conservation Council and its Fund, Keidanren Nature Conservation Fund**

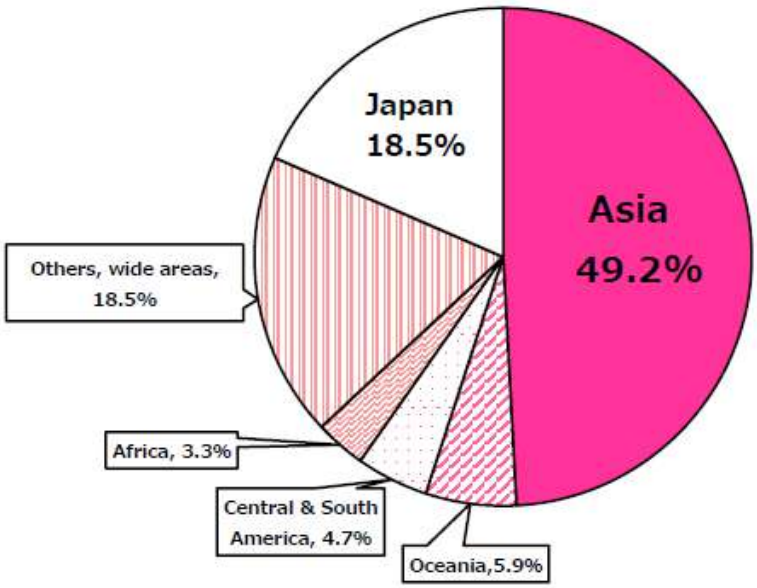
Keidanren Nature Conservation Council (KNCC) is a sister organization of Keidanren, a comprehensive economic organization in Japan, and was established in 1992 when United Nations Conference on Environment and Development was held in Rio de Janeiro.

KNCC has been supporting NGOs projects through Keidanren Nature Conservation Fund (KNCF) for 31 years. The main objective of KNCF sponsored by Japanese business community is to support the activities of environmental NGOs in developing countries particularly in Asia, which play an important role in nature conservation.

KNCF is funded by contributions from various Japanese companies (mainly Keidanren member companies) as well as their executives and employees as an individual donor. The total amount of support by KNCF up to June 2024 is more than 5 billion yen and the number of supported projects has reached over 1,700. By region, Asia accounted for 68%, including Japan for 19%.

The key recent highlights of KNCF include contribution to “the Community Development and Knowledge Management for the Satoyama Initiative (COMDEKS) Phase 4” and “KNCF 2023 Grant Program” as follows:

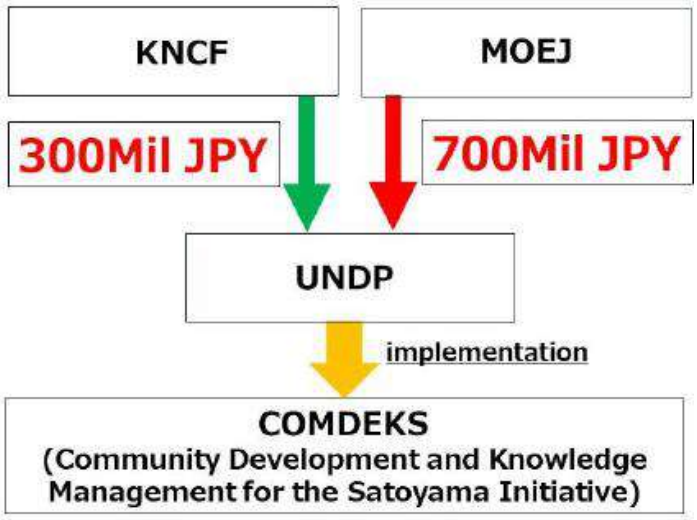
<u>31-year Cumulative Support by Region</u>



(1) Contribution to COMDEKS Phase 4

Upon CBD・COP15, KNCC decided to contribute 3 Million JPY through KNCF to "COMDEKS Phase 4" conducted by UNDP, in collaboration with the Japanese Ministry of Environment contributing 7 Million JPY. That aims to realize a society in harmony with nature by providing developing countries with financial support, knowledge, and experience in the field of biodiversity conservation.

COMDEKS Phase 4 (2023 - 2028) Contribution Overview



In February 2024, the Japanese Ministry of Environment, KNCC, and UNDP co-hosted the Public-Private Partnership Event for COMDEKS, inviting Japanese business community that is a key donner of "COMDEKS Phase 4" as well as academia, NGOs, and youth. Through the presentation on the activities of local community representatives from Cambodia and Costa Rica, the panel discussion, and the wrap-up by CBD and UNU-IAS*, the event made a large contribution to gaining public understanding of nature conservation efforts in developing countries supported by the COMDEKS project.

*UNU-IAS: United Nations University Institute of Advanced Studies

Interactive dialogue among diverse participants

(2) KNCF Grant Program

In line with GBF adopted at CBD・COP15, KNCC launched a new grant program of KNCF in 2023. In general, either of the following projects is qualified as KNCF Grant Program; (1) initiatives contributing to nature conservation, (2) initiatives contributing to realization of SDGs, and (3) initiatives for human resource development. All the projects are required to satisfy those criteria towards making contribution to achieving the GBF goals. To increase nature conservation players and to promote collaborative project across stakeholders, KNCF added new categories of First Grant, Grants for Least-developed Countries, and Collaborative Project Grants.

New Grant Programs of "KNCF" from 2023

Grant menus	First Grant	Grants for Least-developed Countries	Standard Project Grants	Collaborative Project Grants
Objectives	Expansion of the base of biodiversity conservation players (Application and reporting is simplified as much as possible).		The existing grant method and scale will be retained but will include elements such as initial stages and new challenges.	Initiatives that serve as a model for other organizations in cooperation with government, local communities, and businesses.
Group Requirements	Organizations that have not previously received a grant from KNCF.	Grassroots organizations (Operated by local people)	Organizations with legal status and at least 3 years of experience in nature conservation activities.	Collaborative projects implemented by multiple organizations plus the requirements listed on the left.
Region of Activities	Overseas and domestic	Overseas	Overseas and domestic	Overseas
Grant Amount	1 million yen or less		10 million yen or less	20 million yen or less
Duration of Grant	Single-year grants; application possible for up to three successive years.		Single-year grants; application possible for up to three successive years.	Support for 3-year projects. However, projects deemed ineligible by the KNCF will be discontinued.

Examples of Support Project 2024

Reintroduction of endangered Manouria emys

(Bangladesh, by Creative Conservation Alliance)

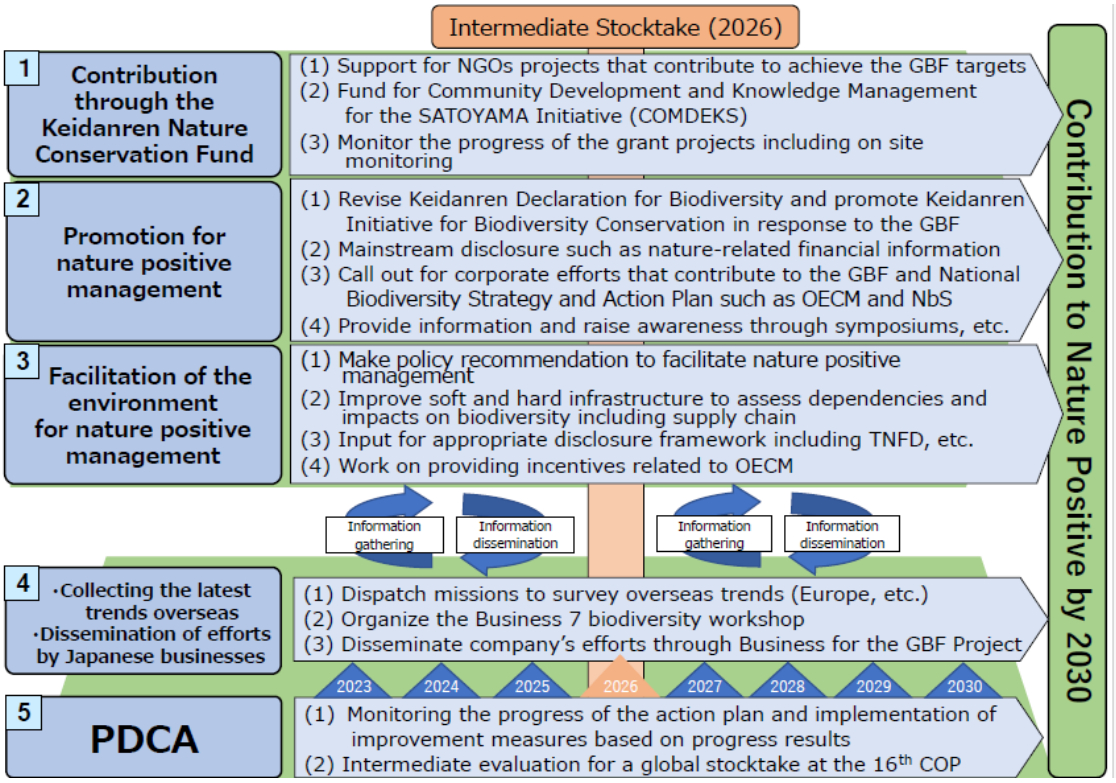
Symbiosis: Human-elephant conflict mitigation (Indonesia, Belantara Foundation)

Clean-up initiative to prevent marine discharge of waste and to reduce diseases caused by bacteria (Republic of Mozambique, by Bridge for lives in Mozambique)

2. Key Activities of KNCC after CBD・COP15

In 2023, KNCC published its own action plan, “The Action Plan for 2030 Nature Positive” in line with GBF, the Japanese NBSAP, and overall nature-related trends. KNCC develops its activities based on five pillars – 1. Contribution through KNCF, 2. Promotion for nature positive management, 3. Facilitation of the environment for nature positive management, 4. Collecting the latest trends overseas and Dissemination of efforts by Japanese businesses, and 5. PDCA.

The Action Plan for 2030 Nature Positive

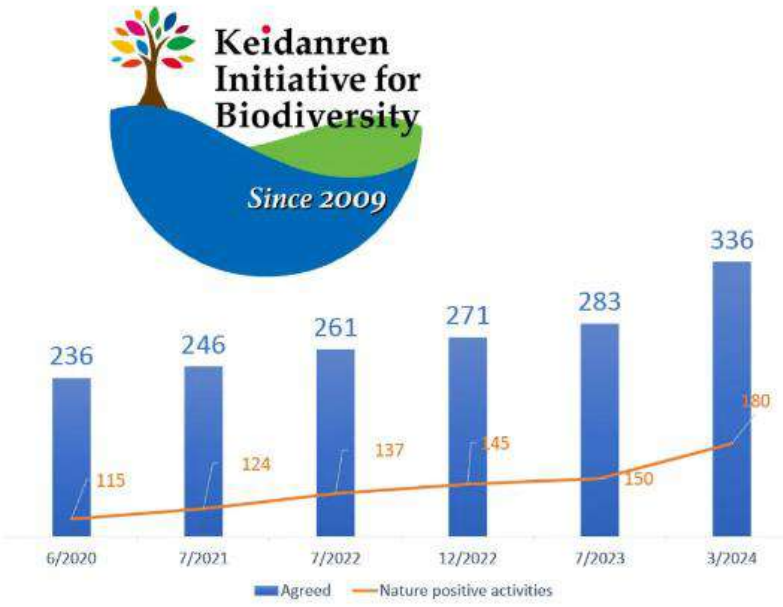


In addition to what is stated in the paragraph 1 of this column regarding “Contribution through KNCF”, KNCC promotes concrete actions contributing to GBF and NBSAP to its member companies and made policy recommendations to incentivize private sectors in line with the pillar 2 and 3, respectively in its action plan. Furthermore, to gain global insights and foster mutual understanding through disseminating efforts of Japanese private sector, KNCC globally enhances communications with various stakeholders including UN-related organizations, international NGOs, and business federations according to the pillar 4 as well as conducts progress monitoring of the action plan as the pillar 5. The related key activities done after CBD・COP15 are as follows.

(1) Revision of the Keidanren Declaration for Biodiversity and Guideline

Based on GBF and NBSAP, KNCC revised "the Keidanren Declaration for Biodiversity and Guideline" in December 2023 for the first time in five years. As a result of continuous calls for endorsement of the Declaration, the number of endorsers reached 336 companies and organizations (up 24% from the previous year) as of March 31, 2024.

Number of endorsing companies and organizations for "Keidanren Declaration for Biodiversity and Guideline"



(2) TNFD Promotion

KNCC is also a co-convener of the TNFD Japan Council, providing timely information based on the latest developments and activities to promote understanding of the TNFD. The TNFD published its recommendations in September 2023 and its early adopters were announced in Davos in January 2024. Out of 320 companies worldwide, a world-leading 80 companies from Japan have pledged to adopt the system.

(3) Policy recommendation to incentivize nature-positive management

As a member of subcommittee or study group of the Ministry of Environment of Japan to publish NBSAP, the Guidelines for Private Sector Engagement in Biodiversity, and the Strategy for Nature Positive Economies, and a law of OECM certification system, KNCC has actively made recommendations to the GOJ to provide private companies with some proper incentives to smoothly shift to nature positive management.

(4) G7-Alliance on Nature Positive Economies (G7 ANPE)

As Japan held the G7 Presidency in 2023, KNCC also took a leading role among business communities of the G7 countries in the field of nature positive. In September 2023, KNCC hosted the international workshop of the G7 Nature Positive Economy Alliance, where the G7 encourages the whole world to draw attention to innovative technologies and business models that contribute to nature positive promoted by companies in EU and G7 countries. During the workshop a series

of case study from a wide range of sectors, followed by the insightful comments to those best practices by the executives and experts including CBD, OECD, TNFD, WBCSD, and WEF from professional viewpoints, had been conducted, which provided parties concerned from both of public and private sectors across the world with the useful suggestions to push forward nature positive management.

(5) Dialogues with various organizations in Geneva

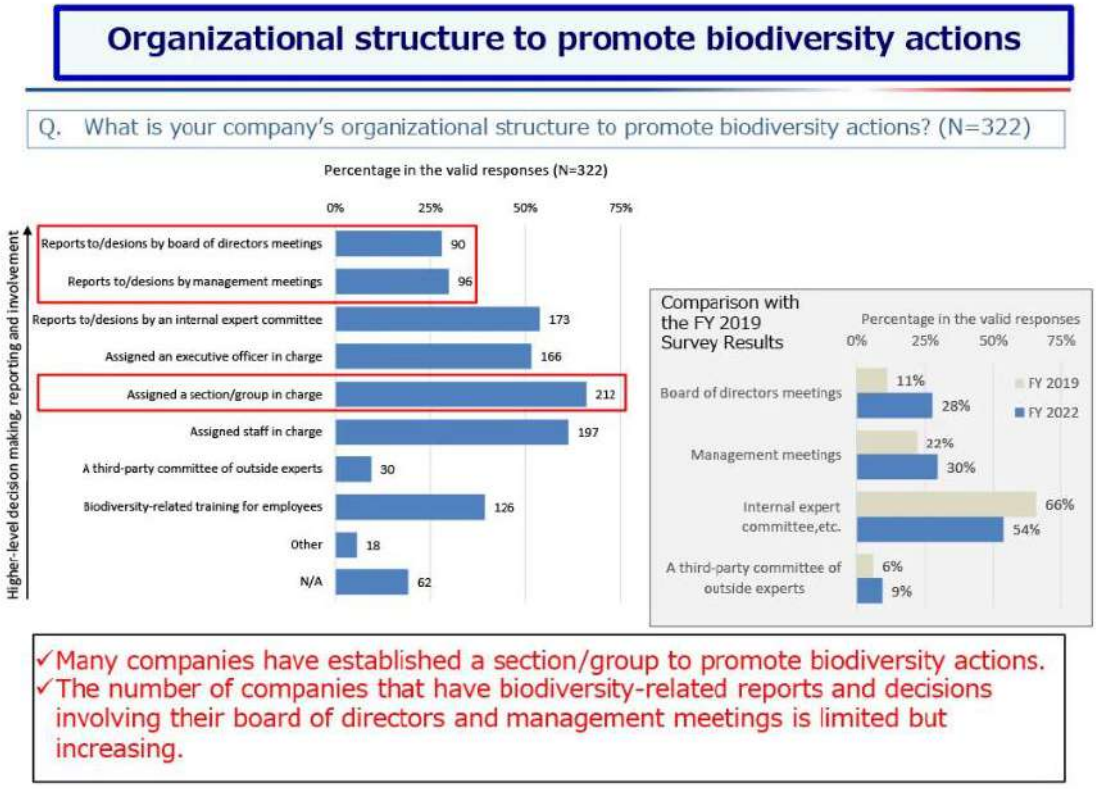
In October 2023, KNCC visited Geneva, Switzerland, to participate in IUCN Leaders Forum where KNCC Secretary General made speech as a panelist under the theme of "Reconciling conservation and development in production landscapes and seascapes". Taking advantage of the opportunity to bring together experts from global major organizations in Geneva, KNCC team had fruitful dialogues with international NGOs, business organizations, and private companies to deepen mutual understanding toward a nature-positive world.

IUCN Leaders Forum: All the diverse panelists (KNCC Secretary General - second left)

(6) Questionnaire survey on corporate biodiversity efforts in Japan

As part of PDCA, KNCC conducts almost annual questionnaire survey for Keidanren member companies to monitor progress of Japanese companies' initiatives on biodiversity. The results of the FY2022 survey show that awareness of the importance of conserving and restoring nature through business activities is increasing and that companies are actively taking initiatives to contribute to the GBF targets.

An example of the result of the questionnaire survey



3. Closing

As a member of GPBB Positive Incentives Collaborative Project, KNCF will continue to support NGO-led nature conservation projects across the world, and KNCC will actively promote nature positive management as a unique platform of biodiversity in the Japanese business community in collaboration with diverse stakeholders.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Mexico)

INTEGRATION OF BIODIVERSITY WITHIN THE REAL ESTATE SECTOR through LEED and other tools

Organizers:

Case Studies in Mexico

Integration of Biodiversity within the real Estate Sector through LEED and other tools.

PIIMA
Ámbito Arquitectura

Summary

Responsibles

Jessica Diaz Avelar — Founder and Risk and Sustainability Vice President, PIIMA, piima.mx

Marion Hammerl — President, Global Nature Fund and BPM member

George Jaksch — President, Biodiversity Partnership Mesoamerica (BPM)

Julio Leal — Engineering and Certifications Manager, PIIMA

Maria Matamoros — Director, Architecture and Sustainability Area

About PIIMA

PIIMA is a company specialized in sustainability consulting and green certifications whose experience in the sector is backed by more than 15 years.

