



Common success factors for bankable nature-based solutions

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Acronyms and abbreviations

CBD	Convention on Biological Diversity
CO ₂ e	carbon dioxide equivalent
CPIC	Coalition for Private Investment
ELD	Economics of Land Degradation
FRB	Forest Resilience Bond
GFI	Green Finance Institute
Gt	gigatonnes
KPIs	key performance indicators
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Performances
IUCN	International Union for Conservation of Nature
LCF	Livelihoods Carbon Funds
MPA	marine protected area
NbS	nature-based solutions
SALM	sustainable agriculture land management
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WEF	World Economic Forum
WRI	World Resources Institute
YWA	Yuba Water Agency

Acknowledgements

This report was developed by South Pole together with WWF, as part of the Climate Solutions Partnership, a collaboration between HSBC, World Resources Institute and WWF. This report was commissioned to conduct an analysis of 'bankable' nature-based solutions (NbS) case studies from around the world, identify common factors for success and deepen the understanding of the business models, blends of investors and financial resources that are being successfully used to support NbS globally.

The report was prepared by a team of South Pole consultants, including Juliette Baralon, Gaetan Hinojosa, Maryna Larina and Martin Stadelmann.

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Key definitions

'Nature-based solutions' were defined as "actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits" (IUCN, 2016).

NbS were considered **"bankable"** if they had attracted commercial investments, i.e. investments linked to commercial terms, such as market-rate returns,¹ and/or commercially acceptable tenor.² Assessing the bankability of an NbS is not always straightforward, e.g. when there is not sufficient experience with similar transactions to adequately estimate market rate returns. In many other cases, investment terms are fully or partly confidential and the rate of return for investors is unknown. To overcome those challenges, South Pole considered an investment to be commercial when it was either i) made by a commercial investor, such as a bank or pension fund, and/or ii) not described as concessional.

Success factors: factors that improved/enhanced the bankability of the project, i.e., that helped attract commercial investments, either directly (e.g. identifying revenue streams providing attractive returns) or indirectly (e.g. improving the technical robustness of the project).

Other definitions are provided in footnotes throughout the report.

¹ 'Market-rate returns' are the standard returns accepted in an industry for a specific type of transaction.

² 'Tenor' refers to the length of time that will be taken by the borrower to repay the loan along with the interest.

Executive summary

Investing in nature-based solutions (NbS) will help address the “triple challenge” that humankind is facing: climate change, biodiversity loss, and human wellbeing and development. It has become abundantly clear that failing to tackle these interconnected challenges will jeopardise our future wellbeing and our ability to keep climate change within limits that we can reasonably adapt to.

However, the current level of investment in NbS, which comes predominantly from public and philanthropic funders, is nowhere near the required scope and scale to meet the challenge before us. We urgently need the private sector to help step up finance for NbS. But to do that and to plug this financing gap, we must design ‘bankable’ NbS that meet the specific needs of private investors.

Fortunately, there are bankable NbS deals that already exist and that we can learn from. This study identified 16 projects targeting a range of ecosystems, from oceans and forests to sustainable agriculture, that had successfully attracted commercial investments. To move from a few successful projects to large scale investments globally is a momentous challenge. How can we replicate successes of current NbS and create a pipeline of credible projects with the help of interested private investors?

Notable success factors for building bankable NbS included strong expertise and track record among project owners, the availability of dedicated grants for project feasibility assessments and technical assistance, the effective use of blended finance, and securing a market through offtake agreements, for example.

While digging deeper into the key success factors for improving the bankability and relevance of NbS projects for private investors, four things stood out:

- **There isn’t a one-size fits all “blueprint to bankability”:** while some success factors, such as partners’ expertise and the use of feasibility grants, are more common than others, the specific political, economic, social, and environmental context of each NbS will have a significant influence on which success factors/enablers should be prioritised.
- **While some success factors have a high potential for improving the bankability of a NbS, implementing them remains a challenge for most projects,** especially projects that are smaller in scope and size. This holds true in the case of securing guarantees, which are linked to high costs and lengthy negotiation processes.
- **Projects must be designed in close collaboration with potential investors,** to better understand investors’ constraints and interests, and ensure that these are effectively addressed in the final solution(s).
- **A success factor for one project can be a hindrance for another, and understanding the local context is key.** For example, when considering NbS projects that produce commodities, such as cocoa, coffee or dairy, securing offtake agreements for such commodities will depend on factors such as supply and demand, as well as price volatility. While it may help to secure a market in some cases, it could drive prices down in another.

Where next? All of this does not mean, however, that successful projects cannot be recreated elsewhere - the key to replication is to adopt a flexible approach and identify locations where the main success factors (such as policy incentives) can be realised. In order to truly scale up NbS, all conservation finance stakeholders – project developers and private investors, but also the public sector, philanthropies, NGOs and research institutions – must work together. Collaboration is needed at all levels: from project-level co-design and co-investments, to global-level exchanges and sharing of best practices.

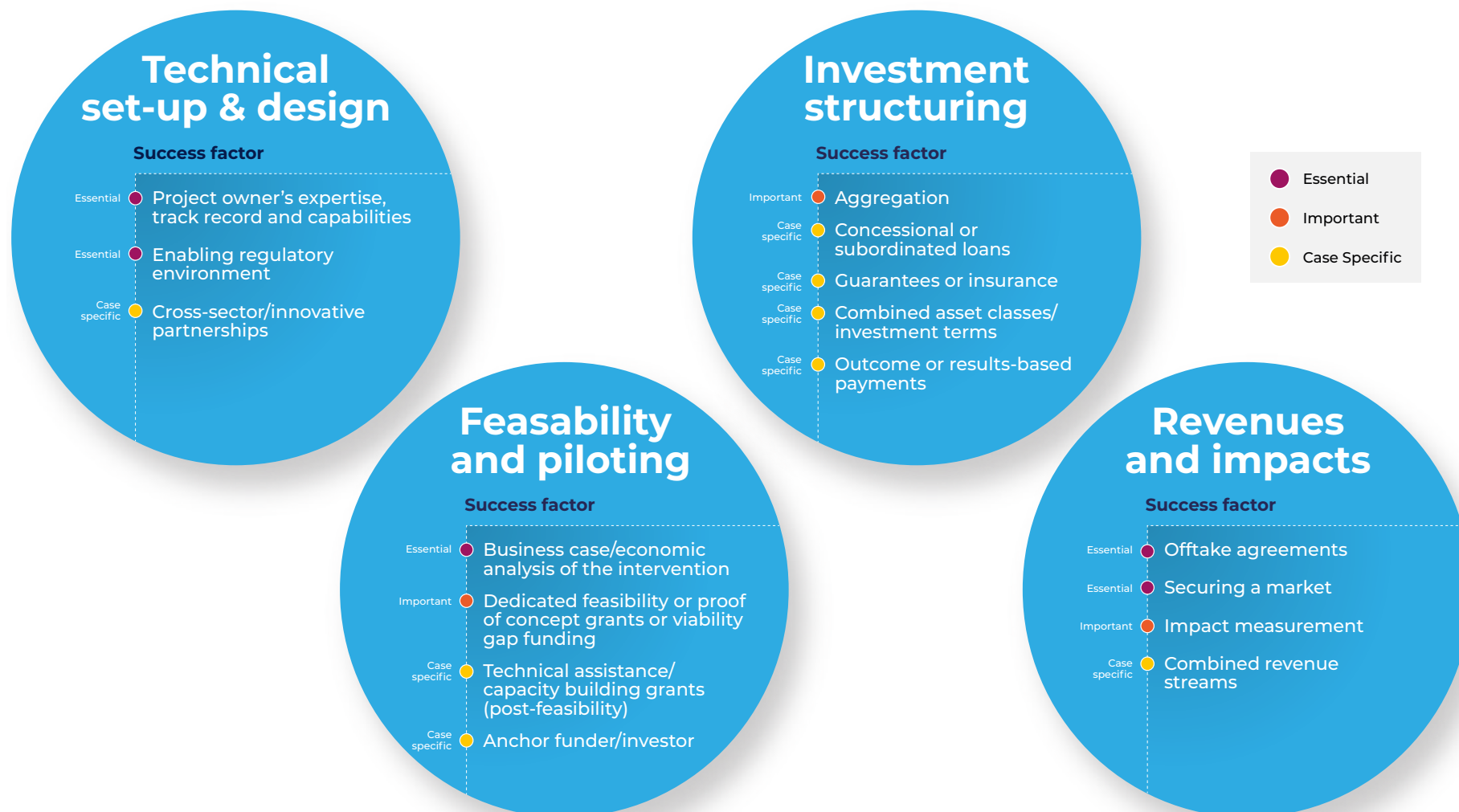


Figure 1: Overview of common success factors

Introduction

Why nature-based solutions bankability matters

NbS are essential to solving the climate crisis. A report by the United Nations Development Programme and the International Union for Conservation of Nature (UNDP and IUCN, 2021) indicated that NbS could deliver emission reductions and removals of at least five gigatonnes of carbon dioxide equivalent (GtCO₂e) per year by 2030, while anticipating that this could double to at least 10 GtCO₂e per year by 2050. This is a significant proportion of the total mitigation needed to achieve the goals set out by the Paris Agreement: according to the Convention on Biological Diversity (CBD), NbS could provide around 30% of the cost-effective climate mitigation needed through to 2030 to achieve those targets (CBD, 2020) assuming that global temperature rise is limited to below 1.5°C, as the impact of NbS depends on healthy ecosystems (Seddon, et al., 2021).

NbS also have a key role to play in adapting to the effects of climate change. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Performances (IPBES) Global Assessment Report highlighted the role of natural ecosystems in “reducing vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters” (IPBES, 2019). For example, mangroves reduce annual flooding for more than 18 million people globally and avoid USD 82 billion in annual loss from coastal flooding (Losada, et al., 2018).

In addition to their crucial contribution to climate change mitigation and adaptation, well-designed and well-implemented NbS can provide a range of co-benefits, such as economic development, improved health and food and water security (Hou-Jones, Roe, & Holland, 2021).

However, NbS need additional financing at scale. Despite a significant increase in investments over the last decade, the biodiversity financing gap is estimated to be USD 598–824 billion per year (Deutz, et al., 2020). Over 80% of investments still come from the public sector (United Nations Environment Programme, the World Economic Forum, the Economics of Land Degradation & Vivid Economics, 2021), but public financial flows alone cannot meet the current investment need for financing necessary conservation efforts at scale and over the long term. Private sector finance must also be mobilised to plug this financing gap.

Despite a growing awareness amongst private investors of the opportunities that NbS investments represent (Responsible Investor Research & Credit Suisse, 2021), private finance in NbS remains limited by a range of challenges, most notably a lack of NbS deals that meet the expectations and needs of those investors. The risk/return ratio of a vast majority of NbS, influenced by a range of parameters such as deal sizes, revenue streams and long investment terms, are simply not attractive enough to them (Baralon, et al., 2021).

The NbS market is gradually becoming limited by the lack of investment opportunities, rather than by a lack of awareness and interest from the investment community. As a result, it is becoming more and more necessary to identify proven solutions that are already achieving positive biodiversity and human wellbeing outcomes and financial returns in order to build a robust pipeline of NbS investments and to mobilise much-needed private capital.

Historically, NbS have largely been financed with grant funding from public and philanthropic sources. As such, few NbS interventions have been designed to generate financial returns, and even fewer to generate commercial returns. As a result, the information gap around possible investment models for NbS is significant.

Sharing knowledge on the topic, including crucial details on investment structure and terms often kept confidential, will go a long way in informing project developers and private investors on where the opportunities are for designing and investing in bankable NbS.

Objectives of the study

The aim of this report is to identify examples of bankable NbS and analyse the underlying common success factors that have helped secure commercial investments. In turn, this can help develop a pipeline of bankable NbS that are likely to attract the private finance that is needed to plug the biodiversity financing gap.

This study summarises learnings from both the literature and from five in-depth case studies. These are particularly relevant for project owners who are responsible for designing and implementing NbS, but they also include recommendations for the broader NbS investment community.



(Image credit: Blue Finance)

Methodology

The analysis of common success factors for bankable NbS followed a three-step process, highlighted below:

Literature review and internal consultations

South Pole conducted a literature review, including resources from grey literature, scientific literature and the publicly available database of projects, e.g. the list of projects supported by ten funds and facilities, including &Green or the Livelihoods Carbon Funds (LCF). The full list of resources accessed can be found at the end of this report.

In addition to this literature review, South Pole conducted informal consultations with four key experts from its Carbon Projects and Climate Investments teams, to explore common barriers to bankability, success factors to overcome those and potential case studies.

The literature review and internal consultations helped to identify:

- high-level lessons learned on NbS bankability.
- A list of 13 common success factors which appeared in the literature or were mentioned in consultations.
- A long list of 16 potential case studies, focusing solely on place-based projects and not including funds/financial mechanisms or NbS ventures.