The development of engineering and corporate sustainability projects are part of the mission that we seek to perform, which are considered agents of change and ESG transformation of our clients, in the face of the challenges of the global agenda.

Background

This project arises from the collaboration between private organizations and an NGO (BPM) from different countries such as Mexico, Costa Rica and Germany for any international organization.

Currently, the issue of biodiversity has taken on great importance for different sectors, mainly the real estate sector, however, there are many doubts about how to implement actions or best practices to benefit biodiversity. That is why PIIMA, together with Ámbito Arquitectura and BPM, sought to develop a tool (Biodiversity toolkit) that could be aligned with international frameworks, standards, evaluations and certifications such as GRI, TNFD, CDP, GRESB and LEED, and that could help those developers and operators to implement actions that had positive impacts.

The project seeks to enable those developers and building operators who are interested in implementing actions to benefit biodiversity to identify the current status in which they find themselves, evaluate the possible actions they can implement depending on each phase and detect opportunities within a continuous improvement. Access to this tool is free and non-profit since the objective is to support the sector and stop the loss of biodiversity that exists derived from the sector.

The collaborative work between PIIMA, Ámbito Arquitectura, BPM, Global Nature Fund, Green Business Certification Inc. and US Green Building Council resulted in an editable document in a spreadsheet called "Biodiversity Toolkit V1", this tool was published on the official PIIMA website: www.piima.mx, in September 2023, along with a document written under the name "Real Estate and Biodiversity: What You Need to Know" published on the US Green Building Council page as educational material. The information regarding both documents was also disclosed within a session of Green Build 2023, organized by the GBCI, where members of different international companies were able to access training where topics such as:

- The current state of biodiversity
- Relationship between biodiversity and the real estate sector
- Biodiversity through LEED and SITES

For this training, a document was prepared with the graphic content necessary to understand the current barriers to biodiversity integration, instructions for using the toolkit and steps to improve biodiversity.

To date, there has been acceptance and interest in the toolkit since it is a topic that many in the field are still unaware of. One of the main challenges is the dissemination of the tool and knowledge of it internationally. Although the dissemination it has had is good, it is still not enough to generate a tangible collective impact on biodiversity. Efforts need to be collected to be able to share this information with interest groups.

One of the main strengths of the tool is that it is intuitive for those beginners who are unaware of the implications of biodiversity within the business model, part of this is the identification of 6 steps to start with biodiversity within the due diligence process of the organization.

We estimate that in the future, this tool can help organizations identify the state they are in and the actions they can implement within their operational processes. In Mexico there is still a great lack of knowledge about the subject, so its contribution to collective thought is essential.

We know that there is still a lot to learn and implement within this tool, that is why we are working on an update of the toolkit to be able to offer a better understanding of biodiversity derived from updates to international frameworks and standards such as GRI and TNFD.

References

"Real Estate and Biodiversity: What You Need to Know

https://www.usgbc.org/resources/real-estate-and-biodiversity-what-you-need-know

"Biodiversity Toolkit V1"

https://piima.mx/toolkit/

Case Study

Article: Real estate sector and biodiversity: what you need to know.

Summary

The three economic sectors identified as the main contributors to the drivers of biodiversity loss include: agriculture, extractive industries and energy, with the built environment and related infrastructure believed to contribute to almost 80% of biodiversity loss. global biodiversity. Currently, the issue of biodiversity has taken on great importance for different sectors, mainly the real estate sector, however, there are many doubts about how to implement actions or best practices to benefit biodiversity.

This project focuses on the basic criteria and requirements that the real estate sector must address for the protection, improvement and restoration of biodiversity, as well as the mitigation of impacts on biodiversity based on international guidelines and standards. As a major contributor, the built environment presents a great opportunity to protect, promote and restore biodiversity; this not only helps mitigate climate change and other environmental risks, but also adds value and resilience to properties, promoting more sustainable and responsible development.

Despite the advances made today, there are still deficiencies in the understanding and application of biodiversity practices. However, surveys indicate that a high percentage of people prefer to live near spaces rich in wildlife (RSPB, 2019), which could be an incentive to market real estate assets based on nature-friendly solutions.

Currently in Mexico there is a trend called Nearshoring, which is a strategy that seeks to capitalize on the operational, logistical and commercial benefits of relocating manufacturing and supply to countries close to the origin of demand, implying geographic diversification for risk mitigation. This trend represents a risk for biodiversity in the country since companies arriving in Mexico, mainly from the United States and Asia, may face challenges due to the country's poor ESG performance. Since only half of the companies surveyed are incorporating ESG measures into their strategic agendas, biodiversity is an area that is not frequently considered.

The relationship between Nearshoring and the causes of biodiversity loss and climate change is explained in the following diagram.

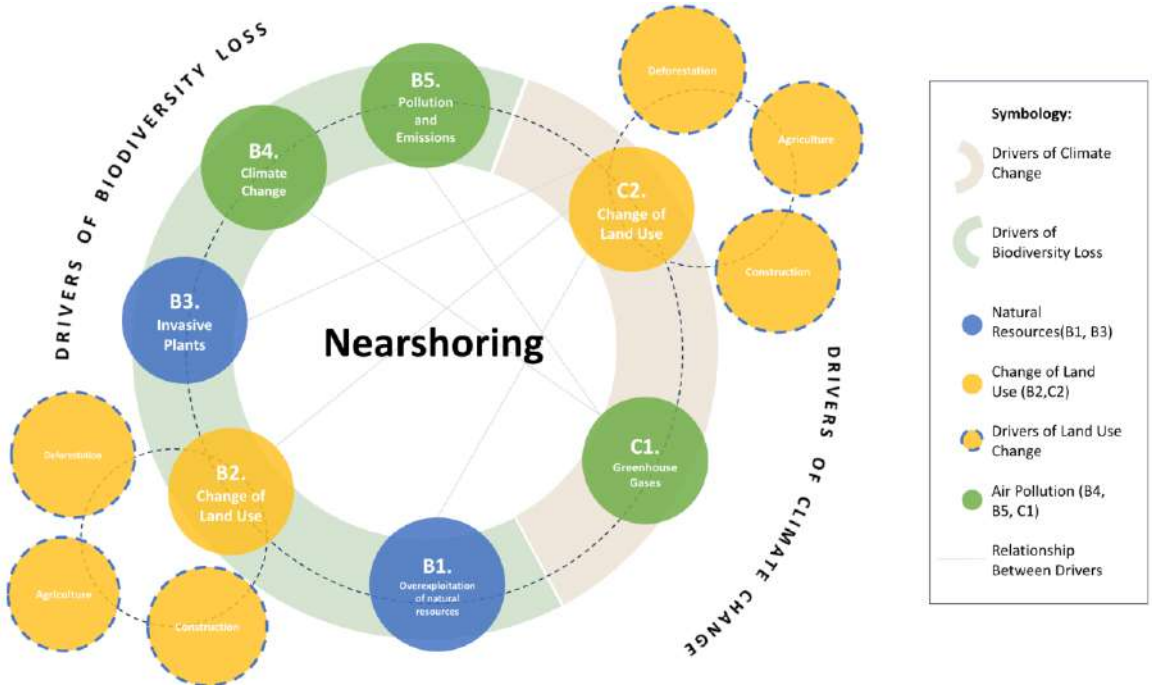


Figure 1: Relationship between Biodiversity Loss drivers and Nearshoring

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identifies five main drivers of biodiversity loss:

- Conversion, degradation and destruction of ecosystems (habitat loss)
- Overexploitation of natural resources
- Spread of invasive species
- Climate change
- Pollution

When considering the benefits to real estate, it is important to understand the benefits beyond the project site. Green spaces around biodiversity-oriented buildings contribute to human well-being (physical, psychological and social health), which easily translates into a reduction in stress and fatigue and an increase in productivity, creativity, social interaction , etc., according to the World Economic Forum.

There are several aspects of best practices in planning, construction, operations and maintenance, and ESG that can reduce and prevent these negative impacts.

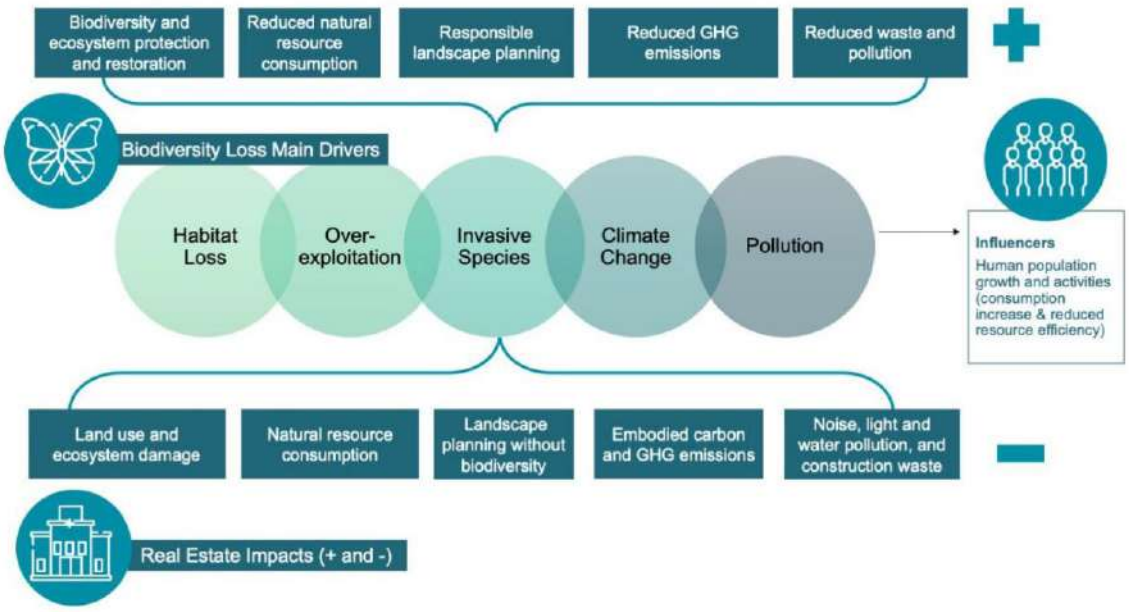


Figure 2. Impacts of the Real Estate sector on Biodiversity

Barriers and limitations

According to a 2023 Dutch study, common barriers to the successful integration of biodiversity protection in real estate projects include:

- Lack of awareness and knowledge.
- Lack of government support.
- Inadequate real estate regulations; lack of monitoring for the proper implementation of the legislation; lack of enforcement or consequences if laws or regulations are not followed
- Lack of academic connection between the scientific and public and private sectors.

In the medium and long term, the real estate sector can only be successful if the protection and improvement of natural habitats and ecosystems are integrated into the entire development process. Table 1 briefly outlines the key steps in developing a biodiversity strategy.

Five steps are proposed for companies to integrate biodiversity and climate change into their business models:

Step 1	**Awareness and Commitment**	Awareness and commitment to integrate biodiversity and climate change into the business model (legislation, policies and procedures).
Step 2	**Risk management**	Evaluation and measurement of risks related to biodiversity and climate change to which the project may be exposed. Managing your exposure and vulnerability (see TCFD and TNFD respectively).
Step 3	**Implementation**	Biodiversity and climate change strategies specific to the nature of the asset site and climatic conditions. The qualitative and quantitative characteristics determine the actions and strategies to be carried out.
Step 4	**Supervision**	Monitor and control the effectiveness of the actions taken to have continuous improvement with the objective of achieving Net Zero and Net Positive.
Step 5	**Community and Stakeholder Alliances**	Partnerships and joint goals help achieve common biodiversity goals by establishing a strategy with different stakeholders (including government and local communities). This will help make more solid and comprehensive decisions that contribute to the protection of nature.

LEED AND SITES, strategies that mitigate the loss of biodiversity

Third-party verified green certifications have supported nature-based solutions implementation projects for decades. Of the suite of certifications administered by Green Business Certification Inc. (GBCI), LEED and SITES certifications provide the most comprehensive strategies to help real estate projects protect biodiversity and reduce ecosystem risks.

LEED

A project earns points by meeting prerequisites and credits that address carbon, energy, water, waste, transportation, materials, health, and indoor environmental quality to achieve LEED certification. The projects go through a verification and review process by the GBCI.

They are awarded points that correspond to a LEED certification level: Certified (40 to 49 points), Silver (50 to 59 points), Gold (60 to 79 points), and Platinum (80+ points). The goal of LEED is to create buildings that:

- Reduce the contribution to global climate change
- Protect and improve biodiversity and ecosystem services

• Improve individual human health
• Protect and restore water resources
• Promote sustainable and regenerative material cycles
• Improve the quality of life of the community.

LEED is for all types and phases of construction, including new construction, interior fit-out, operations and maintenance, and core and structure. LEED is a holistic system that does not simply focus on one element of the building, such as energy, water, or health; instead, it looks at the big picture, taking into account all the critical elements that work together to create the best possible building and taking responsibility for its impact on the local ecosystem and community.

SITES

SITES can be applied to a wide variety of project types, including parks, streetscapes and plazas, commercial and residential properties, and educational or institutional campuses.

Investing in sustainable land design and development creates a powerful return on investment through increased property value, reduced construction and maintenance costs, and critical ecosystem services, which:

• Improve biodiversity
• Help reduce water demand
• Filter and reduce stormwater runoff
• Provide habitat for pollinators and wildlife.
• Reduce energy consumption
• Improve air quality
• Improve human health
• Increase outdoor recreation opportunities

SITES supports landscape architects, planners, developers, architects, landowners and others in implementing nature-based solutions and creating nature-positive designs.

The SITES and LEED rating systems are complementary and can be used independently or together. LEED applies to the project building and the site on which it is located, and SITES applies to everything on the site except the building (with some exceptions). There are synergies that can be leveraged for projects that choose to implement both.

Key Messages

- Biodiversity and climate change are linked and are crucial parts of the ESG aspects of sustainable and successful business processes. Therefore, ecosystem-based approaches and nature-based solutions and the reduction of emissions to reduce risks must be at the center of the strategic planning of the stages of the cycle of Nearshoring projects in their construction, operation and maintenance, and disposal.

- All factors driving biodiversity loss and causes of climate change can be negatively and positively affected by Nearshoring activities. Therefore, Nearshoring must protect nature and leave it intact within and in the environment, towards nature positive; as well as reducing GHG emissions as much as possible towards net zero carbon, to have a resilient and sustainable business.

- The protection and mitigation of biodiversity and climate change requires a continuous management and improvement approach based on a continuous management process/cycle (plan-do-check-act).

- Even when knowledge of biodiversity and climate change has not been fully addressed, sufficient best management practices are known (TCFD, TNFD, green certifications, among others); to include them in the Nearshoring cycle. The sector needs to act quickly, and continue transforming towards the global agenda.

- The awareness and training of all interest groups, regarding the importance, connection, protection and mitigation of biodiversity and climate change for the success of Nearshoring, is essential; to be able to carry out transformation actions that really generate the positive and multiplier effect necessary on the scale of the effects of Nearshoring in our country.

Biodiversity Toolkit V1.0

The Biodiversity toolkit V 1.0 2023, a tool designed for the real estate sector that allows you to identify, route map and map areas of opportunity related to biodiversity during the Design, Construction, Operation and Maintenance Phases.

This tool arises from the need to implement actions that benefit biodiversity during the different stages of construction with the aim of conserving, protecting and mitigating the impacts of the built environment on biodiversity and ecosystems. To have a greater understanding of the impacts of the real estate sector on biodiversity, the toolkit is divided into four sections:

- General all building phases
- Planning and Design Phase
- Construction Phase
- Operations and Maintenance Phase

Each of these sections allows you to view actions to reduce the loss of biodiversity. The actions include the scope of the action, KPIs to monitor them within the business model, specific actions that strengthen the action and finally bibliographic references that help during implementation.

Conclusions

Climate change, biodiversity loss and the increasing trend of Nearshoring represent interconnected challenges that profoundly affect our planet and societies. These changes in climate, mainly driven by human activity, are causing significant damage and alterations to the environment, situations that are worrying since they not only threaten environmental stability, but also negatively impact agriculture, water availability , public health and the global economy. Meanwhile, biodiversity faces similar challenges; Deforestation, overexploitation of resources and pollution are reducing animal and plant species at an alarming rate. Biodiversity is crucial for the development of ecosystems that support life on Earth, so its loss compromises our ability to confront climate change and maintain the health of ecosystems.

In this context, Nearshoring faces challenges of great magnitude, making this trend a highly complex phenomenon, not only in Mexico and Latin America, but globally. This implies the implementation of policies that promote environmental sustainability, strict regulations in each country, incorporation of ESG criteria and development of responsible business practices that consider not only the immediate economic cost, but also the long-term impacts on the environment and the local communities where this trend is structured. Furthermore, a renewed global commitment is needed to accelerate the transition towards an economy that implements low-carbon systems, clean renewable energy, strict environmental policies and sustainable business models to effectively conserve natural ecosystems, recognizing that the health of the planet and human beings are intrinsically linked.

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Mexico)

LOS BÓSCARES

Positive Incentive for Forest Conservation

Organizers:

Los Bóscares

Positive Incentive for Forest Conservation

Reforestamos Mexico
Los Bóscares

Summary

Reforestamos Mexico is a non-governmental organization founded in 2002. With 22 years of experience, its mission has been to secure more and better forests to promote sustainable development. Their vision is to make forests the primary allies in achieving the UN's Sustainable Development Goals by 2030 and ensuring forest connectivity in Mexico.

Los Boscares began in Mexico in 2018 and since 2021 the initiative has expanded to Central America, Colombia, and Peru to annually identify, analyze, and recognize the most outstanding projects supported voluntarily by companies to protect forest ecosystems in the countries where they operate.

Reforestamos Mexico is responsible for Los Boscares, from its conception and methodology to ongoing updates and implementation.

Case Study

Los Boscares

Los Boscares recognizes the most integrative, innovative, and inspiring initiatives with positive impacts on forests of Mexico, Central America, Colombia, and Peru. The goal is to acknowledge and encourage the disclosure of up-to-date public information by companies regarding the projects they support for forest ecosystems care.

While the private sector plays a crucial role in forest restoration and conservation, information about their involvement in this task is often less known and recognized. Hence, Los Boscares were created to identify and analyze trends, approaches, and challenges faced y companies voluntarily engaged in forest-related projects. Los Boscares began in Mexico in 2018 and since 2021 the initiative has expanded to Central America, Colombia, and Peru to annually identify, analyze, and recognize the most outstanding projects supported voluntarily by companies to protect forest ecosystems in the countries where they operate.