Case studies identification and short-listing

In preparation for shortlisting, the 16 case studies identified were reviewed against the following criteria and sub-criteria:

1. The project can be classified as a NbS:
 - 1.1 The project has addressed or intends to address one of the societal challenges highlighted in the IUCN's definition of NbS;³
 - 1.2 the project has generated or intends to generate a range of co-benefits, along with, at the very least, clear net biodiversity gains and positive impacts on human wellbeing; and
 - 1.3 the project's intervention is not solely tree plantation. Projects which include tree plantations were only considered if they included other types of interventions.
2. The project has secured commercial investments (cf. definition of commercial investment within the 'bankable' definition above). Projects that have secured commercial investments but for which the implementation phase is just starting are still considered.
3. The project does not present any major environmental, social or governance issues:
 - 3.1 No evidence of human rights abuses, or of adverse impacts of the project on human health, safety and wellbeing;

³ The societal challenges are climate change mitigation and adaptation, disaster risk reduction, economic and social development, human health and wellbeing, food security, water security, environmental degradation and biodiversity loss. More detail on what those co-benefits cover/how they are defined can be found here.

- 3.2 no evidence of adverse environmental impacts following project implementation; and
 - 3.3 no evidence of a lack of stakeholder consultation/engagement or violation of free, prior and informed consent process.
4. **There is sufficient information available** about the project's interventions and investment structure to assess key success factors in securing commercial investments. Information on the main investment terms and the investment structure is not confidential.

Disclaimer: While reasonable efforts were undertaken to ensure that the case studies presented are high-quality NbS and are not linked to any adverse environmental or social impacts, their inclusion should not be interpreted as an endorsement of the financial or technical model/intervention, nor of the project owner or investors, by either WWF-UK or South Pole.

Following this screening, the longlist of case studies was reduced to five. However, lessons learned from other projects which could not be developed into case studies for various reasons, such as confidentiality issues, were still included in the report below. The five case studies selected are referenced as evidence throughout this report. They include:

- **Blended finance for Marine Protected Areas (project owner: Blue finance):** Blue finance works with different governments and Marine Protected Area (MPA) co-management entities to strengthen the implementation and financing of revenue mechanisms for five MPAs globally. As part of the solution, Blue finance structures blended finance facilities that bring together grants and debt to fund the early-stage investments of the MPAs. The revenues generated from a range of sustainable sources, such as eco-tourism fees and sustainable fisheries, can create tangible returns for investors, while ensuring the financial sustainability of the MPAs. This case study focuses on the blended finance facility structured for financing interventions in the Turneffe Atoll of Belize, but includes lessons learned from the investment model as a whole.
- **Café Selva Norte (project owner: ECOTIERRA):** The Café Selva Norte is working towards the sustainable development of the coffee value chain in Peru. It invests in forest protection and restoration activities, supports coffee cooperatives and their smallholder producers by providing micro-credit and technical assistance, and invests equity in a processing plant to improve infrastructure and ensure sustainable and efficient production processes. The project generates revenue from coffee and timber sales, the processing plant's services and carbon credits.
- **The Forest Resilience Bond (FRB) (project owner: Blue Forest):** The Forest Resilience Bond (FRB) is a public-private partnership that enables private capital to finance forest restoration activities that reduce fire risk and deliver environmental and social co-benefits. The activities focus on the strategic removal of excess vegetation, land regeneration and protection, and fuels treatments – including thinning, prescribed burning and pruning. Beneficiaries of the restoration work, such as the US Forest Service, water and electric utilities, and governmental agencies, make contracted annual payments to provide investors with competitive returns. The FRB is piloted on a 5,890 ha area in the Yuba River Watershed (California).

- **[The Livelihoods-mangroves project](#) (project owner: Yagasu):** The Livelihoods-Yagasu project aims to restore and protect mangroves, recreating a healthy ecosystem and promoting income-generating activities. Having started with mangrove restoration, the project extended its scope to build a coastal “greenbelt corridor” which combines mangroves with forests and fruit trees along the Indonesian coastline. Yagasu operates in two provinces in Sumatra and works hand in hand with local communities to protect local ecosystems and develop additional livelihoods, with a focus on the economic development of vulnerable groups, women and youth. It receives investment for carbon delivery from a range of impact and commercial investors.
- **[The Livelihoods-Mount Elgon project](#) (project owner: Vi Agroforestry):** The project is implemented by NGO Vi Agroforestry, in cooperation with the Livelihoods Carbon Fund (LCF) and Brookside Dairy Limited in the Mount Elgon region of Kenya. It aims to preserve biodiversity and water resources, as well as boost the local economy. The local population is highly dependent on subsistence agriculture, characterised by unsustainable practices and low yields, which causes severe soil degradation and threatens the watershed due to additional sediment deposits. The project seeks to promote sustainable agriculture land management (SALM) practices and improved livestock husbandry practices, increasing food and the income benefits for the local population. These SALM practices include mulching, composting, cover crops and green manure, soil and water conservation, and agroforestry on croplands, as well as improved feeding, housing, watering, breeding and disease control for livestock management.



(Image credit: Blue Forest)

Project owner interviews

Publicly available information and the initial success factor analysis for each case study were supplemented with four interviews with project owners. The interviews were structured as follows:

- Clarification of any technical or financial elements of the projects, as required (e.g. scope, key performance indicators [KPIs] and financing structure).
- Walk-through of all success factors, with definitions, to identify which played a role in strengthening the projects and securing investors. The findings of the initial success factor analysis were sense-checked with the interviewees. Interviewees were asked whether each factor played a role, how so, and whether they saw one or several success factors as more important than the others. Not every interviewee identified these.

One project owner was unavailable for interview but provided information in writing.

The five case studies provide details on the following elements of the NbS:

- Technical model: project description, including intervention types, ecosystem services preserved/restored, main KPIs and key stakeholders.
- Investment model: investment and revenue flows and investment terms (e.g. asset classes, time horizon, expected returns and revenue streams).
- Key success factors (see below for the full list of success factors).

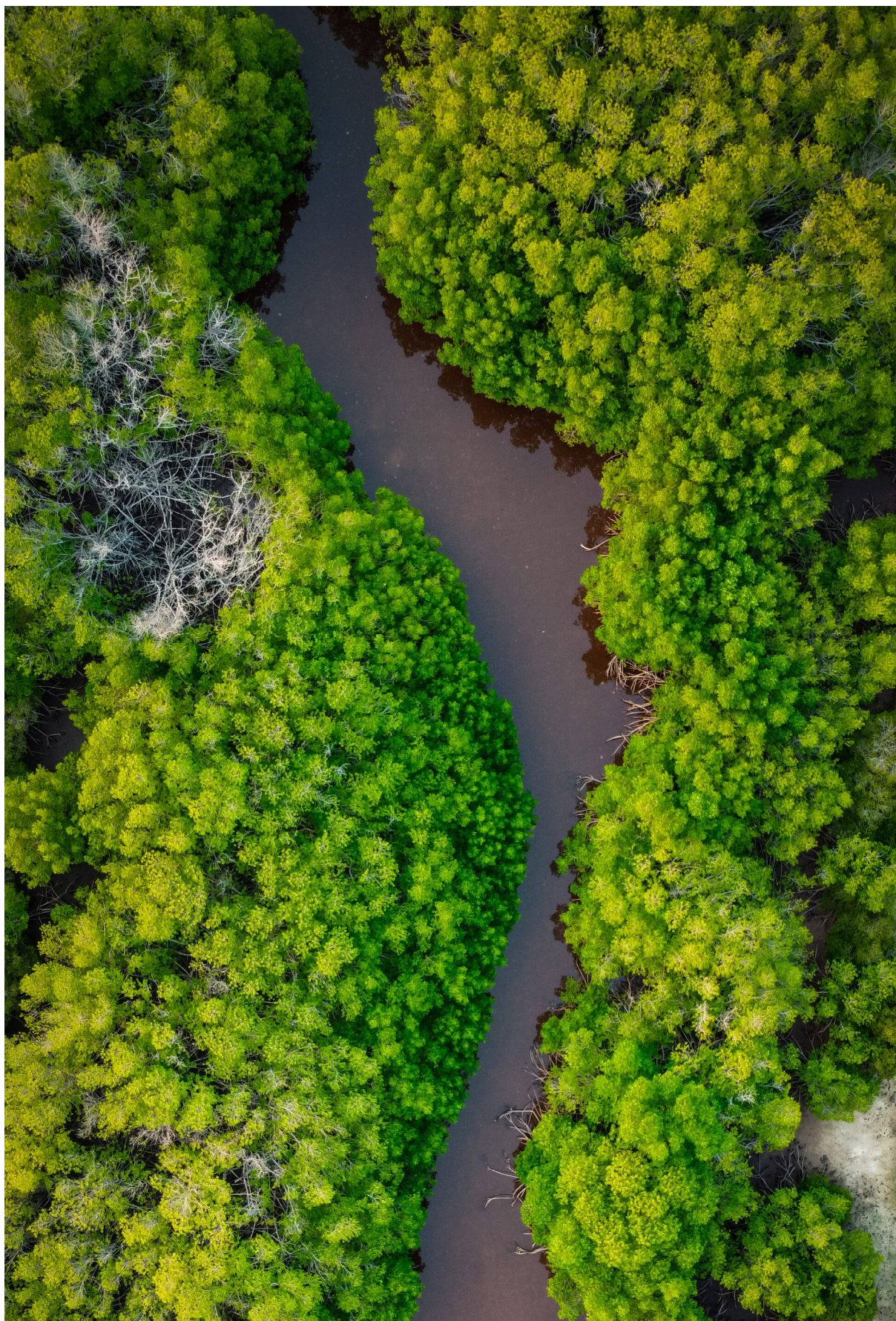
Limitations

- The final number of in-depth case studies was limited through a comprehensive set of selection criteria used and the limited information (especially financial information) that can be disclosed. Recommendations on improving data sharing are included at the end of this report.
- This analysis focuses on project-level success factors for bankability and does not provide detailed information on other success factors for NbS, including those that apply at the global financial or national and international policy levels. Some studies provide additional insights on the political, economic, social, technical/technological, environmental, and legal enablers of NbS (McQuaid, Kooijman, Rhodes, & Cannon, 2021).
- It also focuses on the perspective of project developers and not of investors (see more in the section 'Notes on assessment of frequency and importance' below).

Note on linking success factors and bankability

It is not possible to demonstrate a causal link between a single success factor and the commercial viability or technical robustness of a project. The five projects profiled made use of 6–8 success factors which, in combination, assisted in securing commercial investments. It is possible that elements beyond these success factors, such as availability of dedicated funding for this intervention type in the specific intervention area, may have contributed to the ultimate bankability of the project.

In addition, some success factors may have directly attracted investors (e.g. concessional finance attracting commercial finance), whereas some may have only played an indirect role (e.g. improving the technical robustness of the project, which in turn helped to secure commercial investors). While South Pole tried to assess the importance of each success factor (see Table 2), this may vary from case to case.



(Image credit: Mohmed Nazeem, Unsplash)

Common success factors for bankable nature-based solutions

Success factors considered

The initial analysis focused on 13 success factors, while an additional three success factors were identified during interviews with project developers. All success factors considered contribute to addressing two main barriers to securing commercial investments for NbS, namely i) high risks and ii) low, unsteady or long-term revenues. The lack of deals with appropriate risk/return profiles was the single most important barrier for investors according to the Forest Trends' State of Private Investment in Conservation 2016 report (Hamrick, 2016). Similarly, the lack of information on returns and impact and high project-level risks were ranked as the first and third most important barriers by 18 interviewees in a recent study (Terranomics, 2022).

While those two barriers can be broken down into more detailed challenges (see Table 1), South Pole have simplified the analysis by assessing how each success factor can contribute to reducing risks and/or increasing returns.

Table 1: High-level project-level barriers for private investments in nature-based solutions

Key barriers	Detailed barriers
High risks	<p>Includes a range of implementation, financial, policy, political, environmental and social risks, including:</p> <ul style="list-style-type: none"> • Lack of track record/proof of concept. • High upfront costs. • High transaction costs. • Long investment terms/lack of exit strategy. • Lack of enabling policy framework/long-term policy visibility. • Unsuitable/unstable political environments. • Limited ability to track impact. • Negative social impacts. • Negative environmental impacts.
Unsuitable returns	<ul style="list-style-type: none"> • Unprofitable activities requiring grant or concessional funding. • Low returns (high costs, limited ability to monetise benefits, etc.). • Long-term returns.

For the purpose of this assignment, the 16 success factors were clustered into four main elements of the development and implementation of a NbS project. These were:

- **Technical set up and design:** including project partner(s) selection, design of the technical intervention (including location and scale), selection of beneficiaries and analysis/review of the regulatory framework, among others.
- **Feasibility and piloting:** any activities related to demonstrating the feasibility and bankability of the technical concept developed under Phase 1. This can include conducting a feasibility study, demonstrating the business case, piloting the concept and securing anchor funders/investors.
- **Investments structuring:** all activities related to structuring and disbursing investments and implementing the project activities.
- **Revenues and impact generation:** all activities related to generating financial returns (e.g. plantation, conservation or restoration activities generating carbon credits and production activities for projects relying on the sales of sustainable commodities, among others) and environmental and social impacts.

The four points above do not necessarily happen in sequence. For example, defining how investments are structured will usually be done during the feasibility/design stage. Similarly, while revenues are only generated during and/or after implementation, the way those revenues will be secured (e.g. signing offtake agreements) is decided early in the project design phase.

Frequency and importance of common success factors

Table 2 below provides information on how frequently each success factor was used in the longlist of 16 case studies initially considered (i.e. identified either through interviews and desk research) and their importance to NbS design, based on findings from the interviews and the literature review.