Reforestamos Mexico

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Main outcomes of Reforestamos labor

Reforestamos has worked in nearly 61,000 hectares through conservation, restoration, and sustainable forest management; Collaborating with 58 ejidos (communal land units) and 19 communities across 22 states in Mexico; Reforestamos has assisted 14 municipalities in the country to obtain the designation of Tree Cities of the World; Over 11,200 students from 90 universities across Latin America have participated in the Young Forest Entrepreneur Contest. Reforestamos Mexico fosters an entrepreneurial community that includes over 800 forest-related companies (most of them SMEs), aiming to strengthen the entrepreneurship and investment ecosystem for forests; Reforestamos Mexico collaborates with over 280 companies to take actions in favor of Mexico's forests; Reforestamos also has analyzed the actions of more than 900 companies supporting forests and awarded 75 companies in Mexico, Central America, Colombia, and Peru through Los Boscares.

Reforestamos Mexico is responsible for Los Boscares, from its conception and methodology to ongoing updates and implementation. Los Boscares is implemented in partnership with local allies in each country to understand the national context and consolidate the initiative across the region.

Los Boscares Methodology

1. A wide list of companies is compiled for research in each country. This compilation is based on international rankings related to corporate social responsibility, directories of business chambers with environmental agendas, media coverage, and awards granted to companies for their environmental performance.

2. These lists are validated with local allies to identify companies that, due to reputational issues, are not eligible for recognition. Additionally, companies identified by allies that were not initially listed are included.

3. Publicly available information about the companies is researched through their official communication channels such as sustainability and annual reports, websites, and press releases. For countries where the initiative is well-established, an open call is made, inviting companies to submit their projects via an online form. Participation in Los Boscares is cost-free for companies.

4. The collected information is analyzed and research formats are fulfilled for each company that shows information related to forest care projects.

5. An initial evaluation is conducted by Reforestamos Mexico to select projects that meet criteria related to innovation, integrality, and inspiration. About 10 projects per country are preselected at this point.

6. A review committee is stablished in each country with the participation of experts in corporate social responsibility and forestry. They perform a second evaluation using a standardized format to guide project scoring. Each panel member has two weeks to cast their votes.

7. Scores are aggregated to determine the top projects to be recognized in each country. In case of ties, the review committee evaluate each case individually.

8. The chosen companies for recognition are contacted to notify them that their project may receive recognition. The process is explained, and their participation in the award ceremony is explored. Companies have the option to decline the recognition (this only apply to those companies that were researched without their knowledge).

9. A public event is held in collaboration with local allies for the award ceremony. Los Boscares presents a trophy engraved with the year, company name, and awarded project. The recognition does not include any money or grant to support the companies or the project.

Target Audience: Private sector and forest-related enterprises. Strategic stakeholders include governments, academia, international cooperation agencies, and civil society organizations.

Investment:

- 2018-2020: Self-investment by Reforestamos Mexico.
- 2021-2022: French Development Agency (Agence Française de Développement) in Mexico.
- 2023-2024: Salesforce Foundation and Solea (a company in Mexico).
- From 2024 onwards: Seeking sponsors, which can include cooperation agencies, funds, companies, foundations, etc.

Results:

Since 2018, a total of 1,748 companies have been researched and analyzed, out of which 75 companies have been recognized in Los Boscares.

Impact

- Systematize business cases to identify success factors and barriers related to corporate investment in forests care.
- Through inspiring cases, motivate other companies to take action and expand their business ambition for investing in forest care projects. Assess progress toward achieving Goal 15 of the Global Biodiversity Framework.
- Be the only award focused on recognizing the positive relationships between forests and companies.

Strengths

- The methodology is dynamic and adaptable.
- Facilitates networking spaces that encourage synergies.
- Provides a positive channel of contact with companies.
- The name “Los Boscares” has charisma in the Spanish-speaking Latin American context.
- Operational costs can be reduced by hosting events digitally.

Weaknesses:

- Fundraising for the project can be challenging.
- Contacting all companies with forest care projects is not straightforward. Information may be biased due to incomplete or unpublished annual activity reports by companies.
- There's a need for ongoing follow-up and support for recognized companies, requiring suitable spaces and materials to continue showcasing the recognized projects.

Future Perspective

- The initiative will continue if there are relevant and inspiring business cases to recognize, promoting greater investment and business commitment to forest conservation.
- Expanding the analysis to more countries will provide additional tools and information about corporate involvement in forest ecosystems, trends, lessons learned, challenges, and progress, enabling better decision-making.

Lessons Learned

1. Having appropriate public policies enables greater corporate action. For example, Colombia's governmental reforestation goal for 2026 is 750,000 hectares. The National Development Plan also aims to reduce deforestation by 20%. Companies like Ecopetrol and Nestlé explicitly are aligned with this national objective. For example Nestlé has the commitment to plant 7.5 million of trees in Colombia and contributes also with their global goal to reach in 2030 200 million of trees planted. Ecopetrol has the goal to plating 12 millon of trees in Colombia in this decade and it's part of One Trillion Trees an international initiative with other 30 companies.
2. Corporate climate strategies (adaptation, mitigation, or neutrality) enable broader forest projects. Among the 23 awarded companies in 2023, 9 of them have clear climate action goals in which the forest projects support contributes to their decarbonization targets.
3. Global or central strategies with regional focus led to winning projects across multiple countries. Companies like Nestlé, Grupo Aje, and Microsoft achieved local impact with distinct approaches and allies, all contributing to a common goal.
4. Public-private collaborations involving cooperation agencies (e.g., GIZ in Mexico and USAID in Colombia) play a crucial role in the Latin American region. Technical and financial support, capacity-building, and community engagement enhance project outcomes.
5. Benchmarking—comparing initiatives—helps companies strengthen their forest care strategies. Learning from sector peers fosters ambition and innovative approaches.
6. Information about companies' forest conservation efforts can positively influence public perception.

7. Data Homogenization and Transparency:
    - Creating an standardized information format is essential for comparing different initiatives. However, not all companies maintain the same level of transparency, especially regarding sensitive data like financials.
    - The reliance on official communication channels means that the quality and consistency of data can vary. Some companies update their information regularly, while others may not.
8. Bias and Reporting Limitations:
    - The lack of constant updates can introduce bias into the analysis. Companies might not provide exhaustive details about individual projects in their sustainability or annual reports.
    - Small and medium-sized enterprises (SMEs) face resource constraints, which can affect their online presence (websites, social media, advertising) and hinder project visibility.
9. Verification Process:
    - While field visits aren't conducted, trust is placed in the information companies publicly share. Public disclosure implies a commitment to maintaining their reputation.
    - Collaborations with allies such as NGOs, local communities, international cooperation agencies, other companies, or governmental agencies add credibility to the data provided.
10. Expanding information through direct interviews:
    - Conducting one-on-one interviews with companies could enhance the available information. Personal interactions allow for deeper insights and clarification.

<u>Future perspectives and lessons learned:</u>

- Los Boscares depends on relevant and inspiring business cases. Expanding to more countries will provide valuable insights for decision-making.
- Lessons learned include the importance of public policies, corporate climate goals and strategies, regional approaches, public-private collaborations, benchmarking, and improving public perception.

<u>Further information:</u>

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POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (New Zealand)

SOCIAL INCENTIVES FOR ACTION: Weaving Biodiversity and Climate Action in Te Tau Ihu

Organizers:

Case Study in New Zealand

Social Incentives for Action

Weaving Biodiversity and Climate Action in Te Tau Ihu

The Nelson Tasman Climate Forum

Summary

Social incentives drive high levels of citizen volunteering for biodiversity restoration and climate action in the top of the South Island (Te Tau Ihu) Aotearoa New Zealand.

Reassertion of Māori perspectives over recent decades has embedded Te ao Māori, the indigenous world view, within a wider social consciousness. This has both supported an emerging culture of care and connection and has come into conflict with approaches such as national parks that set aside areas from human resource use. The result has been national dialogue working to integrate the values of environmental awareness and the concept of kaitiakitanga. Overall, this alignment has fuelled social mandate for pro-environmental action by institutions and by citizens, sometimes at variance with the national government.

Documented human caused extinctions in New Zealand have been high and the proportion of threatened species is one of the highest in the world. Central government performance on reducing greenhouse emissions has been poor, with targets for reductions consistently missed. Central and local government and philanthropists have funded programmes that support the work of citizens' initiatives.

This paper explores the non-financial incentives that have stimulated high levels of volunteer action for biodiversity restoration, woven together with climate mitigation, adaptation, and justice in the top of the South Island of New Zealand.

It concludes that pro-environmental behaviours are most strongly driven by a sense of belonging at place associated with social modelling and a felt connection to nature that lead to a sense of personal responsibility.

Case Study

Context

Aoteroa New Zealand lies on a tectonic plate boundary where periodically the thin continental rocks of Zealandia[2] are pushed up from the sea. The globe centred on these islands is mostly ocean and the associated continental shelf creates an Exclusive Economic Zone of around 1,700,000 km^2. With a small population of 5M for its land size 268,021km^2, and 28% of the land in nationally protected areas, the country has fostered an image of being "clean and green". In terms of contribution to global biodiversity conservation and climate mitigation the picture is less complimentary.

Aotearoa was the last temperate landmass in the world to be occupied by humans. Isolated for 67 million years from its Gondwanaland relatives of Australia, Antarctica, and South America the largely submerged continent of Zealandia evolved high levels of unusual endemism; for example, 80% in its shoreline marine biota. Documented human caused extinctions have been high in Aotearoa, and the proportion of threatened species are among the highest in the world. Introduced mammalian predators (rats, mustelids etc) and browsing mammals (deer, pigs, goats) have contributed greatly to this situation for native fauna and flora respectively. The Parliamentary Commissioner for the environment rated these as the most weed-infested islands in the world.

New Zealand's official statistics state that: *Ninety-four percent of our reptile species, 82 percent of bird species, 80 percent of bat species, 76 percent of freshwater fish species, and 46 percent of vascular plant species are either facing extinction or are at risk of being threatened with extinction.*[3] With high numbers of 'data deficient' species, the totals could be higher. The current national government has sharply reduced funding for the national Department of Conservation and for associated research programmes aimed at halting and reversing the threats to indigenous biodiversity.

[2] https://rock.geosociety.org/net/gsatoday/archive/27/3/article/GSATG321A.1.htm
[3] https://www.stats.govt.nz/news/our-indigenous-species-are-at-risk-of-extinction/

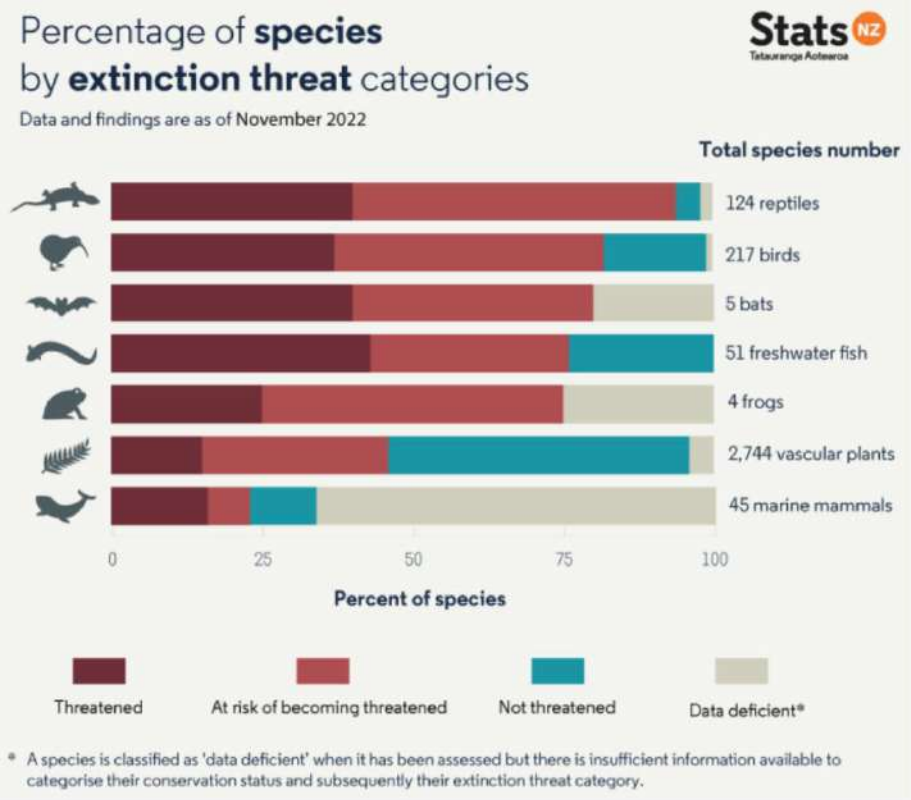

Figure 9 Official statistics on threatened species in New Zealand

Reassertion of Māori perspectives over recent decades has embedded Te Ao Māori, the indigenous world view, within a wider social consciousness. This has both supported an emerging culture of care and connection and has come into conflict with approaches such as national parks that set aside areas from human resource use. The result has been national dialogue working to integrate the values of environmental awareness and the concept of kaitiakitanga. Overall, this alignment has fuelled social mandate for pro-environmental action both by institutions and by citizens, sometimes at variance with the national government.

At COP28 on the climate New Zealand had the dishonour of receiving the first "fossil of the day" award from the Climate Action Network. The new government was criticised for undoing the positive steps of the previous administration, which itself had been stronger on rhetoric than on positive climate mitigation. The International Climate Change Performance Index places New Zealand amongst the poorly performing countries[4] and the current government is moving quickly to reopen offshore oil and gas exploration and roll back requirements reducing agricultural emissions.

Communities and citizens have responded by initiating direct action and the top of the South Island stands out for the scale and diversity of its programmes. The Nelson City Council has stepped into the breach with its own programmes and funding the work of the Nelson Tasman Climate Forum citizens' initiative.

[4] https://ccpi.org/country/nzl/

Context of Te Tauihu

Te Tauihu o te Waka a Māui literally translates as the prow of the canoe of the demigod Māui who rested his feet here as he pulled his great fish from the sea, Te Ika a Māui now known as the North Island. The drowned river valleys of the Marlborough Sounds are the carved prow or Tauihu.

Within Te Tauihu are two major centres of terrestrial endemism of biota and a great diversity of marine areas. There are eight indigenous Māori tribes known as iwi with overlapping customary areas. The human population is around 160,000 and population centres are in the river valleys and coastal areas with mountainous interior being sparsely populated or without permanent habitation.

This is the most environmentally diverse and ancient part of New Zealand. It is home to hundreds of species found nowhere else in the world and these form unique natural communities. It has temperate marine environments with exceptional diversity of habitats that range from extensive intertidal flats to deep canyons, and very sheltered to wild and exposed coasts. The region has strongholds for a wide range of species and ecosystems which are now rare and threatened elsewhere in New Zealand and many are found nowhere else in the world.

The Kotahitanga mō the Taiao Alliance[5] has stepped into this space to foster landscape level indigenous biodiversity restoration through aligned action by central and local government in partnership with iwi supported by The Nature Conservancy. This in turn has linked with long standing local groups such as the Tasman Environmental Trust[6] to support volunteers in a wide range of restorative action.

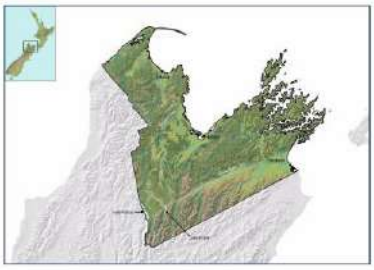

Figure 10 Area of Te Tauihu

Collaborative initiatives

The full range of collaborative initiatives for biodiversity restoration and climate action in Te Tauihu has never been comprehensively documented. To draw out insights on the incentives leading to high levels of pro-environmental action this paper draws on experiences of leaders from three umbrella groups that cover large portions of Te Tauihu:

Kotahitanga mō te Taiao Alliance

Nelson Tasman Climate Forum

Tasman Environmental Trust.

[5] https://www.nature.org/en-us/about-us/where-we-work/asia-pacific/new-zealand/stories-in-new-zealand/new-zealand-alliance/

[6] https://www.tet.org.nz/

Kotahitanga mō te Taiao Alliance

The Kotahitanga mō te Taiao Alliance is a multi-partner conservation collaboration, embedded with the values of Te Ao Māori, putting nature and people at the heart of environmental restoration. The Kotahitanga mō te Taiao Alliance is supported by The Nature Conservancy Aotearoa New Zealand (TNC NZ) and brings together central and local government agencies and iwi across Te Tauihu. The espoused values of the Alliance were drawn from the indigenous partners in forming the overarching strategy of the Alliance. Meaning "Collective Action for Our Nature," Kotahitanga mō te Taiao Alliance (KMTT) is a unique collaborative model of iwi, councils and central government (17 partners in total) based in the top of New Zealand's South Island. It aims to restore and enhance nature across 3.4 million hectares of land and sea.

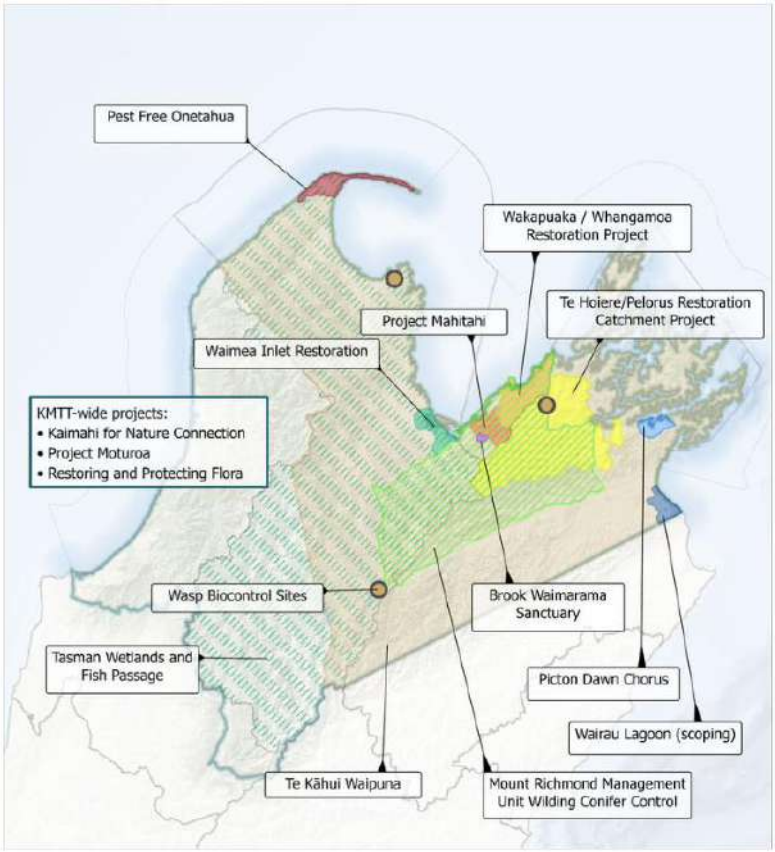

Figure 11 current projects of the Alliance

Aotearoa New Zealand's Māori people traditionally managed the lands they lived on and waters they fished through an indigenous cultural system of guardianship known as kaitiakitanga. Their management of, and relationship with, natural resources—fishing, cropping, hunting—were guided by te ao Māori, a holistic approach that recognizes the interconnections between people and nature. KMTT was founded on the principle that conservation can go faster alone but further together and adheres to the principles and values of the Māori worldview as a guide in this journey.