Table key:

Frequency:

- Low: reported in three case studies or less.
- Medium: reported in 4–7 case studies.
- High: reported in 8–9 case studies.

Importance:

- Case-specific: the success factor can play an important role, but is also highly case-specific (e.g. depending on investor type and investment structure).
- Important: the success factor plays a decisive role in securing commercial investment, but is not essential.
- Essential: the success factor is essential to securing commercial investment for any NbS deal.

Notes on assessment of frequency and importance

- Some success factors were identified later in the analysis during interviews with project owners and have not been brought up in other interviews, meaning they could be underrepresented. Comments are provided in Table 2 below.
- In addition, some success factors were analysed from the perspective of looking for specific active actions undertaken by the project owner/said project owner that went “above and beyond.” This is true in the case of the ‘enabling regulatory environment’ success factor, where South Pole sought to identify times during which project owners influenced the legal/regulatory framework. However, this rarely occurred, for reasons detailed in the ‘Technical design and set up’ section below. The passive approach of working around existing legislations and developing projects where the regulatory environment is conducive is far more common. Therefore, there is not always a clear link between frequency and importance, and the most frequently identified success factors are not necessarily the most essential.
- The frequency of success factors can also be influenced by the perception of the project owners. For example, on a few occasions, a project owner implied or explicitly stated that one of the success factors was a “given.” This was true for the Mount Elgon case study, with South Pole’s contact indicating that the ‘aggregation’ success factor was part of a co-design exercise. This idea that some basic element of an NbS can be considered “automatic” by project owners may mean that some success factors could be underrepresented.
- On the matter of perspective: the analysis focused solely on the perspective of project owners, except in the case of Mount Elgon, where we received feedback from the investor, the LCF, but not from the project owner. It would be interesting to observe whether perception of the main success factors would vary significantly if South Pole also sought the opinion of the investors. In the Coalition for Private Investment’s (CPIC) 2021 Conservation Finance report, South Pole noticed differences in the responses from investors and project developers when asked to assess the key barriers to and the key enabling conditions for investment in conservation (Baralon et al., 2021).
- For case studies that were not shortlisted, the success factor analysis was conducted at a higher level, using only publicly available sources. Therefore, those projects are likely to have leveraged more success factors than those identified, or some success factors identified may not have played a central role.

Table 2: Overview of success factors for bankability

Project phase	Success factor	Description	Impact on bankability		Frequency	Importance
			Reducing risks	Increasing revenues and/or decreasing costs		
Technical set up and design	Project owner's expertise, track record and capabilities	The expertise of the project proponent was essential to making the project technically robust and bankable. While relevant expertise is always a requirement, this success factor focuses on how the project owner's expertise/track record helped improve the bankability of the project.	Directly reducing risks of implementation failure due to poor project design and implementation	Can indirectly increase revenues (strong project design)	Medium	Essential
	Cross-sector/innovative partnerships	The project is a partnership between public and private stakeholders or across industries. These partnerships benefit the project by bringing complementary expertise, strengthening the overall investment case and/or reducing risks.	Directly reducing risks of implementation failure due to i) poor project design and implementation and/or ii) lack of buy-in	Can indirectly increase revenues (strong project design)	High	Case-specific: Needed in case partnership with the public sector is essential or the project owner's expertise in some aspects of the work is limited (e.g. economic analysis).
	Enabling regulatory environment	A broad success factor that covers two scenarios: <ul style="list-style-type: none"> the project influenced existing legislations to improve its bankability through a supportive legal environment or reduced legal and policy risks; or the project was developed around existing enabling legislations that do not impede project implementation and/or improve its bankability. 	Directly reducing risks of implementation failure due to adverse regulations	Can indirectly increase revenues (e.g. if regulatory incentives exist that provide additional revenue streams)	Low ⁴	Case-specific: Influencing the legal environment is case-specific. In many cases, the enabling regulatory environment is present without influence from the project developers. Essential: An enabling environment is essential. Influencing the legal environment is case-specific.

⁴ The "low" rating refers to an active action from the project developers on the enabling regulatory environment. Please refer to the section "Notes on assessment of frequency and importance" for more details.

Common success factors for bankable nature-based solutions

Project phase	Success factor	Description	Impact on bankability		Frequency	Importance
			Reducing risks	Increasing revenues and/or decreasing costs		
Feasibility and piloting	Dedicated feasibility or proof of concept grants or viability gap funding	The project had access to dedicated, likely grant-based funding to cover the costs linked to its design or preparation, such as conducting feasibility studies and establishing a baseline and monitoring and verification system.	Directly reducing risks (strong business case)		High	Important: In some cases, well-established project owners can cover those costs without additional funding.
	Technical assistance/ capacity building grants (post-feasibility)	The project had access to dedicated, likely grant-based funding to build the technical capabilities of the project proponent and/or key stakeholders.	Directly reducing risks (strong stakeholder buy-in and capabilities)		High	Case-specific: Particularly important in cases where the implementation of the NbS relies on trained local stakeholders, including beneficiaries.
	Business case/ economic analysis of the intervention ⁵	The project demonstrated the business case for investments by providing a robust economic analysis of the value it would deliver to investors. While developing a business case is always essential to the bankability of a project, this success factor was analysed specifically in cases that involved valuing ecosystem services which are not typically translated into economic terms.	Reducing risks (strong business case)	Can increase project revenues by identifying new revenue streams (e.g. when considering a range of payments for ecosystem services)	Low ⁶	Essential: Low frequency due to the specific focus of the analysis on the economic valuation of payments for ecosystem services, but a strong business case is an essential requirement for private investors.

⁵ Success factor identified during the interview with Blue Forest.

⁶ This success factor is likely to be underrepresented because it was identified later on in the analysis, and might be perceived as a "given" by project developers. Please refer to the section "Notes on assessment of frequency and importance" for more details.

Common success factors for bankable nature-based solutions

Project phase	Success factor	Description	Impact on bankability		Frequency	Importance
			Reducing risks	Increasing revenues and/or decreasing costs		
	Anchor funder/investor ⁷	The project secured an anchor funder/investor which helped to enhance its credibility and win the trust of additional investors.	Reducing risks (risk-sharing; can be subordinated ⁸ debt)		Low	Case-specific: Not necessary but can facilitate fundraising.
Investments structuring	Aggregation	This success factor refers to increasing project size (i.e. either physical size or investment volume) to meet investors' requirements. This can include reaching a minimum area for a carbon project, aggregating smallholder farmers within an outgrower scheme or creating a financing facility which aggregates several projects for investments.		Directly reducing costs (reduced transaction costs for the investor)	Medium	Important: Can help to meet minimum ticket size of some investors but is dependent on the specific needs of the investor.
	Concessional or subordinated loans	The project received loans under concessional terms, e.g. associated with below-market interest rates or longer grace periods.	Reducing risks (risk-sharing; can be subordinated debt)	Increasing project revenues (lower repayment costs to concessional investors)	Low	Case-specific: Only applicable to cases where debt is the main instrument.
	Guarantees or insurance	The project benefitted from credit guarantees (e.g. a guarantor agreed to cover part or all of the loss of a third-party financing transaction in the case of non-repayment or loss of value) and/or another form of insurance (e.g. political insurance).	Reducing risks from default or other risks (e.g. political risks)		Medium	Case-specific: Can significantly reduce typical project risks, but usually associated with larger projects.

⁷ Success factor identified during the interview with Blue finance.

⁸ Subordinated or 'junior' debt is an unsecured loan or bond that ranks below more senior loans with respect to claims on assets or earnings. In the case of default, creditors who own subordinated debts will not be paid out until after senior debt holders are paid in full.

Common success factors for bankable nature-based solutions

Project phase	Success factor	Description	Impact on bankability		Frequency	Importance
			Reducing risks	Increasing revenues and/or decreasing costs		
	Combined asset classes/investment terms	The project attracted a variety of investors by offering tailored investment terms (e.g. use of several asset classes, bond with several classes of notes and different maturities).	Can reduce risks (e.g. by offering more suitable exit strategy, etc.)		High	Case-specific: Can provide additional flexibility to investors, but likely to make the investment structure more complex.
	Outcome or results-based payments ⁹	The project is designed so that at least part of the funding received is directly linked to the outcome achieved.	Reducing risks		Low	Case-specific: Significantly reduces risks for investors, but linking payments to performance implies the need for a strong monitoring system and complicates contractual agreements
Revenues and impacts	Combined revenue streams	The project's revenues come from at least two significant sources (e.g. carbon credits and sustainable commodities).	Reducing risks by diversifying revenue sources	Increasing revenues by diversifying revenue sources	High	Case-specific: Frequently reported, but only in a handful of cases were two revenue streams of significant importance. In a few cases, revenue stream diversification was the result of an effort to provide additional co-benefits for beneficiaries, rather than to provide a stronger business case to investors.

⁹ Mechanism through which a funder or investor makes payments to a project owner based on the achievement of pre-defined results or outcomes

Common success factors for bankable nature-based solutions

Project phase	Success factor	Description	Impact on bankability		Frequency	Importance
			Reducing risks	Increasing revenues and/or decreasing costs		
	Offtake agreements ¹⁰	The project secured offtake agreements for one or several of its outputs (e.g. carbon credit offtake and sustainable commodities offtake), providing demand security over a set period of time.	Reducing risks by ensuring products will find a buyer	Increasing access to upfront capital and revenues	High	Essential: Securing a market for the project's products, including via offtake agreements, is essential to ensuring stable and sufficient revenues. However, the way this is achieved can vary widely depending on the products considered.
	Securing a market ¹¹	The project secured a market for its products (e.g. sustainable commodities) by taking additional, specific steps to identifying and securing buyers. This can include marketing activities targeting specific audiences for the product developed. This differs from offtake agreements insofar as it happens after the output has been produced and is not negotiated ahead of time.	Reducing risks by ensuring products will find a buyer	Increasing access to upfront capital and revenues	High	Essential: Securing a market for the project's products, including via offtake agreements, is essential to ensuring stable and sufficient revenues. However, the way this is achieved can vary widely depending on the products considered.
	Impact measurement	The project made use of innovative methods to measure its impacts (e.g. remote sensing), which improved the confidence of investors and partners in the project's ability to deliver tangible benefits (e.g. improved reliability of the data and decreased monitoring costs)	Reducing risks by ensuring that the project will achieve tangible environment/ social outcomes		Medium	Important: An important aspect of project design, but a direct link to bankability is difficult to show.

¹⁰ An 'offtake agreement' is an arrangement between a producer and a buyer to purchase the producer's upcoming goods

¹¹ Success factor identified during the interview with ECOTIERRA. For analysis purposes, this factor is grouped with 'offtake agreements', as these are also one way of securing a market.

High-level lessons learned

- **Some success factors have high potential for improving bankability,** but their implementation is challenging. For example, securing guarantees is a long-term, costly process that is not viable for small-scale projects. Two of the project owners interviewed, ECOTIERRA and Blue finance, reported having explored this option, but were unable to secure guarantees due to high costs, a lengthy timeframe, and the small deal size.
- **Projects must be designed in close collaboration with potential investors.** What some project developers assumed would be an important success factor in the initial project design stages was later dropped due to a lack of interest from investors/payers. For example, in the FRB case, outcome-based payments were a major aspect of the initial payment model, as it was assumed that the beneficiaries/payers would prefer paying for performance, rather than pre-agreed payments. However, the complexity of developing adequate metrics for measuring the impact achieved and of linking those to payments led payers to opt for cost-share payments, rather than payment-for-performance. This shows that understanding the varying needs and constraints of specific investors during the design phase is crucial, as some assumptions about their preferences can be proven wrong. Being able to engage with stakeholders, including potential investors, for sufficient periods of time and to adapt the interventions and investment models as a result of those engagements can help to design more suitable projects.
- **A success factor for one project can be a hindrance for another.** Securing offtake for dairy production was an important part of the Mount Elgon project. This option was not optimal in the case of Café Selva Norte, where long-term offtake agreements were deemed to be less favourable to smallholder coffee producers given that coffee is a sellers' market. The state of the market for the commodity considered is a major decision factor when looking at the option of offtake agreements.
- **There is no clear “blueprint to bankability.”** While some of the success factors analysed were more common than others (e.g. partner's expertise and feasibility grants), the diversity of the success factors considered, along with the very different ways in which the same success factors can be applied, show that the specific context of each NbS will significantly influence which success factors can play a role in increasing bankability. However, some successful NbS can be replicated within similar contexts. For example, the FRB, which is based on a close partnership with the US Forest Service, could be replicated throughout the US with only minor tweaks, such as selecting local research partners to assess biodiversity impact.



(Image credit: Blue Finance)

Detailed success factor analysis

1) Technical design and set up

Partners' expertise, track record and capabilities were identified as very strong success factors by the analysis. NbS implementation requires strong technical expertise on the intervention(s) considered and a thorough understanding of the local policy and regulatory frameworks, such as local land rights. Beyond the technical expertise, two additional important elements were identified in South Pole's research.

Firstly, some NbS project owners or partners need to shift their mindset towards entrepreneurship. Having long depended on grants for funding, they now need to understand the new requirements that come with receiving repayable investments. Project owners must increasingly consider NbS as revenue-generating enterprises that benefit biodiversity and human wellbeing, while simultaneously yielding returns for investors. Often, project developers that are better versed in setting up businesses can partner with local non-profits and build up their entrepreneurial capabilities.