Manaakitanga - *To care for each other, to be respectful, and an act of reciprocity of natural resources to be shared with others.*

Kaitiakitanga - *Provision of active utilization, preservation, conservation, maintenance, and management of the environs (including flora, fauna, aquatic and marine).*

Matauranga Maori - *Acceptance and acknowledgement of Maori epistemologies within the construction of key concepts and projects.*
Kotahitanga - *Unity of purpose and collective agreement for achievement of outcomes and goals.*
Rangatiratanga - *The chiefly right to determine use and management of the natural environment.*
Mauri - *The principal life force of our environs is protected including their tapu and wairua.*
Arohatia - *Duty of care and responsibility to this Kaupapa, each other, and Iwi.*

2. Nelson Tasman Climate Forum

The Nelson Tasman Climate Forum is a citizen initiative with over 130 members engaged voluntarily on 11 projects involving community action for the restoration of biodiversity and climate mitigation since 2020.
Thread the celestial and terrestrial energies, bind the human kinship strands of the communities and the mana of people, so that the intentions support the continuance of our many environments here in Te Tauihu. A waka which is lashed together will not be broken by the waves.[7]
This is the purpose of the Forum after translation of its Charter into the Maori language and back into English. The Forum has nine active climate change groups with eleven new and ongoing projects in 2023.
The word "mana" is embedded in a socio-cultural context and requires the reader to enter that context to comprehend how it applies to issues of biodiversity and climate. In relation to people, mana gives a person the authority to lead, organise and regulate communal activities, to make decisions regarding social and political matters. A person's mana can increase from successful ventures or decrease through the lack of success. The mana of a leader spreads to their people and their land, water and resources. Almost every activity has a link with the maintenance and enhancement of mana. Animate and inanimate objects can also have mana as they also derive from the gods and because of their own association with people imbued with mana or because they are used in significant events. There is also an element of stewardship associated with the term when it is used in relation to resources, including land and water.[8]
The adoption and integration of aspects of indigenous culture such as this into the wider population affects the social incentives that lead citizens into voluntary pro-environmental actions. The Climate Forum elicits thousands of volunteer hours each year, directed to climate action and biodiversity conservation, for example, forest restoration, 'repair cafes', campaigning on behaviour change on consumption levels and citizen advocacy on relevant policy matters. The work is largely self-generated in volunteer working groups.

[7] https://www.nelsontasmanclimateforum.nz/wp-content/uploads/sites/353/2023/12/Charter-translation-2.pdf
https://www.nature.org/en-us/about-us/where-we-work/asia-pacific/new-zealand/stories-in-new-zealand/new-zealand-alliance/
[8] https://maoridictionary.co.nz/search?keywords=mana

Tasman Environmental Trust

The Trust has a proven track record of supporting enduring, large-scale restoration projects in the Tasman region. It has the systems, processes and relationships in place to achieve landscape-scale restoration and transformational conservation outcomes. To date the Trust has recorded success measures as:
Traps set 2,922
Plants planted 632,116
Volunteer Hours 34,996.[9]
Supporting small and newly established groups is equally important. These are often localised, grass-roots initiatives with a high level of community buy-in but without the experience and capacity to set up their own management arrangements. Through sharing expertise and resources, the Trust can make a real contribution to the long-term viability and success of these micro-projects.
One important marker of the Trust's success has been the significant increase in the geographic spread and investment in the region's community conservation projects. The value of the projects managed grew more than tenfold in just three years—from less than $300,000 in 2017 to over four million dollars in 2020 and has continued to grow since.
By acting as a connecting hub and brokering collaborations between stakeholders, TET supports positive change for native species over the long term.

Analysis

In this analysis we draw on a limited review of international literature, testamentary evidence from individuals embedded in the system, and a theoretical framework used by the authors in training facilitators.
The core question is "what incentivises individuals to group together and bring their personal and wider resources to bear in healing damage to nature".
In their paper *Field interventions for climate change mitigation behaviors: A second-order meta-analysis of 8,118 studies*[10] the authors ranked the incentives that led to pro-environmental behaviour by individuals.
They concluded that the most effective motivator was social comparison. By this they referred to modelling and social norms that highlight other peoples' pro-environmental behaviours or attitudes. This was found to increase pro-environmental behaviour across communities. Financial incentives were the second most powerful motivator. These authors included in financial incentives: financial rewards, reimbursement, and unit pricing programmes. This is relevant to the case studies under consideration as no financial incentives were offered to the volunteers involved.
Three other incentives reported by these authors were present in the case studies here under consideration:

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[9] https://www.tet.org.nz/about-the-trust/
[10] Field interventions for climate change mitigation behaviors: A second-order meta-analysis Magnus Bergquist magnus.bergquist@psy.gu.se, Maximilian Thiel, Matthew H. Goldberg https://orcid.org/0000-0003-1267-7839, and Sander van der Linden https://orcid.org/0000-0002-0269-1744 Edited by Elke Weber, Princeton University, Princeton, NJ; received August 30, 2022; accepted January 27, 2023 March 21, 2023 120 (13) e2214851120 https://doi.org/10.1073/pnas.2214851120

Third most powerful – appeals to act more responsibly by targeting their values.
Fourth most powerful – commitment interventions that motivate people to commit to sustainable actions.
Sixth most powerful – education to make people more aware of sustainable behaviours by increasing their knowledge.
The fifth most powerful - feedback to help people understand the effects of their past behaviours was generally lacking in these case studies but could perhaps be adopted as a tool in the future.
To look at how these play out in the context of New Zealand's South Island and the specific case studies we used a modified form of the five forces framework developed by Phoenix Facilitation Ltd in 2017 and used extensively by the principal author of this paper. This is a sociometric model that posits that leadership for change is effective when it works with the inter-relationships of the following five forces:
Aligned collective purpose
Cultural conserves
Structure
Capacity
Intrinsic motivators.
Aligned collective purpose is used strongly the Nelson Tasman Climate Forum as basis to stimulating collective action. Participation in the Forum is predicated on commitment to its Charter[11]. This includes a clear statement of purpose, a compelling call to action and inclusive goals of:
Mitigation
Adaptation
Justice.
Forum leadership embodies and reiterates this while building social connection and respect.
Cultural conserves are the cultural forms conserved over time that shape how people relate. Stimulating pro-environmental action for biodiversity restoration can come from reinforcing aligned conserves and working to eliminate conserves that lead to ongoing degradation. In the Kotahitanga mō te Taiao Alliance case study we can see how cultural diversity provides a broader set of conserves for social change agents to work with. The dominant colonial culture sees the natural world in dominion to the exploitation of society to meet its needs. Environmental degradation is accepted as an inevitable consequence of "development" with profits accruing to sectors of society as mediated by law and custom. The indigenous world view, Te Ao Maori, is epistemologically rooted in people existing as a part of nature, able to meet their needs while sustaining the environment to them and their relatives, the plants and animals. This is termed "kaitikitanga", a cultural conserve recognised in environmental law. In forming an 'alliance" the Kotahitanga mō te Taiao partners have inherently taken on working with the cultural conserves. The approach has drawn both social and financial support to its landscape level biodiversity restoration projects.

[11] https://www.nelsontasmanclimateforum.nz/wp-content/uploads/sites/353/2022/12/Climate-Forum-Charter-2021.pdf

Social structure is part of the environment within which biodiversity and climate action takes place. Change agents can develop new social structures within the greater whole to incentivise pro-environmental behaviour. Environmental advocates have successfully used the social structures of law and regulation to make damaging behaviour unacceptable or costly. In New Zealand this success is leading to a political backlash with the current government rolling back gains made over the last thirty years. Recognising the need for positive incentives a decade ago leaders in the region encouraged development of the pre-existing Tasman Environmental Trust. One of the barriers to local action is the weight of administration attached to creating local groups and accessing philanthropic funding for their infrastructure. The Trust has developed to lower that barrier by taking on the administrative load including financial management for a myriad of groups including the Climate Forum. The result has been a ten-fold increase in funding for such groups coming into the region in four years.

Capacity refers to how well pro-environmental interests are able achieve their goals through their own functioning and through relationships with others. Participation in biodiversity restoration and climate action is incentivised when people perceive the actions of the group to be effective. This makes it worth their time to participate. This means that the action both must produce the intended results and that the success becomes known to others. This has led groups included here to adopt new technologies such as geo-referenced data logging of the location of actions such as trapping of invasive pests and planting of indigenous vegetation. They have also engaged communications professionals to get the message out to build that most powerful of incentives – social norms and modelling. This has produced a virtuous cycle of growth both with citizens and philanthropic funders.

Considering the dynamic interactions of these factors it is useful to consider the difference between intrinsic and extrinsic motivation, and how these two drivers of behaviour interact. Intrinsic motivators that arise from internalised values and drives are powerful and distinct from extrinsic motivators such as financial incentives. Each person's actions whether intrinsically or extrinsically driven, or by a combination of the two, manifest in the dynamics of the wider social system, including pro-environmental or destructive behaviour.

Extrinsic motivation depends on external factors to drive behaviour – reward or punishment. Intrinsic motivation comes from within; the behaviour is performed for its own sake. Behaviours such as curiosity-driven exploration, seeking novel experiences, artistic creation, helping, sharing are intrinsically driven. Of the motivators cited in the study above, all are intrinsic except the second – financial reward. Many studies show that behaviours that are intrinsically driven e.g. artistic creation, tend to be suppressed by external rewards.[12] This has important implications for an exploration of motivators of pro-Nature behaviour. It suggests that while financial reward is the second most powerful motivator, it may tend to suppress all other motivators including the most powerful one – social influence.

[12] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9340849/ On what motivates us: a detailed review of intrinsic v. extrinsic motivation. Laurel S. Morris, corresponding author1 Mora M. Grehl,2 Sarah B. Rutter,1 Marishka Mehta,1 and Margaret L. Westwater3 Psychol. Med.2022 Jul;52(10):1801-1816.

Enduring behaviour change occurs when intrinsic motivators are engaged, as extrinsically driven change will wane when the drivers change. This is seen with commercial tree planting when the market value of climate credits rise or fall as has happened under the New Zealand Emissions Trading Scheme. Conversely, volunteer tree planting as seen in these case studies where over a million trees have been planted and is not subject to market fluctuations. A powerful example of the reinforcing loops is seen through the Trees That Count initiative[13] that has engaged intrinsic motivation for philanthropic donations to providing extrinsic motivation through subsidising seedling production and linking this to volunteer and landowner intrinsic motivation. This programme has been a great support to volunteer efforts within the study area.

Conclusions

Experience in the top of the South Island of New Zealand shows that within the context of a colonial society with a renaissance of indigenous culture large scale pro-environmental behaviour for biodiversity and the climate can be incentivised by non-financial social forces. A pattern of drivers is apparent in our case studies.

Social comparison works with pre-existing cultural conserves to support pro-environmental action or prevent it.

Cultural conserves differ between sectors of society and this diversity can be used, transmitted and even codified into pro-environmental laws that reinforce social incentives.

Financial incentives, such as carbon credits, may follow from changes in cultural mores to create further positive feedback loops but also may perversely suppress intrinsic pro-Nature motivation.

For change agents, appreciating social dynamics can lead to designing and implementing programmes that foster socially based incentives for pro-environmental action. In practice in our case study environment this has appeared as:

Catalyst group forms and defines good action

Pro-environmental behaviour demonstrated by influencers

Human need to feel included and accepted, reinforced by the need to behave in ways that are consistent with internally held values and knowledge, drives wider social change

Changing cultural conserves drive corporate incentives for social recognition

Social recognition creates social licence to operate

Myth busters reduce green washing.

We conclude with a quote from the indigenous people of this nation:

The purpose of kaitiakitanga is not only about protecting the life supporting capacity of resources, but of fulfilling spiritual and inherited responsibilities to the environment, of maintaining mana over those resources, and of ensuring the welfare of the people those resources support.

Acknowledgements

Dr Chris Wheatley of the Nelson Tasman Climate Forum, Debs Martin of The Nature Conservancy, and Sky Davies of the Tasman Environmental Trust for their reviews of the manuscript.
The Nelson Tasman Climate Forum for sponsoring this work.

[13] https://treesthatcount.co.nz/how-it-works

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (Spain)

Spain's Biodiversity Foundation and its Pleamar Programme

Organizers:

Case Studies in Spain

Spain's Biodiversity Foundation

FUNDACIÓN BIODIVERSIDAD

Summary

The ***Biodiversity Foundation***, part of the Ministry for Ecological Transition and Demographic Challenge, has as founding mission: "to preserve biodiversity and ecosystems and drive forward a change in the economic, social and cultural model".

In recent years, its work as a European fund manager has been consolidated, allocating around 830 million euros to the financing of more than 3,000 projects through calls for grants. With this same aim in mind, it has promoted and worked on major conservation projects that have made it possible to protect emblematic and to drive forward the Natura 2000 marine network in Spain.

The ***Pleamar Programme*** was created in 2017 to integrate fisheries' management policies with those for the protection of the marine environment and to promote the sustainability of Spanish fisheries and aquaculture in the context of the blue economy. This programme, co-funded by the European Maritime, Fisheries and Aquaculture Fund, EMFAF, co-finances projects aimed at protecting marine biodiversity, reducing and managing waste, improving the knowledge and management of marine protected areas, such as those belonging to the Natura 2000 network, reducing bycatches and making the most of discards, and strengthening partnerships between the scientific community and the fisheries and aquaculture sector.

Case Study

About Biodiversity Foundation

The Biodiversity Foundation is a public sector foundation (F.S.P.), created in 1998, and forming part of the Ministry for Ecological Transition and Demographic Challenge. Its mission is to preserve biodiversity and ecosystems and to promote a change in the economic, social and cultural model. Its lines of action seek to generate a positive impact on biodiversity and to enable a change in our lifestyles to ensure that future generations can live in harmony with nature.

One of the main aims of the Foundation's work is the effective management of public funds, a task we have been working on since 2001 and which, since 2021, and thanks to the Next Generation programme and the implementation of the Spanish Government's Recovery, Transformation and Resilience Plan (PRTR)2 , has significantly increased our impact and

funding capacity.

In this context, the Biodiversity Foundation faces a new and ambitious challenge: to build on the achievements of more than 25 years of history and move forward with the implementation and management of more ambitious, transformative projects which can be replicated in other contexts, and which make a genuine contribution to an ecological, fair and egalitarian transition. This new context is the backdrop for the calls for grants, within the framework of the PRTR and the European Structural and Investment Funds, to fund projects that improve biodiversity, combat climate change, develop green jobs, boost the bioeconomy and boost science and research-based knowledge. But also, projects that promote the renaturalisation of urban spaces to improve the well-being of the people who live there and their resilience to the challenges of climate change.

One of the strengths of the Biodiversity Foundation are its partners, the entities it works alongside, and which include a diversity of sectors: Conservation NGOs, the academic sector, the private sector, science, the rural world, local and research organizations, entrepreneurs... all of them are key players in promoting a real change in model.

Through its work over the last 25 years, the Foundation has contributed to protecting and restoring part of our marine and land surface and to improving the conservation status of nearly 200 species, including the Iberian lynx, the brown teal, the loggerhead turtle and the posidonia. To this end, it has co-financed more than 3,000 projects and worked with more than 2,000 entities, allocating more than 830 million euros through calls for grants and channeling more than 110 million euros of European funds to project financing.

Pleamar Programme

To ensure the environmental and socio-economic sustainability of fisheries and aquaculture in Europe, the Common Fisheries Policy (CFP) was introduced in the 1970s. And for the implementation of the CFP in European Union territory, a structural fund - the Financial Instrument for Fisheries Guidance (FIFG) - was set up in 1993, which remained in force until 2006. It was subsequently renamed the European Fisheries Fund (EFF) until 2013. During this period, 28 projects were managed for an amount of €3,319,177.

For the period 2014-2021, this instrument was renamed the European Maritime and Fisheries Fund (EMFF). Once the EMFF Operational Programme (OP) was approved, the Biodiversity Foundation was designated as the Intermediate Management Body, with the aim of supporting the fisheries and aquaculture sector in its growing commitment to more sustainable activities devoted to the protection and conservation of biodiversity and natural heritage.

To this end, the Biodiversity Foundation, in collaboration with public and private organizations and entities that share these objectives, launched the **Pleamar Programme**. It brings together the fisheries management policies of the Ministry of Agriculture, Fisheries and Food and the biodiversity conservation policies of the Ministry for Ecological Transition and Demographic Challenge.

It sets out to:

- Promote the improvement of fishing and aquaculture activities on the Natura 2000 Network and other marine protected areas and to boost the management, recovery and monitoring of these areas.
- Promote aquaculture with a high level of environmental protection and resource efficiency.
- Support the fisheries sector's mitigation and adaptation to climate change.
- Reduce the impact of fisheries and aquaculture on the marine environment.
- Strengthen the positive interactions of fisheries and aquaculture with the environment.
- Optimize the marketing of fishery and aquaculture products and support the diversification of activities.

Since its creation, the Pleamar Programme has been coordinated through 5 calls for grants for a total amount of 30 million euros. A total of 416 proposals were received, resulting in 135 projects finally approved and implemented, which have served to strengthen cooperation in the implementation of the triple helix projects in the maritime domain, represented through the scientific, sectoral and conservation components.

These projects were developed by 70 public and private entities with more than 2,300 workers involved in their implementation. More than 10,300 people in the sector have been trained through them, but the most outstanding aspect is the scope of the actions carried out, as the beneficiaries have exceeded 13 million people.

In the current period 2021-2027 FB has taken over the management of the European Maritime Fund for Fisheries and Aquaculture (EMFAF) for an amount of EUR 29 million. It will be divided into two calls for proposals and is expected to fund around 90 projects.

The Pleamar Programme in action: Selected examples

FUNDACIÓN BIODIVERSIDAD

Cofinanciado por la Unión Europea
MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN
Fondos Europeos
Pleamar

Summary

Since its launch, the Pleamar Programme has supported a total of 135 projects through 207 operations, with a total budget of almost 24 million euros, to which the EMFF has contributed just over 16 million euros, making a very significant contribution to strengthening the participation of the fisheries sector in the implementation of the Birds, Habitats and Marine Strategies Directives and in improving the management of fishing activities in Natura 2000 Network sites.

This case study highlights **7 projects** regarded as exemplary, due to the involvement of actors, the innovation contributed, the excellent technical and economic implementation and the impact in terms of communication. By way of example, some of the projects implemented in the Pleamar programme during the EMFF period (2014-2021) that have been called exemplary due to the good results obtained have been attached:

Case Study

1. RESCAP PROJECT. Conservation and recovery of gorgonian and soft coral populations through ecological restoration and the mitigation of fishing impacts

The overall aim of this project was to implement and assess the feasibility of ecological restoration actions and the mitigation of the impacts of artisanal fisheries on benthic communities dominated by gorgonian and soft corals. Other aims include:

- Monitoring active restoration of gorgonians and corals using underwater robotics
- Transfer of knowledge to other fishermen's associations on the importance of gorgonian and soft coral restoration.
- Involvement of society in the restoration of gorgonians in marine protected areas and dissemination of the project.

Results:

- The RESCAP V project is the fifth and final stage of the RESCAP project, financed in the calls of the Pleamar Programme 2017, 2018, 2019, 2020 and 2021 of the Biodiversity Foundation, co-funded by the European Maritime and Fisheries Fund (EMFF). The RESCAP V project highlights the close collaboration between scientists and fishermen, whereby they have managed to develop an innovative method for the restoration of

gorgonians and soft corals, having managed to restore 1120 colonies in their natural environment this season, reaching more than 4,000 gorgonians restored in 5 years.

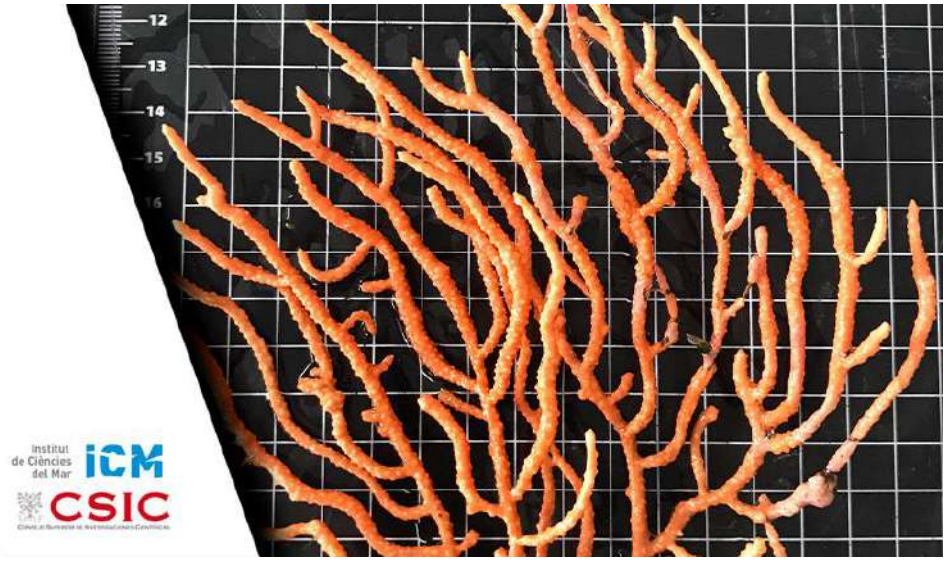
- The results were successful, with more than 80 % of the gorgonian colonies surviving for a whole year after being transplanted and returned to the seabed. This has been demonstrated by the use of state-of-the-art underwater robotics which monitor the restored population to ensure that it is in a perfect state of conservation.
- The fifth call included, for the first time, a knowledge transfer action in the fishermen's guild of Formentera, a pilot test in which more than 100 gorgonians were restored thanks to the collaboration of only two fishermen of the 14 fishermen belonging to the guild. Furthermore, the presence of the project in the media, once again this year, lent the study great visibility thanks to the appearance of both researchers and fishermen in 16 television and radio programmes.

Gender equality

- Promote fair remuneration, avoiding precariousness, the pay gap and gender-based job classification.

Sustainable development

- Promotes sustainable fishing



2. LANDERPICK PROJECT: Development of a remote launching and collection system for underwater multi-parametric observatories.

The implementation of this final stage aimed to move forward with the prototype with a second improved version, as well as to finalise the work in the El Cachucho SAC commenced in LP2, as well as to expand the sampling system to other deep areas of the Intemares project.

Finally, a plan for monitoring environmental conditions in other deep national areas of the Natura 2000/Intemares Network was developed, based on landers fleets, involving research and management staff from different regions and disciplines.

At the final stage of the project, the dissemination work was reinforced, including the publication of a demo video and participation in an international MarTech congress.

Results:

- Driving forward the prototype vehicle, with a second, improved version.
- Completion of the work on the El Cachucho SAC commenced in LanderPick-2.
- Expansion of the sampling system to other deep Intemares areas.

Gender equality

- It promotes fair remuneration, avoiding precariousness, the pay gap and gender-based job classification.

Sustainable development

- Promotes sustainable fisheries

3. REMAR PROJECT: Environmental stewardship for the reduction of waste in the protected marine area of the Galician Atlantic Arc.

The REMAR project sought to reduce marine waste throughout the Galician Atlantic Arc, through the implementation of various actions such as waste collection days at sea and on land, raising awareness and information campaigns on the damage caused to the Natura 2000 Network, training for professionals in the fishing sector, supervision of waste management practices on board small fishing and recreational vessels, inter alia. In a cross-cutting way, it had the commitment to make visible and empower people with intellectual disabilities as drivers of change in environmental and social challenges, and to contribute to gender equality.

Results:

- 10 ports and more than 100 vessels were audited for waste management.
- Awarding of more than 90 “Buque azul" guarantee seals, a badge created by AMICOS in the RE-MAR I project to identify those vessels that stand out for their good practices in the management of the waste generated.
- Drawing up of a report with proposals for improvement in the management of waste from ships.
- Training 107 people, 79 of them belonging to vulnerable groups, in topics related with the current needs of the fishing sector and the opportunities afforded by the blue economy.
- Development of 40 marine waste collection actions, one tonne in total, with the participation of more than 1,500 people: young people, workers and users of recreational companies, linked to marine environments and fishermen's guilds/shellfish collector associations.
- Dissemination of an awareness campaign in different schools, ports and beaches in the area of influence of the Galician Atlantic Arc. In total, almost 60 awareness-raising days in which more than 4,000 people participated.
- Generation of audiovisual material to complement the task of disseminating information to reduce the amount of marine waste.

Equality

- This involves improving accessibility for people with disabilities.
- Promotes the integration of socially excluded groups.


RE-MAR
Chicle
Globo
Lata
Botella
Zapatillas
RE-MAR
REMAR III
Custodia ambiental para
a redución de residuos
no espazo mariño protexido
do Arco Atlántico Galego

AMICOS .org

4. REDUCE PROJECT: Towards a responsible fishing gear management system.

The aim of the project was to develop an initial diagnosis of the main materials that make up the fishing gear (nets and components) most representative of the Spanish fleet. To this end, visits were made to ports, in addition to an analysis and development of a map of the main actors involved in the manufacture, marketing and use of fishing gear, which will allow us to establish in a participatory manner a roadmap to follow in order to apply the SUP Directive in the Spanish context, establishing a proposal for a management system.

What's more, the project carried out an analysis of the life cycle and degradation of the main fishing gear components**.**

Results:

- It was determined that nylon fishing gear would, a priori, be more easily thermo-mechanically recyclable than high-density polyethylene (HDPE) fishing gear, with the chemical process being the most suitable for the latter.
- A roadmap proposal was also drawn up to establish the procedure to be followed for the effective implementation of a management protocol.

Sustainable development

- Promotes sustainable fishing of discarded fishing gear and nets in Spanish ports

5. REDMAR PROJECT: Platform for the employment of women on board in the REDMAR Network environment.

This project sought to encourage and promote equal access to employment opportunities for women on board fishing vessels.

Its aims are: to strengthen the REDMAR Network for the exchange of good practices on equality, safety and the environment, to introduce the gender perspective at Maritime-Fisheries Training Centres and to create a platform to promote equal access to employment opportunities for women graduates.

Results:

- The REDMAR Network added twelve new entities. Several workshops were held on equality (education and business sector linked to the sea), safety (prevention of occupational hazards) and the environment (marine waste).
- In order to integrate the gender perspective at educational centres, several workshops were held.
- A web platform was also created to promote employment opportunities for female graduates, with the publication of job offers.

Equal opportunities and non-discrimination:

- All actions incorporate the gender perspective, which is the basic principle underlying the project.

Sustainable development:

- Promoting greater sustainability of fishing activity through the analysis of specific problems (labour risks or waste management etc.).

6. BAJUREC PROJECT: Prevention of waste generation and its inappropriate disposal in the marine environment, focusing on inshore and recreational fishing vessels.

The project carried out actions aimed at gathering objective information on the situation of waste deposit infrastructures at the fishing ports of the Canary Islands, the Balearic Islands and Ceuta, acting in marine protected areas. The project covered the collection of data at 45 fishing ports (33 autonomous and 12 state ports) in the aforementioned areas. The results collected at each port were included on the database already created in BAJUREC III, which has interactive content and is based on a geographic information system, allowing the current situation of waste disposal infrastructures at Spanish fishing ports to be known.

Results:

- Comprehensive information has been obtained on the state of the waste disposal infrastructures.
- Each port or group of ports (with the same state or autonomous community management) has been analysed to detect failures and propose solutions. This has involved visits to 325 fishing ports.
- Statistical studies have been carried out and subsequently sent to the competent authorities.
- A GIS map has been produced from the information obtained.

Sustainable development

- Promotes sustainable fisheries

7. ACUFLOT PROJECT: Interactions between offshore aquaculture and floating wind energy: challenges and opportunities towards the "ecological transition" of the Spanish maritime space.

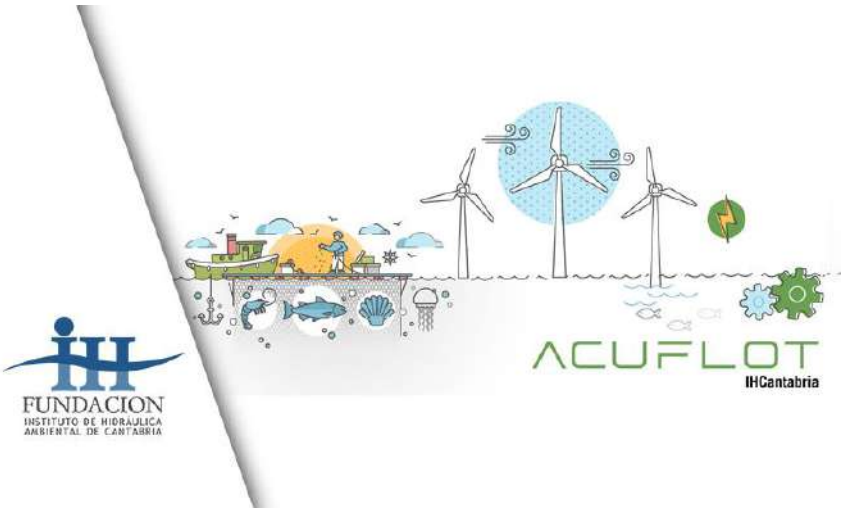
The project aimed to provide managers and the aquaculture sector with knowledge and tools for the future development of the Maritime Spatial Management Plans, POEM (Decree 363/2017). To this end, the opportunities afforded by Spanish waters for the combined use and development of aquaculture and floating wind energy joint ventures in the five Spanish marine demarcations were assessed.

Results:

- The results show that at a national level, the areas offering the best opportunities for multi-use between aquaculture and wind production are located in the Mediterranean region.
- In the Cantabrian and Atlantic region, suitable locations are specific areas in the provinces of Asturias, Cantabria and the Basque Country.
- The local study carried out in Gran Canaria showed that the south of the island has optimal conditions for combining wind energy production with the cultivation of crops.

Equal opportunities and non-discrimination

- Parity is encouraged. 50% of the project staff are women.
- Sustainable development
- Promotion of innovative projects that improve the sustainability of aquaculture facilities. As well as seeking opportunities for the use of maritime space with other sectors to identify opportunities for development.



POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (USA)

CONNECTING NATURE-POSITIVE ACTION WITH CORPORATE VISION for 35+ Years

WHC
WILDLIFE HABITAT COUNCIL

Organizers:

WHC

Case Study in the U.S.

Connecting Nature-Positive Action with Corporate Vision For 35+ Years

Wildlife Habitat Council

Summary

For more than 35 years, Wildlife Habitat Council (WHC) has recognized, inspired, engaged and supported businesses to achieve wins for nature. It specializes in working alongside industry to identify voluntary land management and other business-related practices that progress "beyond compliance" while harmonizing operational needs with biodiversity uplift. While businesses begin to understand the shared benefits from managing their landholdings in concert with environmental and societal demands and increasingly seek opportunities to partner with others, WHC collaborates with businesses to ensure nature is considered in corporate, operational and site-level decision making.

WHC's signature program, Conservation Certification®, offers companies recognition for site-level efforts that seek to improve habitat availability for native species and educate various stakeholders about locally relevant nature topics. In 2024, over 100 companies are recognized through WHC Certification for their participation in site-based biodiversity programs at more than 600 sites across nearly 20 countries.

Case Study

Introduction

Governments across the globe are endeavoring to implement regulations that align with 2030 and 2050 targets in The Kunming-Montreal Global Biodiversity Framework (GBF). Civil society groups, such as the Wildlife Habitat Council (WHC), have developed and implemented innovative strategies to support businesses in aligning with the 2030 and 2050 targets that go beyond regulatory approaches available to government entities.

For more than 35 years, WHC has recognized, inspired, engaged and supported businesses to achieve wins for nature. It specializes in working alongside industry to identify voluntary land management and other business-related practices that progress "beyond compliance" while harmonizing operational needs with biodiversity uplift. Currently, WHC's corporate membership of over 100 companies on the Fortune Global 500.

WHC collaborates with companies to ensure nature is considered in corporate, operational and site-level decision making. One way in which WHC accomplishes this is by guiding companies to create employee-led volunteer teams focused on establishing (and maintaining) site-based, locally relevant biodiversity uplift projects. WHC conservation and biodiversity experts provide project recommendations, strategies and tactics, and assist in identifying and connecting with local stakeholders to support implementation and monitoring to ensure actions will have the greatest ecological and social impacts.

The Business Case for Conservation

From its decades working alongside industry, WHC has identified numerous benefits for companies engaging in a programmatic approach to site-based corporate biodiversity action (as shown in the following *C-Suite 16* graphic). The benefits can and have been deployed as positive incentives for meaningful corporate action on biodiversity.

WHC has determined that the incentives lie within three primary categories: benefits to the operations, support of good corporate citizenship and facilitation of business management targets.

Within each of these broader categories there are a series of more specific incentives, or business drivers, that businesses have realized are achievable through nature action. These benefits range from increasing climate change resiliency to attracting top talent in a competitive market, and supporting the permitting process through demonstration of good land stewardship to aiding in employee retention.

Community Engagement / Investment in Education: Cemex

Cemex, a Mexico-based global building materials, has successfully elevated its profile in the local community by engaging nearby schools in biodiversity-centered education.

The employee team at the Center Hill Mine has developed a long-standing, integrated partnership with the local school systems around Sumter County, Florida, where the mine is located. Comprised of a 996-acre active rock quarry, Center Hill Mine includes 229 acres of actively managed habitats including lakes, wetlands and forest.

Since 2006, the team has hosted local elementary school groups, beginning the curriculum with a mine tour to provide a context of where they are in relation to factors such as habitat, geology and site operations. Students participate in activities that correlate to the state and national academic standards and allow students to engage with the site's wetland habitat and its resident species, which include great blue herons, sandhill cranes, osprey, American coots, wood ducks, cormorants, anhingas and frogs.

The program includes fourth graders visiting the site over a three-week period in the fall, with students participating in activities focused on recycling, runoff and erosion, water conservation and the food chain. To ensure that educational goals are met, Cemex coordinates with teachers to evaluate the learning impact of the activities, conducting pre-tests on-site and post-tests in the classroom.

Several years ago, the Cemex team expanded its educational opportunities to high school students by developing a year-long curriculum focused on teaching students about the mine permitting process from start to finish, and ways environmental stewardship might be integrated into intensive activities such as mining. Through this program, students attend field trips and on-site trainings throughout the year, culminating in the students presenting their mine permitting plan at mock community and permitting meetings with the Board of County Commissioners, who are represented by teachers and at an actual commissioner.

Additional opportunities for students exist outside of these programs, including the site's annual Earth Day event, started over a decade ago, and includes over 35 educational booths focused on habitat and the environment, which are led by universities, community partners and government agencies.

Through these and other projects and partnerships, the Cemex Center Hill Mine has established itself as a meaningful member of the community, producing educational opportunities reaching hundreds of local students.

Employee Engagement / Nature-Based Solutions: Toyota

Toyota Motor North America leverages the power of nature-based solutions in support of its public commitment to biodiversity and its long-term employee engagement goals. Toyota creates opportunities for employees and community members to engage in learning, especially in science, technology, engineering, and math related topics.

At Toyota's Production Engineering and Manufacturing Center (PEMC) in Georgetown, Kentucky U.S.A. an opportunity to combine nature-based solutions and employee engagement has created a successful and enriching conservation program.

Utilizing the practice of Morizukuri, a Japanese concept of forest creation by planting groups of trees and grasses, Toyota and its employee volunteer teams developed a 22,600-square-foot microforest at the PEMC site in 2020. The land, which was previously dominated with non-native grasses, was first planted with 24 species of trees native to the Bluegrass region of Kentucky, including sycamore, tulip poplar and black walnut.