Secondly, strong local networks and ties with potential partners and funders, local authorities and potential beneficiaries are essential for securing support, funding and buy-ins. In the case of Café Selva Norte, ECOTIERRA contributed not only 20+ years of expertise in coffee supply chains, but also long-standing relationships with smallholder cooperatives that then took part in the project. Without those relationships, such a project could have taken much longer to develop or may not have happened at all.

Closely related to partners' expertise, collaborative partnerships - where there is a need to fill potential technical gaps for the project owners and/or offer complementary expertise and networks - were also assessed as particularly relevant. Not only is it important for project owners to partner with organisations that have a long-standing expertise and strong networks in the region/sector of interest, but the credibility of those partners in the field matters too. For example, in the case of the FRB, working with well-known research partners, like the World Resources Institute (WRI), and highly regarded foundations, like the Rockefeller Foundation, was critical to raising the visibility of the projects and getting other partners on board.

Enabling regulatory environment: most of the other project owners interviewed did not report directly working to influence or shape local regulations and policies, often because they considered this to be outside their area of expertise. Instead they preferred to partner with more experienced organisations. ECOTIERRA, for example, reported working with Conservation International in the Café Selva Norte project. In some cases, however, like the Yagasu mangrove project, Yagasu works closely with village authorities to create the legislation that will ensure that mangroves planted as part of the project are protected over the long term. Working with those key enabling stakeholders, including local, regional or national authorities, is often vital to making the project happen and/or ensuring its sustainability. While not directly influencing the policy framework, Blue finance implements its blended finance model for marine protected areas (MPAs) through public-private partnerships with national authorities, such as the Ministry of the Blue Economy of Belize. This ensures aligned incentives between public and private stakeholders and reduces policy and regulatory risks.



(Image credit: ECOTIERRA)

2) Feasibility and piloting

Feasibility or proof-of-concept grants can be difficult to secure, leaving project owners at risk of bearing the costs of demonstrating feasibility. Securing feasibility funding provides much needed upfront capital for early-stage project development, especially for innovative NbS concepts that have no other proven examples to learn from and must build up a business case. In the case of the FRB, feasibility grants were provided by two philanthropies, the Gordon and Betty Moore Foundation and the Rockefeller Foundation. The Rockefeller Foundation focuses on supporting projects that aim to design innovative financing models and mechanisms. According to the project owner Blue Forest, that approach is still quite uncommon amongst philanthropies and funders, despite being essential to developing new models for bankable NbS.

Demonstrating the business case and assessing the economic value of the intervention(s) is another essential requirement for securing commercial investment. While it can be a straightforward exercise when considering well-established revenue streams, such as carbon credits, it is much more complex when it comes to valuing ecosystem services that are not typically translated into financial flows. In the case of the FRB, the WRI conducted an economic analysis to demonstrate the business case for paying beneficiaries, including utilities that would benefit from an improvement in water quality and quantity. This analysis was imperative to securing payments from the Yuba Water Agency (YWA), as it demonstrated that investing in the ecosystem benefits would provide greater economic value to the YWA than the amount of their contribution. While developing the economic analysis took three years for the first FRB pilot, it took less than 12 months for the second one, despite being a much bigger project. This shows that demonstrating a strong business case on a pilot can significantly ease replication and scale-up.

Technical assistance/capacity building grants can be important for ensuring the adequate implementation of activities, especially in cases where project stakeholders and beneficiaries are responsible for implementing a significant proportion of the technical intervention(s). For example, in the Mount Elgon project, building the capacities of farmers on sustainable agriculture land management and improved dairy management practices helps to ensure that the project is implemented to the standard required and generates tangible environmental and social impacts. It is similar for Yagasu's mangrove projects, which require in-depth training of local communities, including the community patrollers in charge of ensuring the protection of the mangroves.

3) Investment structuring

Mobilising concessional loans is key to securing cheaper capital and reducing repayment costs. For the FRB, the concessional loans provided by the Rockefeller and Gordon and Betty Moore Foundations, each with a 1% p.a. interest rate, enabled commercial investors to get more competitive returns while keeping payments from beneficiaries down. However, both the concessional and commercial investors were on *pari-passu* terms, meaning the debt they hold is of equal seniority and would entail the same treatment in the case of a default. Similarly, Blue finance uses a blended finance approach to unlock financing for MPAs, bringing together commercial and concessional loans. In this case, however, the concessional loans are structured as subordinated or 'junior' debt.

Securing guarantees can be a favourable way for borrowers to access capital while reducing the lender's risk. A credit guarantee instrument can help mitigate the risk associated with weaknesses in the enabling environment and address the risk-aversion of banks for financing less mature commercial ventures. However, credit guarantee schemes may come at a high cost and take a long time to secure, making it a non-viable option for small-scale projects. Some of the interviewed project owners, such as ECOTIERRA and Blue finance, reported having considered it, but were unable to proceed. In terms of insurance, Blue finance is looking at parametric insurance¹² against risks that would affect the MPAs' revenues, such as tourism fees.

¹² 'Parametric insurance' is a non-traditional insurance product that offers pre-specified payouts based upon a trigger event, such as a natural disaster.

Combining asset classes was not identified as a strong success factor, as it is strongly dependent on project design and whether several sources of capital from different types of investors are needed. In the case of Café Selva Norte, investments are a mix of equity (for infrastructure financing) and debt (loans to farmers). This is relevant in this specific project as it relies on a variety of very different interventions. Different investment terms can also help meet the varying needs of investors, something Yagasu reported having done for its mangrove projects, which are financed by twelve different carbon investors. However, multiplying asset classes can make deals more complex, as each instrument will be linked to specific terms (e.g. horizon, returns and repayment structure).

Aggregation. The small overall deal sizes of NbS are a key barrier to investments by commercial investors, who have minimum ticket sizes and need to minimise their transaction costs. As stated by Blue Forest, “it is easier to raise USD 400 million than USD 4 million”. To meet those investors’ needs, project owners must aggregate their offerings into a larger ‘financing facility’. With financial support from Convergence, Blue finance is working on developing such a facility to finance interventions in a range of MPAs in Southeast Asia. Similarly, when asked by an investor to deliver a certain amount of carbon credits which cannot be delivered by a single mangrove-planting project, Yagasu worked towards aggregating several small projects into one offering, keeping ground-level implementation manageable but ensuring it could deliver at the scale required by the investor.