The following year, employees added four more native tree species with the Miyawaki method, developed by Dr. Akira Miyawaki, a Japanese botanist who worked with Toyota for years to develop forests on the company's property. The Miyawaki microforestry method relies on amending the soil and using native species to accelerate forest maturation, focusing efforts on species that naturally occur later in the vegetation succession.[1] The Morizukuri microforest is also part of its 1.8-mile Toyota Kentucky Biodiversity Trail, thus extending the educational and recreational benefits of this project to the general public.

The program provided more than 70 employees with the unique opportunity to learn about microforestry concepts and processes, engage with nature through tree plantings, collaborate with fellow employees, and create new environmental stewards.

1. Chelsea Green Publishing. 2023. Imagining a mini-forest's potential: The Miyawaki method. https://www.chelseagreen.com/2023/the-miyawaki-method/

The morizukuri microforest planting at PEMC allowed for employee participation as well as collaboration with local experts and NGOs.

Land Management for Social License to Operate: Ontario Power Generation

Meaningful community engagement that goes beyond transactional interactions or conventional corporate philanthropy can enhance a company's ability to establish, maintain or restore social license to operate (SLO). Obtaining SLO involves building trust with community members and leaders through environmental and socially responsible actions that are informed by local needs, and then communicated to community members. In a recent WHC survey, 30 percent of its members indicated they engaged in site-based conservation action to support securing SLO.

Ontario Power Generation (OPG) implemented a land management program that extends beyond their fence line in Wesleyville, Ontario, Canada in support of local conservation efforts and community needs. OPG engaged with community stakeholders and partners to build environmental resilience and strengthen its relationship with neighboring landowners.

The OPG Wesleyville facility encompasses 1,200 acres of agricultural and pasture lands, as well as forested areas and provincially significant wetlands. Wesleyville Creek, one of the highest quality coldwater streams in the region, flows across the property, draining into Lake Ontario.

Starting in 1998, in response to an environmental survey that identified reforestation and stream restoration as top opportunities for on-site biodiversity, employees planted oaks, maple and other native trees, resulting in over 40,000 seedlings planted on the property to date. Additionally, Wesleyville employees began work on a multi-phase stream restoration project, the first step of which entailed clearing out excessive sediment and removing beaver dams that were confining the creek's brook trout population to areas with limited food and few places to spawn.

Over time, OPG employees, in partnership with contractors and local conservation authorities, removed in-stream culverts for greater trout mobility, planted willows to provide shade and moderate the creek's temperature and, with the help of Fisheries and Oceans Canada, installed a barrier that prevents invasive sea lampreys from entering the creek. Monitoring data collected by the local Ganaraska Region Conservation Authority (GRCA) indicates that brook trout spawning activity is increasing, sea lampreys are being effectively controlled and the creek's water quality has remained high.

Beyond these initial projects, OPG has continued to grow its conservation efforts through the installation of more than 50 artificial nesting structures for birds like ospreys, tree swallows and bluebirds.

To engage community members and build further SLO, OPG has driven conservation action on neighboring properties, which also contain portions of Wesleyville Creek. In 2017, OPG and adjacent landowners partnered in a cost- and data-sharing program that has resulted in uniform creek management practices across the sites, and installation of 20 nest boxes on neighboring lands.

In addition to sharing monitoring data with its neighbors, OPG and its partners make contributions to local research. Every year, grasses and other material from bluebird and tree swallow nests are provided to the Royal Ontario Museum in support of research on cavity-nesting birds, and monitoring data on these species is sent to the Ontario Eastern Bluebird Society, who integrates the information into its spring newsletter. Data collected in the wetlands is used by Environment and Climate Change Canada as baseline information in studies on biodiversity and climate change's impact on wetlands.

The result has been increased SLO for not only the OPG facility but the company as a whole. They maintain and nurture this good will through ongoing community outreach and engagement strategies informed by new data and shifts in community needs.

Validating Corporate Action for Nature – WHC Conservation Certification®

Companies must be able to verify the validity of voluntary corporate biodiversity action for reporting and other purposes. WHC's standard for verification of on-site conservation efforts requires that projects must meet the following criteria:

- Be locally appropriate
- Exceed applicable regulatory requirements
- Identify a valid conservation objective
- Provide conservation value
- Have measured and documented outcomes

WHC measures the validity of these qualifications through its WHC Conservation Certification® program. Established in 1989, WHC Certification continues to be the

world's only voluntary sustainability standard designed for broad-based biodiversity enhancement and conservation education activities on corporate landholdings.
WHC Certification benefits to businesses include:

- A single platform capable of recognizing the company's site-specific efforts to manage and restore native habitats, whether terrestrial or aquatic, and support the plant and animal species indigenous to those areas
- Recognition of education efforts aimed at both formal and informal learning audiences, whether to raise awareness or to provide specific conservation training to support future biodiversity efforts.
- Aggregated metrics for reporting and disclosure, and to measure progress for continual improvement.
- Third-party credibility with an objective evaluation.
- Demonstrates a long-term commitment to managing quality habitat for wildlife, conservation education and community outreach initiatives.

WHC Conservation Certification programs can be found in 47 U.S. states and 17 countries, with 605 programs by 105 companies. Each program is led by an employee team that manages habitats, species and education projects that support the health of local ecosystems and benefit native species. To learn more about these efforts, browse WHC Member Spotlights.

As the pace of change at the nexus of biodiversity and business continues rapidly, including the emergence of new environmental, social and governance (or ESG) tools,

WHC is taking steps to ensure the Certification standard remains a hallmark for quality habitat for wildlife, conservation education and community outreach initiatives.
To shape the future of WHC Certification, the organization has convened a new WHC Executive Advisory Committee who will guide the decision-making process of the standard, reinforcing its prominence internationally, and further establishing its reputation of outstanding quality.

Importance of Collaboration

As proven through WHC's 35+ years of working with businesses, collaboration is the cornerstone of any successful, sustainable corporate biodiversity action. Connecting business with key partners, whether they be consultants, government agencies, NGO's or community stakeholders, helps inform the process and elevates the outcomes of nature-positive activities. Businesses increasingly understand the shared benefits from managing their landholdings in concert with environmental and societal demands and seek information and opportunities to partner with others.
As the only international NGO focused exclusively on enabling private sector action for nature, WHC is uniquely qualified to assist businesses in finding collaborators who can advance their goals. Whether through direct engagement with WHC expert consultants or via its annual gathering corporate professionals working at the intersection of business and nature, WHC offers opportunities to share and learn innovations to advance biodiversity for both people and nature.

Conclusion

With the GBF seeking a whole-of-society approach to deliver on the goals for biodiversity for 2030 and beyond, it is clear that the private sector has a key role to play. For this sector of society, positive incentives to action come in many forms, from securing social license to operate, to reducing climate risk, and increasing employee engagement. All these efforts indirectly contribute to a business' bottom line, thus increasing internal investments, placing them beyond philanthropy, and increasing resiliency to cyclical reductions in budgets. Providing a verification through the WHC Certification scheme provides businesses with a mechanism to leverage local conservation action into corporate-wide reporting frameworks. Finally, requiring renewal on a 2- to 3-year timeframe ensures continued effort, adaptive management and greater biodiversity outcomes.
According to the Biodiversity Credit Alliance, a biodiversity credit is a "certificate that represents a measured and evidence-based unit or positive biodiversity outcome that is durable and additional to what would have otherwise occurred." Using this definition, we can see that certified conservation actions on corporate lands can be labelled as biodiversity credits and in the case of the WHC Certification program, credits that are not traded but measured as a positive incentive across a spectrum of business concerns.

POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan "The Power of Voluntary Action"

Case Study (ASEAN) Experiences from the ASEAN Region

Case study I: Simmalakham Sawdust Charcoal Briquette Personal Manufacturing plants in Lao, Markets in Japan, Vietnam, and Korea

Case study II: Metro Pacific Investments Corporation (MPIC) Philippines

Case study III. OceanPixel Singapore, Philippines, Indonesia, Malaysia, Myanmar, Brunei, Vietnam

Case study IV: Oceantera Singapore and Philippines

Organizers:

Case Studies in the ASEAN REGION

EXECUTIVE SUMMARY

The call for biodiversity conservation has been acknowledged by various sectors including governments, civil societies, and businesses. This gained heightened global attention in December 2022, when 196 parties to the Convention to the Biological Diversity adopted the Kunming-Montreal Global Biodiversity Framework (KM GBF), committing to halt and reverse nature loss by 2030 and achieve its four goals by 2050. This KM GBF calls for a whole-of-society unified action reflecting the urgency and scale of action required to address the biodiversity crisis. Stakeholders acknowledged that "business as usual" is no longer viable. In their individual capacities, actors apart from the government, such as non-state organisations and businesses, have taken corrective steps to ensure that their intentions and actions are aligned with the interest of conserving the environment.

The Report highlights biodiversity loss as a consequence of human activities, economic interests, and inadequate policies, all of which have contributed to a systemic failure impacting biodiversity. It emphasises the urgent need for environmental sustainability, focusing on the ASEAN experience and its conservation efforts.

State and non-state actors are employing various positive incentives to encourage biodiversity-friendly behaviour. Positive incentives are similar to 'carrot on sticks,' and is a type of strategy to ensure a certain desired behaviour. Positive incentives can be done by governments through tax credits, grants, and preferential treatment on specific regulations, while markets promote green financing and Environment, Social and Governance (ESG). Non-government organisations may recognise and give rewards to other organisations, form partnerships, collaborations, and support systems. Internally, organisations can benefit from long-term cost saving, improved employment engagement, and enhanced brand reputation.

Businesses are implementing biodiversity strategies including restoration, compensation, and conservation. Four ASEAN based organisations exemplify these efforts: Simmalakham Sawdust Charcoal Briquette Personal in Laos PDR, which produces charcoal from wood wastes; Metro Pacific Investment Corporation (MPIC) in the Philippines, which engages in ESG initiatives such as mangrove preservation and renewable energy projects; and OceanPixel and Oceantera, both active across the region, focus on renewable energy solutions and their commercialization, respectively.

These companies shared their experiences and the societal impacts of positive incentives, serving as inspiration and benchmarks for others who are in the same journey to be in harmony with nature. The report concludes by evaluating how to foster more biodiversity-friendly practices in Southeast Asia, revealing opportunities and incentives for businesses to adopt sustainable models to the region and beyond.

INTRODUCTION

This paper presents the experiences of four private sector organisations, operating within one or more in the ASEAN Member States (AMS) that have implemented positive incentives for biodiversity conservation. The case studies illustrate how private enterprises, with the right mix of policy support and market driven incentives, can contribute to biodiversity conservation while maintaining economic growth.

The first part of the Full Report discusses biodiversity loss as a consequence of human activities, economic pressure, and ineffective policies, causing a systemic failure. The report outlined the need to preserve the earth's natural resources and mitigate the impacts of environmental degradation.

In developing this case study, the ASEAN Centre for Biodiversity (ACB) reached out to its ASEAN member states (AMS) government focal points as well as private sector groups and networks, including the ASEAN Business Advisory Council (ASEAN BAC) to identify and screen potential groups that could be included in the case studies. Aside from the said outreach, the ACB, with support of the *Institutional Strengthening of the Biodiversity Sector in the ASEAN (ISB) II*, conducted literature reviews and key informant online interviews to analyse and form a comprehensive overview of the role of positive incentives in the ASEAN business landscape[14].

This case study report, along with the Full Report, represents ACB's contributions to the Global Partnership for Business and Biodiversity (GPBB) *Positive Incentives Collaborative Project (PICP)*. The PICP aims to generate a global compendium of best practices to inform and motivate the GPBB community and the general public, while also raising awareness of the critical role of incentives in addressing the pressing challenges of climate change, pollution, and biodiversity loss. The Project aims to contribute to implementing the UN CBD Global Biodiversity Framework (GBF) and help achieve the GBF targets.

The PICP is spearheaded by the Biodiversity Partnership Mesoamerica (BPM), together with ALIARSE, the Secretariat of the UN Convention of Biological Diversity (CBD), and other organisations, including the ASEAN Centre for Biodiversity (ACB).

Context of Kunming-Montreal Global Biodiversity Framework Target 18

The KM GBF Target 18 emphasises the importance of positive incentive for biodiversity conservation. It states:

"Identify by 2025, and eliminate, phase out or reform incentives, including subsidies harmful for biodiversity, in a just and equitable way, reducing them by at least 500 billion USD per year,

[14] The ISB Project was funded by the Federal German Government, implemented in partnership with ACB and the *Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH* (GIZ),

starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity."
The target mandates two (2) main actions:

a. **Elimination of Harmful incentives** – By 2025, it calls for the identification, elimination, phase-out or reform of incentives that are detrimental to biodiversity. This involves reducing harmful subsidies by at least USD 500 billion per year, with a focus on addressing the most damaging ones first;

b. **Scaling Up Positive incentives** – stresses the need to scale up positive incentives that promote the conservation and sustainable use of biodiversity. It can include financial mechanisms, policies, market practices designed to reward sustainable practices and biodiversity-friendly actions.

The implementation of these two components forms the foundation for biodiversity policy shifts across sectors, particularly business, which plays a role in this transformation. Positive incentives are crucial for catalysing shifts toward sustainability in business models, offering both regulatory and market driven motivations for biodiversity conservation.

Using the framework of analysis suggested by the CBD Technical Paper No. 56, after these positive incentives were identified, they were further examined for their impacts on biodiversity conservation in general and their possibilities at being replicated. Given that Target 18 of the KMGBF looks at how they can be scaled up, then chances of them being replicated are further reviewed with the aim of making them more widespread and more the norm of the industry where the business is operating, the hallmarks of an incentive being scaled up.

Case Study I: Simmalakham Sawdust Charcoal Briquette Personal

Location and Business Footprint

Simmalakham Sawdust Charcoal Briquette Personal, a Lao-based company, operates a manufacturing plant in Brikhmaxay Province, Lao PDR (photos below). It distributes charcoal to markets in Japan, Vietnam, and Korea, contributing to both local economic growth and the global supply chain.

Figure 1. Manufacturing plant of Simmalakham Sawdust Charcoal Briquette Personal in Brikhamxay Province, Lao PDR.

Organisational Background

Simmalakham Sawdust Charcoal Briquette Personal was formally established in 2017 by Mr. Khamfanh Simmala. It was born from Mr. Simmala's innovative idea to transform the abundant and highly disregarded wood wastes and sawdust into something valuable. The charcoal made from furniture wood scraps and wastes, shown in the photos, are produced with various grades of charcoal (A, B, and C). The higher grades are exported to Japan, and lower grades to Viet Nam and Korea. Overall, sawdust charcoal provides an environmentally responsible and sustainable means of boosting agricultural resilience and productivity, which in turn help improve food security.

Impacts on Biodiversity and Long-term Sustainability

Since 2017, Simmalakham Sawdust Charcoal Briquette Personal manufactures sawdust charcoal, sawdust, and biomass pellets. The company has been actively contributing to the net-zero emission by 2050 and the KM GBF by converting waste to highly efficient energy with low carbon emissions. The company is also currently exploring the establishment of a large-scale plantation of *Acacia auriculiformis* Benth (locally known as the *Ka Thin Na Long* Tree). This plantation is envisioned to serve as the source of the company's raw materials and, at the same time, the company's contribution to reforestation in Bolikhamxay, the central province, among other neighbouring provinces of Lao PDR.

Charcoal-making, by illegal poaching of timber resources from natural forests, is also a serious threat to the forests of Bolikhamxay. By producing charcoal from wood wastes and saw dust with lower production costs, Simmalakham contributes, albeit very partially yet, to addressing one of the drivers of deforestation in the area.

Further, as the raw materials used by Simmalakham are sourced from wood wastes left in the forest can act as kindling, increasing the risk of accidental fires during the dry season. By collecting and using this waste, Simmalakham reduces this fire hazard. This way, Simmalakham contributes to the conservation of their local biodiversity.

Simmalakham also provides additional economic opportunities to the communities by creating job opportunities and, more importantly, increasing the demand for wood wastes which the locals gather and sell for additional income. By creating high quality charcoal from sawdust and wood wastes, Simmalakham offers a cheaper alternative fuel to the locals and contributes to the national revenue of Lao PDR through its exports and reduction of charcoal imports.

Positive Incentives Documented

Simmalakham Sawdust Charcoal Briquette Personal has benefited from several key incentives that have supported its growth and sustainability initiatives:

A grant received from the United Nations Industrial Development Organization (UNIDO) shouldered construction costs of Simmalakham's manufacturing plant. The grant, initiated by the Ministry of Energy and Mines of Lao PDR, also provided technical support to enhance the company's production capacity and efficiency. .

A proposal, in the form of an exclusivity agreement, is in the pipeline currently under discussion with the Ministry of Energy and Mines of Lao PDR to ensure that local demand for charcoal is met through domestic production rather than imports. This agreement would further incentivize sustainable production practices within the country.

On 27 February 2024, a Memorandum of Investment Cooperation (MoIC) was signed between Simmalakham Sawdust Charcoal Briquette Personal and the Department of Energy Efficiency and Promotion (DEEP) of the Lao PDR Ministry of Energy and Mines (MEM). The partnership aims to promote private sector investment in the Clean Cookstove Project of Lao PDR, which contributes to the improved energy efficiency and reduced environmental impacts in Lao PDR.

Potential for Scaling Up

Simmalakham's model of converting wood waste into sustainable energy products presents significant potential for scaling up. Its focus on waste reduction and resource efficiency can be replicated across industries and sectors in Lao PDR and beyond. As more business concepts adopt similar practices, the cumulative impact on local, regional, and global biodiversity conservation efforts could be substantial.

Moreover, Simmalakham's reforestation initiatives, coupled with its waste to energy approach, provide a replicable framework for other businesses looking to integrate sustainability into their operations. The company's success underscores the importance of positive incentives such as government support, technical assistance, and market access in fostering biodiversity - friendly practices.

Case Study II: Metro Pacific Investments Corporation (MPIC)

Location and Business Footprint

Metro Pacific Investment Corporation (MPIC) is a Philippines-based investment management and holding company. It operates across several critical infrastructure sectors, including toll roads, electricity distribution, water and wastewater services, hospitals, light rail, and agribusiness. With its expensive national footprint, MPIC plays a vital role in the country's economic development and is committed to integrating sustainability into its operations.

Organisational Background

As a leading infrastructure company, MPIC is strategically positioned to influence significant sustainable outcomes. The company has adopted a comprehensive approach to environment, social, and Governance (ESG) initiatives, aiming to align its business operations with the country's broader environmental goals. MPIC's ESG framework integrates environmental stewardship with operational efficiency, ensuring that its projects not only deliver essential services but also contribute to biodiversity conservation and environmental sustainability.

Initiatives and Commitment to Biodiversity Protection

Waste Management

MPIC has implemented several waste management initiatives to reduce the environmental impact of its operations.

In 2021, 85% of Meralco's waste, a key subsidiary of MPIC, was diverted from landfills to Material Recovery facilities (MRFs). These MRFs were established within Meralco facilities in order to increase the retrieval of recyclable and reusable waste materials, reducing landfill reliance and promoting resource efficiency

MPIC has also led the rehabilitation of the Estero de Tripa de Gallina, an urban river in Pasay City, in collaboration with the Department of Environment and Natural Resources (DENR) and the local government. MPIC's effort addresses water pollution and restores ecological balance in a key estuarine habitat, in line with its long-term biodiversity protection goals.

Furthermore, MPIC's Light Rail Manila Corporation (LRMC) has implemented a number of measures to reduce solid and liquid waste generation through reuse, recycling, and waste reduction strategies.

Figure 2. Clean up of the *Estero de Tripa de Gallina* by Light Rail Manila Corporation (LRMC) with the Department of Environment and Natural Resources - Environmental Management Bureau (DENR-EMB), and the local government of Pasay City.

MPIC built two biogas plants in Surrallah and Polomolok, South Cotabato, that use wastes from pineapple and other fruits to generate clean energy.

Programmes for Recovery and Rehabilitation

MPIC, through Metro Pacific Investments Foundation (MPIF), has entered a Memorandum of Agreement (MoA) with the Tubbataha Protected Area Management Board, the policy-making body for Tubbataha Reef Natural Park.The said Park is both recognised as a World Heritage Park and an ASEAN Heritage Park. The company is

providing financial support amounting to PHP 2 million (USD 34,860) from 2022 until 2025. Aside from the financial support, the group also committed to delivering specialised interventions by mobilising marine protection and inspection activities as well as the conservations guardians' program.

Together with the Cebu-Cordova Link Expressway Corporation (CCLEC) and the Cordova LGU, MPIF inaugurated the *Mangrove Propagation and Information Center (MPIC),* which is intended to serve as the centre for the protection of mangrove trees in coastal areas, including the rehabilitation of degraded mangroves in Cordova. It is a legacy project of MPIF and CCLEC for the people of Cordova. A Mangrove Eco-Guide program was also launched to provide learning sessions and training for mangrove eco-guides and assessors who can monitor the health and the growth of the trees.

Figure 3. The *Mangrove Propagation and Information Center (MPIC)* established in Cordova, Cebu through the collaboration of MPIC, Cebu-Cordova Link Expressway Corporation (CCLEC) and the local government of Cordova.

Investing in Renewable Energy and Environmental Protection

MPIC has made substantial investments in renewable energy as part of its commitment to environmental sustainability. Through its support to Maynilad's Plant for Life Program and Sining Ipo, MPIC has trained former *kaingineros* who used to practise *kaingin*, a type of slash-and-burn farming, to help them venture to other alternative livelihoods, reducing their impact on deforestation and promoting forest conversion.

Meralco is also accelerating its renewable energy capacity, aiming to install up to 1,500 megawatt (MW) of renewable energy by 2027. In parallel, Meralco aims to build a 3,500 MW solar power plant, *Terra Solar*, alongside a 4,000-MW hour energy storage system, marking a significant contribution to the Philippines' renewable energy landscape. These investments are not only reducing the company's carbon footprint but also enhancing biodiversity conservation by minimising the ecological impact of energy generation.

Figure 4. The solar power plant of MPIC in Bulacan, Philippines.

Furthering its commitment to water sustainability, Maynilad launched in June 2022 its NEW WATER project as an alternative raw water source. The project enabled Maynilad to recycle used water for potable applications. It has built a PHP 450 million (USD 7.9 million) modular treatment plant that collects treated used water discharged by Maynilad's Parañaque Water Reclamation Facility and converts it to drinkable water. This initiative ensures water resource sustainability while addressing water scarcity issues, contributing to the preservation of natural water sources critical to biodiversity. Impacts on Biodiversity and Long-term Sustainability

MPIC' multifaceted approach to sustainability and biodiversity conservation demonstrates its long-term commitment to environmental stewardship. The Gabay program in MPIC is an integrated approach to environmental stewardship, community welfare, and long-term sustainability. The Gabay Kalikasan addresses environmental protection and rehabilitation, while the Gabay Kabuhayan empowers Filipinos by

focusing on sustainable livelihoods. Gabay Komunidad champions community resiliency through disaster preparedness, while Gabay Karunungan spearheads education development in partnership with the Department of Education. These initiatives exemplify MPIC's dedication to promoting sustainable growth across various sectors.

A cleaner, greener, and more resilient Philippines is the vision of *Gabay Kalikasan* (environment). Through this focus area, MVP companies protect, rehabilitate, and conserve vital ecosystems and habitats in partnership with various groups and environmental experts. Since 2021, the program has engaged employees of the MVP Group and the wider public to embrace the role of environmental stewards. By fostering shared responsibility and active participation, MPIC and the MVP Group seek to contribute to preserving and enhancing the Philippines' natural environment.

Gabay Kabuhayan (livelihood) champions the resilience of Filipinos, empowering them to overcome adversity and poverty. The program supports small and medium entrepreneurs through extensive livelihood training and providing the necessary tools and equipment for business success. The initiative seeks to enable sustainable livelihoods toward self-reliant and sustainable communities.

Gabay Komunidad (communities) has pioneered the world's first private sector-led national emergency operations centre, a significant step in disaster preparedness in the Philippines. This initiative, along with building quarantine centres and providing essential supplies to front-line medical teams during the pandemic, demonstrates the program's commitment to community welfare and resilience. In 2023, *Gabay Komunidad* streamlined its efforts to meet the immediate and ongoing needs of communities impacted by adversities, including *Typhoon Egay*'s aftermath and the Mindoro oil spill.

Gabay Karunungan (education) is founded on the MVP Group's belief that quality education is still the primary force behind national development. Partnering with the Department of Education (DepEd), the initiative has led the push towards digitising schools and universities. The flagship *Gabay Guro* (educator) program is key in offering educational support, improving facilities, and providing vital resources for both students and teachers.

Gabay Kalusugan (health) expands access to healthcare and wellness services. Through medical missions, sports camps, and the provision of supplies and equipment to public hospitals, MPIC makes health and wellness more accessible and efficient.
Gabay Kabataan (youth) strives to equip the youth with the tools to envision and pursue ambitious futures. Through tailored programs, this focus area provides avenues for quality education, financial stability, independence, and overall well-being. Additionally, *Gabay Kabataan* aims to foster the formation of values, recognize achievements, and nurture artistic, creative, and innovative young minds.

In these efforts, MPIC has fostered and is continuing to support strong community involvement in its sustainability programs, which provides strong grounding for its positive impacts on biodiversity that in turn will also contribute to the long-term sustainability of the Philippine environment.

Positive Incentives Documented

MPIC has received both direct and indirect incentives for its environmental and biodiversity-focused efforts.

As a form of a direct incentive, the group has received a grant for its biogas project from the Japanese government subsidising 50% of its operations. This financial support underscores the importance of international collaboration in driving renewable energy projects and biodiversity conservation.

By way of indirect incentives, the company has received recognition especially by the Philippine Department of Environment and Natural Resources (DENR) as a partner in environment-related projects such as preservation of rainforest, wetland protection including in the long-term efforts in fostering the conservation of the marine ecosystem in the Tubbataha Reef Natural Park. Such recognition has enhanced MPIC's reputation as a leader in corporate sustainability, opening doors to additional partnerships and business opportunities.

A cursory review of its recent company disclosures for 2023 found in the website of the Securities and Exchange Commission in the Philippines indicate that it was able to benefit greatly from the tax incentives and other favourable provisions under the pandemic-era legislation passed under the Duterte administration, namely, the Corporate Recovery and Tax Incentives for Enterprises Act (CREATE) or Republic Act 11534. This encourages corporate investment in sustainability projects, particularly in the wake of the COVID-19 pandemic.

Potential for Scaling Up

MPIC's sustainability model is highly scalable, offering innovative business models for other corporations seeking to integrate biodiversity conservation into their operations. By embedding sustainability into its core business functions, MPIC demonstrates that large scale infrastructure projects can coexist with environmental protection and biodiversity goals.

Such community involvement in the programs will drive a holistic approach to corporate responsibility with the environment: Gabay Kalikasan; improving livelihood: Gabay Kabuhayan; and communities: Gabay Komunidad. Incorporated into the general operations of MPIC, these programs have the potential to create long-lasting impacts on both biodiversity and community development and are hence applicable to regions and industries worldwide.

Case Study III. OceanPixel

Location and Business Footprint

OceanPixel operates across Southeast Asia, with projects spanning Singapore, the Philippines, Indonesia, Malaysia, Myanmar, Brunei, and Viet Nam. Founded in 2014 as a spin-off from Nanyang Technology University Singapore, OceanPixel is dedicated to leveraging marine and environmental technologies to support biodiversity conservation and renewable energy development.

Organisational Background

OceanPixel offers a range of business services for marine renewable energy (MRE) projects, blue economy initiatives, and the sustainable management of marine resources. The company's expertise include blue asset management (valuation and maintenance of mangroves, seagrass, corals, and seaweeds), digitalisation of sustainability assets, technology and project development, consulting, field surveys, resource assessment, project intelligence, project management, research and development, and data analytics to support biodiversity conservation and renewable energy solutions.

With a focus on the blue economy, OceanPixel works at the intersection of marine ecosystem protection and sustainable economic development. The company's project contributes to reducing reliance on fossil fuels, lowering carbon emissions, and mitigating the impacts of climate change on marine biodiversity.

Notable projects by OceanPixel include Indonesia's National Marine Floating Solar Resource and Market Assessment, the Indonesia Tidal Energy Pilot for Green Forest Off-Grid Microgrid, and Floating Tidal Turbine Deployment in Southeast Asia.

Commitment and Initiatives to Biodiversity Protection

OceanPixel's core mission aligns with biodiversity conservation by advancing marine renewable energy projects that promote sustainable use of ocean resources. The company is involved in several notable initiatives:

Marine Renewable Energy (MRE) projects: OceanPixel specialises in marine renewable energy projects like tidal and wave energy across Southeast Asia. These renewable energy solutions contribute to biodiversity protection by providing clean and renewable energy alternatives, reducing pollution, and mitigating the impact of energy production on marine ecosystems.

Early Warning Systems: OceanPixel has developed early warning systems for environmental threats such as pollution, harmful algal blooms, and habitat degradation. The team is involved in marine ecosystem restoration projects especially in biologically important reefs and seagrass beds.

The company uses advanced data analytics to monitor ocean health and marine biodiversity to collect and analyse data on water quality, marine life population, and

habitat conditioning. Recently, OceanPixel collaborated with *Aboitiz Data Innovation* (ADI), *Baringa*, and *Next Horizon Advisory* to produce a white paper titled "Future Blue Economies: Activating sustainability growth in Southeast Asia." The paper provides valuable insights into blue economy sectors and emphasises the need for integrated approaches to effectively manage and utilise marine resources.

Blue Economy Cluster: OceanPixel is also actively involved in the Asia Blue Project, a blue economy cluster builder initiative in the Philippines. This project integrates biodiversity conservation with job creation, targeting the conservation and restoration of natural marine assets such as mangrove, seagrass, and coral reefs. By enhancing the local economic value of these ecosystems, the project aims to benefit over 300,000 families (approximately 1.5 million people) in Southeast Asia over a 15-year period.

Figure 5. Updates on the Asia Blue Project of OceanPixel in the Philippines.

Impacts on Biodiversity and Long-term Sustainability

OceanPixel's work in marine renewable energy directly contributes to biodiversity conservation by reducing dependence on fossil fuels-based energy sources, which are significant drivers of environmental degradation. By facilitating the adoption of renewable energy technologies, OceanPixel helps reduce carbon emissions protecting marine ecosystems from the long-term impacts of climate change.

Moreover, the company's efforts in marine ecosystem restoration, particularly the conservation of mangroves and seagrass beds, enhance marine biodiversity. These ecosystems are critical carbon sinks and provide habitats for various marine species, supporting biodiversity and fostering long-term environmental sustainability.
Positive Incentives Documented

The incentives documented for OceanPixel are primarily indirect , stemming from the company's recognition as a specialist in marine renewable energy research and its partnering with academic institutions and industry leaders across Southeast Asia (SEA) and Europe. Key partnership include:

Collaborations with *Daeeun Industrial Co., Ltd*. (Korea) on a solar panel project in the Philippines and *Aquatera Ltd*. (United Kingdom) on tidal energy projects in Southeast Asia.
OceanPixel's involvement in the *Australia Blue Economy Cooperative Research Center* and *Singapore LNG Corporation Pte Ltd (SLNG) Innovation Project Collaboration* has further solidified its position as a leader in marine renewable energy.

These collaborations have not only enhanced the company's technological capabilities but have also increased its visibility as a trusted partner in marine renewable energy, indirectly benefiting from recognition and business opportunities that align with biodiversity and sustainability goals.

Potential for Scaling Up

OceanPixel's work in marine renewable energy has significant potential for scaling across Southeast Asia and other regions. Given the region's massive renewable energy industry, which is expected to be worth USD 300 billion, OceanPixel's technologies and models may be replicated to meet the growing need for clean energy while simultaneously preserving marine biodiversity.
The blue sector, worth USD 1.5 trillion globally, gives a tremendous opportunity for OceanPixel to expand its impact. OceanPixel is well-positioned to spearhead initiatives to boost marine biodiversity across the region by promoting sustainable marine sectors such as aquaculture, marine engineering, and renewable energy generation.

Case Study IV: Oceantera

Location and Business Footprint

Oceantera operates in Singapore and the Philippines, specialising in renewable energy and sustainable solutions for maritime transport and island communities. A joint venture between OceanPixel Ltd (Singapore) and Aquatera Ltd (UK), Oceantera focuses on advancing energy solutions in the maritime sector and fostering sustainable development across Southeast Asia.

Organisational Background

Oceantera Energy Corporation, positioned at the forefront of innovation in maritime technology, offering a wide range of services designed to reduce carbon emissions and promote sustainability in marine transport.

Oceantera envisions its programs and partnerships to catalyse the transformative shift in maritime transport in the Philippines and wider Southeast Asia. Oceantera aims to convert the local outrigger boats into renewable energy-powered electric vessels and commercialise the use of green energy based marine vessels in the long run.

In general, Oceantera aims to be a leading provider of sustainable solutions, including clean, affordable and reliable energy to remote and island communities in the Philippines and wider Southeast Asia through responsible development in collaboration with our partners and empowerment of local communities.

The company focuses on project development, maximising technological advancement with economic and environmental considerations, through the utilisation and commercialization of ocean renewable energy resources. Their expertise is strongest in hybrid renewable energy systems and are actively working across the blue economy, energy transition, and circular economy. Ocentera's key offerings include:

Retrofit to e-Boat: Upgrading of current vessels to e-boat standards for better efficiency and reduced environmental impact
Consultancy: Expert advising for specific needs and project goals
Market Research and Data Gathering: Gathering of insights and data for future e-boat projects
Battery Configuration: Custom configuration services to ensure optimal battery performance and longevity
Charging Station Installation: Set up of charging infrastructures for e-boats

Figure 6. Process of fabricating one of Oceantera's e-boats.

Figure 7. Charging station for Oceantera's e-boats.

Acknowledging the significant contributions of the international marine transport and shipping industry to global carbon dioxide emissions, Oceantera aims to lead the shift in its industry by harnessing renewable energy sources. Through this, the company aims to contribute to national and global climate change mitigation efforts by reducing dependence on fossil fuels and enhancing energy security and resilience to global energy market fluctuations. This initiative is seen by the company as a way to stimulate economic growth and enhance livelihoods in coastal communities. Ultimately, the adoption of renewable energy-powered marine transport will contribute to the preservation of marine ecosystems, protecting biodiversity and safeguarding the coastal environment for future generations.

Beyond its immediate impact, Oceantera promises to reshape the future of marine transport. By reducing carbon emissions, fostering energy independence, and addressing the critical challenges of climate change, the company is actively contributing to a more sustainable and environmentally conscious maritime industry.

Initiatives and Commitment to Biodiversity Protection
Oceantera's initiatives are centred around reducing carbon emissions in maritime transport, which is critical for biodiversity conservation. Key initiatives include:
Northwest Capul Energy Project – a project touted as Southeast Asia's first tidal power generation plant. The 1 megawatt (MW) tidal power project will use *Inyanga's HydroWing tidal stream technology*. The project will be deployed in 2025 and will increase its renewable energy contributions to 35% by 2030 and 50% by 2040. As of 2022, the energy mix of the country is made up of coal (31%) renewable energy (32.7%), and oil-based solutions (32.2%). The plan is to replicate several off-grid sites in the country delivering reliable electricity and fostering sustainable communities. The electric power that will reach the families in remote areas will enable them to have better access to education, health services, and livelihood opportunities.

Solar-powered Banca (Adlao Azul) – In November 2023, an electric outrigger boat called '*Adlao Azul,*' which means "blue sun" in English, was launched in Coron, Palawan, Philippines. The initiative plans to establish fossil fuel-**free** transportation across Southeast Asia. Adlao Azul is part of the *Renewable Energy-Powered Marine Transport for Island Communities* (REPMTIC) project which is funded by the United States Agency for International Development (USAID), jointly implemented by USAID Energy Secure Philippines (ESP) and Oceantera. A key aspect of the project is the development of "retrofit kits" that will enable existing diesel-powered boats to transition to electric propulsion, as well as support new electric vessel builds.

*Adlao Azu*l weighs less than three gross tons and features an 11-metre hull made of fibreglass materials. It is licenced to carry up to six passengers with two crews and can travel up to five hours with a maximum speed of 11 knots. The vessel is powered by a 16-kilowatt hour (kWh) *LiFePO* battery bank, supplemented by 3.2kWh to 6kWh bifacial solar panels. This vessel is also equipped with a cold storage system, enabling the transportation of temperature-sensitive goods like vaccines and produce. With this successful prototyping, Oceantera is actively exploring opportunities to extend the application of this technology to larger marine

vessels capable of accommodating a higher capacity and load. Oceantera has also facilitated the creation of a robust and efficient network of suppliers and vendors integral to Oceantera's supply chain for the construction and retrofitting of electric marine vessels.

Figure 8. An *Adlao Azul* retrofitted by Oceantera in Coron, Palawan, Philippines.

San Antonio Hybrid Renewable Energy – An integrated renewable energy power generation system under development in San Antonio, Northern Samar, Philippines. This is designed to phase out the existing diesel genset system. The project aims to provide clean and affordable electricity for 9,000 local residents and businesses. This system can reduce current government subsidies required to support energy provision in the island.

Impacts on Biodiversity and Long-term Sustainability

Oceantera's focus on renewable energy-powered marine transport (RE) has a significant positive impact on biodiversity. By replacing diesel-powered vessels with electric alternatives, Oceantera reduces marine pollution and the emission of greenhouse gases, which are major contributors to climate change and biodiversity loss. The company's efforts to electrify maritime transport will also reduce the risk of oil spills and other pollutants that can harm marine ecosystems.

Positive Incentives Documented

Oceantera has benefited from both direct and indirect positives incentives, including:

USAID Grant: The company has been granted Philippine Peso (PHP) 25 million (USD $435,750) by the USAID to develop the Adlao Azul, a boat that operates on a high efficiency bifacial solar panel, allowing it to cruise for six hours.This financing has enabled the company to move on with renewable energy-powered marine transport, which benefits both biodiversity conservation and energy security. Critical to minimising the effects of climate change.

Oceantera has garnered indirect recognition for its leadership in the maritime renewable energy sector. This recognition has boosted the company's business possibilities, resulting in new relationships and the possibility to expand its efforts across Southeast Asia.

Potential for Scaling Up

Oceantera's renewable energy-powered marine transport solutions have significant potential for scaling across the region. Southeast Asia's extensive coastline and archipelagic nations make it an ideal market for Oceantera's electric vessel retrofitting services and renewable energy powered boats.

The success of projects like Adlao Azul demonstrates the feasibility of transitioning island and coastal communities to clean energy solutions. By expanding the application of solar and tidal energy technologies, Oceantera can reduce the environmental impact of maritime transport, contributing to regional efforts to meet renewable energy targets and conserve marine biodiversity.

Oceantera's model of public-private partnerships, combined with innovative technological solutions, provides a framework that can be replicated

SUMMARY AND SYNTHESIS

Southeast Asia, home to 20% of the world's plant, animal, and marine species, is a critical bio-cultural hotspot. The region includes three megadiverse countries, Indonesia, Malaysia, and the Philippines, where four of the world's 25 biodiversity hotspots are located. The region also hosts the fastest growing economies in the world; however, studies show that it was the most underperforming continent when it came to meeting conservation targets, with just 12.3% of land designated a protected area in 2020.

This report showed biodiversity-related efforts from various businesses in the region. Four cases were covered from different ASEAN Member States (AMS). The case of *Simmalakham Sawdust Charcoal Briquette Personal*, a production firm in Lao PDR that manufactures charcoal from wood wastes, presented a fairly straightforward model but has shown a tremendous growth since 2017 and has been exporting in other Asian countries. The factory is supported by UNIDO and has now been reaching out with the government of Lao PDR for further collaborations. The second case is an investment conglomerate, MPIC, from the Philippines. MPIC is one of the leading providers of basic goods and services in the country, from transportation (light railway and toll roads) to water and electricity. The group understands that the implementation of various ESG efforts are imperative to ensure both their business operations and environment conservation interests. MPIC has various efforts from mangrove preservation, waste management, supporting other organisations, and investing in infrastructure to harvest alternative sources of energy. The third and fourth groups are OceanPixel and Oceantera. These groups have different projects all-over Southeast Asia. While OceanPixel provides advisory and monitoring of renewable energy, Oceantera ventures on commercialising renewable energy.

In summary of the positive incentives documented as well as the company's impacts on biodiversity and long-term sustainability and the potential for such incentives to be scaled up as called for by Target 18 of the KM GBF, **Table 1 Highlights of ASEAN Case Studies on Positive Incentives** is presented. The case studies have shown through this analytical table showed that a mix of direct and indirect positive incentives were availed of or were given to the companies. This only shows that there is a huge potential for a combination of both direct and indirect approaches to positive incentives that can be availed of by similar companies but in other sectors as well.

As to direct incentives, more work needs to be done to further examine company documents including specific government incentives that actually provide direct positive incentives for activities that are directly engaged or are related to biodiversity conservation work. Nevertheless, it is good to see that various international organisations have given specific grants to keep their biodiversity mainstreaming and sustainability initiatives off the ground. International organisations such as the UNIDO, USAID, and the Japanese government have seen the worthiness of the efforts of Simmalakham Sawdust Charcoal Briquette Personal, MPIC, and Oceantera, respectively. Indirect incentives such as those

given to MPIC and OceanPixel can be further enhanced and be made more specific such that they can be further scaled up.

The potential for these efforts to be spread far and wide not only within their specific industries and sectors is also something noteworthy about these initiatives and augurs well for a broader mainstreaming of biodiversity conservation and sustainability efforts, principles, and concepts in the entire developmental processes of the ASEAN Region as a whole.

Nothing can be more emphatic of the potential of these incentives to change the way biodiversity and natural resources are sustained and maintained than to use the keywords of the company's representatives who were gathered for interviews and focus-group discussions for this study:

a. Businesses can exist for profit and at the same time create a positive impact to the society through job generations.
b. Business can be created with a primary mission of reducing waste or other efforts on conserving and preserving biodiversity.
c. Partnerships with the communities and the governments are crucial for long-term success of projects. Supply chains especially coming from micro-small industries must be capacitated to appreciate biodiversity assets. Consequently, the trust of stakeholders are vital for the success of both business and conservation interests.
d. Implementing ESG strategies internally are easier when it is championed and encouraged by the higher management and, therefore, supported by all employees.
e. There are countries and communities that do not have regulatory processes and resources in place to manage the development of innovative projects

Table 1. Highlights of ASEAN Case Studies on Positive Incentives

	SIMMALAKHAM SAWDUST CHARCOAL BRIQUETTE PERSONAL (LAO PDR)	METRO PACIFIC INVESTMENTS CORPORATION (MPIC) (PH)	OCEANPIXEL (SG)	OCEANTERA (SG)
Positive Incentives Documented	Construction cost shouldered by UNIDO	Grant from the Japanese government for 50% of the operations of its biogas project	Recognized as a specialist in renewable energy research that has partnered with other academic institutions in SEAsia and Europe (INDIRECT)	Granted PHP 25 M (USD 435,750) by the USAID to develop the *Adlao Azul*, a boat that operates on a high efficiency bifacial solar panel, allowing it to cruise for six hours

	SIMMALAKHAM SAWDUST CHARCOAL BRIQUETTE PERSONAL (LAO PDR)	METRO PACIFIC INVESTMENTS CORPORATION (MPIC) (PH)	OCEANPIXEL (SG)	OCEANTERA (SG)
	Proposed exclusivity agreement on supply of charcoal to the Ministry of Energy and Mines of Lao PDR	Recognition by the govt as a partner in environment-related projects such as : preservation of rainforest, wetland protection; Tubattaha protection; (INDIRECT)		
	Standing MoIC with the Department of Energy Efficiency and Promotion (DEEP) for the implementation of the Clean Cookstove Project of Lao PDR to promote the local production of and encourage private investments in clean cook stoves and pellets in Lao PDR	Recognition locally, by the Philippine Department of Environment and Natural Resources (DENR) and globally by different organisations in the field of sustainability (INDIRECT)		
Impacts on Biodiversity and Long-term Sustainability	Reducing sawdust and wood waste that causes accidental fire in the forests of Lao PDR	Fostered strong community involvement in its sustainability programs	Continued operations of this RE company reduces long-term the demand for fossil fuels which cause emissions that are harmful for the environment, which includes biodiversity	Given its focus on marine RE, its impacts on biodiversity is similar to OceanPixel
Impacts on Biodiversity and Long-term Sustainability	Fair and just compensation to locals for wood wastes gathered			
Potential for Scaling Up	The focus on waste reduction in the company's operation is an activity that can be readily scaled to other businesses	The culture of sustainability embedded in its company operations can be emulated by other corporations	Marine RE projects have a strong potential in SEA Region given the extent of its marine ecosystems	Marine RE projects have a strong potential in SEA Region given the extent of its marine ecosystems

Lesson Learned and Key Insights

The case studies highlight several key lessons regarding how positive incentives work to stimulate biodiversity-friendly business practices across the ASEAN region.

Incentives encourage change in the positive direction. Various positive incentives, direct and indirect, in the form of grants, fiscal incentives, recognition, and market access, among others, have been applied-the evidence thus far is quite encouraging-regarding businesses adopting biodiversity-friendly practices. A firm that receives such benefits in the form of incentives is well-placed in terms of achieving long-term sustainability initiatives.

Public-Private Collaboration is Imperative. Scaling up biodiversity conservation will be difficult without partnership between businesses, governments, and non-governmental organisations. Such collaboration will guarantee that business has the resource base, knowledge, and policy framework to enable the alignment of operations with biodiversity goals.

Biodiversity Protection can coexist along with economic growth. The case studies indicate that one can address business enterprise while supporting the enhancement of biodiversity protection without forfeiting profitability. Actually, many initiatives discussed, like renewable energy investments and strategies concerning the reduction of waste, will further convey long-term cost savings and enhance corporate reputations.

Scalability and replication are important: such biodiversity-friendly endeavours need to actually start making the difference along the road of success. Also, the frameworks provided within these case studies give other businesses, willing to embed sustainable development into their operations, something to leverage from.

a. State appreciation of the immense value of blue assets (mangroves, seagrass, corals, and seaweeds) is fundamental and integrated into their national biodiversity strategies.
b. Multi-sectoral climate resilience investments must be explored.
c. Biodiversity-friendly companies are not only addressing environmental challenges but also contributing to broader issues such as hunger and access to clean energy, aligning with the United Nations Sustainable Development Goals (SDGs).
d. Companies that are biodiversity-friendly are also solving problems in hunger, access to energy and resources, etc. thus solving other issues under the sustainable development goal of 2030.
e. People rarely associate the use of traditional fossil-fuel-derived electricity as wasteful, making it even more important for companies and state actors to increase local awareness as part of their programs to explore alternative sources of energy.

f. Access to biodiversity-friendly innovations and technology to encourage the private sector to become more biodiversity friendly should be supported.

Expensive projects with good long-term benefits in terms of sustainable development, social enhancement, and economic growth need to be communicated to funders and regulators.

CONCLUSIONS AND RECOMENDATION

The ASEAN region's rich biodiversity and natural resources present a compelling case for more sustainable long-term business practices. The region is home to around 20%of the world's known plant and animal species, despite only comprising 3% of the planet's land area, and faces significant biodiversity loss due to threats such as habitat loss, introduction of invasive species, climate change, pollution, and overexploitation.

Forests, which cover over 30%of the global land area, are particularly important as they are home to a vast majority of the world's wildlife species, including 80%of the planet's amphibians, 75%of all birds, and 68% of mammals.

Not only is ASEAN rich in biodiversity and natural resources, the region is also diverse in terms of socio-economic and cultural resources. The ASEAN Statistical Highlights 2023 shows that nearly 9% of the world's population is in the region. This translates to about 325 million of the labour force in the region. On the other hand, the economic landscape of ASEAN presents substantial opportunities for business and biodiversity investments. The region's share of global Foreign Direct Investment (FDI) inflows grew by 5.5% in 2022, underscoring its increasing global economic significance (ASEAN Secretariat, 2023a). The ASEAN likewise plays a pivotal role in international supply chains through its leadership in the global value chains of several essential goods such as electronic components, palm oil, and textiles among many others (ASEAN Secretariat, 2023b). As a major exporter of products like milled rice, fruits and nuts, animal and vegetable oils, and fish and crustaceans, ASEAN not only supports major global retailers but also demonstrates its agricultural and industrial prowess. Further this report highlighted that biodiversity-friendly enterprises and initiatives from the private sector are incentivised in the ASEAN region. This economic vitality with opportunities and incentives for biodiversity-friendly actions of the private sector combined with the region's rich biodiversity, creates a fertile ground for investments that promote both biodiversity conservation efforts and sustainable development.

Building Better Ecosystems

Biodiversity incubators, such as Silverstrand in Singapore and Terratai in Indonesia, have an increasingly important role in supporting start-ups and initiatives that develop biodiversity conservation and the sustainable use of resources. These incubators deliver vital resourcing in terms of finance, mentorship, and technical support to foster innovative solutions for progressive biodiversity.

Silverstrand launched Asia's first biodiversity accelerator program that entitles start-ups who are capable of developing technology for the protection or restoration of vulnerable landscapes. *Terratai*, on the other hand, calls itself the 'first venture builder of nature.' Terratai focuses its resources and investments on biodiversity focused start-ups, particularly

in Asia's marine and terrestrial ecosystems. Organisations like these can help start-ups and small businesses gain access to relevant resources. In the Philippines, institutions like ASA Philippines Foundation are pioneering green financing for micro-enterprises, including waste pickers and junk yards, demonstrating how even small-scale businesses can contribute to the biodiversity economy.

Nonetheless, it is important to note that national governments must remain responsible in regulating and encouraging biodiversity-friendly businesses.

Availability and Scaling Up of Positive Incentives

One thing that is noticeable in the cases was the lack of proper information of the types of positive incentives available for biodiversity-friendly business. The companies do not seem to classify the incentives they received as positive incentives. This reflects that, even though biodiversity-friendly practices have reached the private and business spaces, its related concepts such as the concept of positive incentives are still not widely known yet. The benefits of positive incentives for businesses will even be greater if the private actors themselves are more comprehensively educated about what biodiversity conservation is, its related opportunities, and the positive incentives that can be derived by businesses from its practice.

ASEAN governments need to recast and adjust incentives and subsidies in light of Target 18 of the Kunming-Montreal Global Biodiversity Framework. Upscaling these incentives will allow business enterprises more easily to adapt biodiversity-friendly practices that will facilitate the achievement of global biodiversity goals.

In addition to scaling positive incentives, robust policy responses are essential to address the systemic challenges facing biodiversity.

Policy Responses

The decline of biodiversity is a systemic problem that needs to be tackled through multi-level policy responses and incentives. Some activities can be:

Monitoring and regulation – The World Bank and Traffic, a wildlife trade monitoring network, have identified key areas and listed interventions to minimise illegal trade of endangered species to manage the biodiversity risk in Southeast Asia.

Sustainable land use and production practices – Mitigating the negative environmental and socioeconomic impacts of palm oil production requires a combination of policy instruments and good practice. These may include shifting production of oil palm crops to degraded agricultural land, the development of certification schemes with the involvement of multiple stakeholders and the criterion of appropriate financial incentives to ensure sustainable palm oil production.

Research and education – addressing the impacts of climate change in Southeast Asia required a combination of mitigation and adaptation responses, which will require links between scientists and natural resource managers. Collaborative research and development of policy responses among scientists, planners, policy makers and private sectors.

Valuing the Biodiversity Assets and the Rise of Bioeconomy

The economics of biodiversity is still evolving and there is still a lot of room for improvement as various sectors continue to conduct research and innovate in this field. As there is still no clear system regarding the price of nature in the region, government policies are necessary to ensure sustainable use of natural resources. Unlike carbon – which has a uniform price regardless of where it is emitted – nature and biodiversity cannot be easily priced due to a lack of "fungibility" or the ability to be replaced by another identical item.

To support biodiversity-friendly businesses, ASEAN member states are working toward harmonising regulations through the Taxonomy for Sustainable Finance, providing a clear framework for investors to support sustainable business practices. Collaborative efforts, like Indonesia's forest clearance moratorium and Malaysia's commitment to preserving natural forest cover, are but examples of the journey of many other businesses in the region taking steps in the right direction, but broader, coordinated policies will be necessary to fully unlock the potential of a biodiversity-driven bioeconomy to achieve the vision of living in harmony with nature.

SUMMARY AND CONCLUSIONS

By positive incentives, we mean actions which promote or include the voluntary adoption of practices which contribute to the conservation of biodiversity and nature, as a whole.

Our request for examples of positive incentives has provided an abundant harvest of the 27 case studies from 14 countries published in this report. These case studies illustrate the wide range of positive incentive ideas, mechanisms and actors (both private and government) at work. Many are primarily focused on biodiversity conservation, but others include mechanisms related to climate change, underlining the complementary and often inseparable climate and biodiversity agendas of the conservation of nature.

The case studies received can be classified into categories (see also the table of categories, below), such as:

A. Financial instruments and other tools to support & motivate
B. Business as partners and drivers in restoration & conservation
C. NGOs & Consultants as pioneers
D. Collective Initiatives of citizens
E. Business & Biodiversity organisations

While these categories are not a perfect fit for all cases, they illustrate the importance of mobilizing diverse actors and of a combination of instruments to achieve our goals of *Peace with Nature*. Effective government policies are essential, but alone are insufficient. The contribution of non-government (private) entities is critical, as is also the knowledge and support of citizens.

One of the lessons of this PICP experience is the immense value and necessity of collaboration, the exchange of experience and learning from one another.

That is also our message to all who come together at COP 16.

Let´s build on our *Positive Incentives Collaborative Project*!

Warm Greetings to All at COP16

Your PICP Steering committee

COP 16 October 2024
Positive Incentives Collaborative Project
Table of Categories and Case Studies

A. Tools and Financial instruments

BRDE, Brasil
FONAFIFO, Costa Rica
Biodiversity Foundation, Spain
LIFE Institute, Brasil
Baltic Sea Action Group, Finland
HELMI Habitats, Finland

B. Businesses

C-Pack Conserva, Brasil
JTI, Araucaria Connection, Brasil
ITAIPU Hydropower, Brasil
Boticario, Brasil (Viva Agua, Conexao Oceano)
Dos Pinos Cooperative, Costa Rica
Simmalakham Sawdust Charcoal Briquette (Lao PDR)
Metro Pacific Investments Corporation (Philippines)
Ocean Pixel (Singapore)
Oceantera Energy Corporation (Singapore, Philippines)

C. NGOs & Consultants as pioneers

Animal Bank, Colombia
Aliarse, Costa Rica (Climate Action)
PIIMA, Mexico (Biodiversity for Real Estate)
REFORESTAMOS, Mexico

D. Citizens´ Initiatives

Monteverde Conservation League, Costa Rica
Nelson Tasman Climate Forum, New Zealand
NABU, Germany

E. Business & Biodiversity

Orée, France
Keidanren, Japan
WHC, USA
ASEAN

COP16
COLOMBIA
Paz con la Naturaleza

Positive Incentives:
Key to progress

Global Partnership for Business and Biodiversity

Convention on Biological Diversity

Biodiversity Partnership Mesoamerica

aliarse

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