(Image credit: ECOTIERRA)



(Image credit: Blue Finance)

4) Revenues and impact

Typical revenue streams in NbS projects include: i) creating additional revenues through product sales or fees (e.g. carbon credits, sustainable commodities or eco-tourism); and ii) decreasing costs (e.g. in the case of the FRB, where reduced fire suppression costs provide an economic incentive for beneficiaries to pay). Out of the five case studies, four reported carbon credits as either a key revenue stream or the main revenue stream, with only the FRB not relying on carbon credits. South Pole was unable to obtain information about the share of revenues from carbon credits versus other forms of revenue. **Combining revenue streams** was identified as an important success factors in some of the projects, such as the Blue finance case which brings together blue carbon, eco-tourism fees and sustainable businesses. If four of the case studies report at least two revenue streams, it often seems that one is much more significant than the others (e.g. carbon credits versus sustainable commodities, in the case of Yagasu). Furthermore, a few revenue streams are focused on providing additional livelihoods to local communities, rather than direct revenues to investors.

In addition, internal interviews helped identify some nuance to the revenue stream combination success factors. For example, one interviewee reported that a development bank decided not to invest in an NbS precisely because the combination of multiple revenue streams was seen as an execution risk and deemed unattractive. More than combining revenue streams at all costs, these streams should be adequate to both the investors and the investment terms considered. This means that debt investors expecting a shorter repayment period are unlikely to be interested in carbon credits as the sole revenue stream, as these are typically issued for forestry projects after ten years. In this specific instance, long tenure, equity or upfront carbon investment deals would work better. This mismatch between revenue timeframes and repayment expectations remains a very significant barrier to securing commercial investment in nature.

Securing offtake agreements can be an important success factor for carbon projects (i.e. Yagasu-mangroves) and, in some cases, for sustainable commodities (i.e. Mount Elgon). Depending on the commodity considered, it can be a suboptimal option: in the case of Café Selva Norte, ECOTIERRA explained that the coffee market is a sellers' market, so getting tied up with long-term offtake agreements may not offer the highest price to smallholder farmers. In that case, ECOTIERRA favoured strong marketing activities over offtake contracts for successfully securing a market.

While **measuring biodiversity and wellbeing impacts** did not come out strongly as a key success factor, all project owners have developed extensive KPI frameworks and/or impact measurement tools. They often choose to partner with research institutions (e.g. the FRB) or develop tools to facilitate data collection and reporting which, in turn, can be used for marketing purposes (e.g. the MINKA tool, developed by ECOTIERRA). The relatively low emphasis that project owners have placed on impact measurement as a key success factor seems to contradict findings from the literature.¹³ There are several factors that could explain this apparent discrepancy:

- The fact that the project owners do not perceive this to have been a decisive factor does not mean that it wasn't significant for investors. Perception can vary according to individuals and their roles within the projects (see the section 'Notes on assessment of frequency and importance' above). The CPIC's Conservation Finance 2021 report showed this difference in the responses given to a survey related to key barriers and enabling conditions for investments in conservation: the absence of a standard for measuring conservation impacts was seen as a more significant barrier by organisations that identified primarily as investors than it was by either project developers or organisations that invest in and develop projects (Baralon et al., 2021).
- In addition, one interviewee indicated that there could be different expectations from investors depending on whether an NbS is a conservation enterprise (e.g. its primary purpose is to preserve/restore ecosystems) or a business enterprise with a sustainability element (e.g. a sustainable timber plantation). In the latter case, the ways in which impacts are measured could potentially play a bigger role in securing investments.
- The analysis focused on case studies which have already secured investments. As impact measurement is typically an inherent part of project design, it is hard to assess whether this was the specific element that convinced investors to get on board, compared with another element of the design.

¹³ See Finance Earth (2021) for an example.

Conclusion: How to make more nature-based solutions bankable

This study shows that a range of success factors are at play when considering the bankability of place-based NbS. Those success factors should be considered by project owners for each phase of project development and implementation, from initial conceptualisation to piloting, disbursements and impact measurement.

The multiplicity of those success factors makes it very clear there is no such thing as a “blueprint to bankability” that can be systematically applied to guarantee bankability. The wide variety of NbS, from interventions, to targeted ecosystem, to location and revenue streams, means that the same success factors cannot and should not be applied systematically. However, they provide some guidance for project developers on how to design NbS that are more likely to meet investors’ requirements.

While there are plenty of ways to help improve the bankability of NbS, projects that have already attracted commercial finance are rare, and projects that are able to rely solely on commercial finance even rarer. Most NbS deals are still linked to relatively small deal sizes, unproven business models, and high implementation risks due to political and governance risks or a lack of creditworthiness in countries of intervention.

Recommendations from the analysis

The complexity of developing bankable NbS means that the scope of what project owners are responsible for or can influence on their own is limited. Rather, it is the whole ecosystem of stakeholders that must act to make more NbS bankable:

- **The public sector and philanthropies** have a key role to play. Both public and philanthropic funders must provide grant capital for project design and feasibility, technical assistance, capacity building and impact measurement to bring more projects to the bankability stage. It is also particularly important to see more philanthropic funders dedicate resources to developing innovative financial models that look at deriving economic value from nature. Finally, donors and foundations can also provide concessional and/or subordinated finance to improve an investments’ risk/return ratio and crowd-in private capital.
- **Non-profit organisations and research institutions** are essential knowledge partners that should continue to provide targeted expertise on a range of topics, including:
 - developing tools, metrics and innovative approaches to reducing costs and improving the reliability of impact measurement of NbS.¹⁴
 - assessing the economic value(s) of nature and ecosystem services to build a stronger business case for a wider range of NbS.
 - building and disseminating knowledge on bankable NbS ¹⁵. Web repositories, such as the [Green Finance Institute’s \(GFI\) Hive](#) and the [CPIC’s investment blueprints](#), are already providing useful information and are becoming more frequent. However, the number of case studies and the depth of information on individual case studies remain limited. More efforts are needed to expand these lists and increase the availability of financial information.

¹⁴ The importance of standardisation of definitions and metrics is also highlighted in the Terranomics study (Terranomics, 2022)

¹⁵ The Terranomics study identified the lack of information on returns and impacts as the single most important barrier according to interviewees 18 NbS finance professionals (Terranomics, 2022)

- **NbS project developers** must continue to demonstrate adaptability while designing new projects: engaging with stakeholders, including investors, throughout the conceptualisation and design stages is important for validating hypotheses and making any necessary changes to the investment model. Sharing the lessons learned from past projects is also essential for allowing others to learn from and improve on. As NbS solutions vary widely, it is particularly important to enable knowledge sharing on solutions that share a similar geography, targeted ecosystem and/or intervention type.

Other recommendations from the literature

While not a focus of the study, private investors and policymakers also have roles to play:

- **Private investors** must continue to develop their internal personnel capacities to assess NbS investments (Finance Earth, 2021), especially when looking at more complex interventions, such as rewilding (McQuaid, Kooijman, Rhodes, & Cannon, 2021). This gap could be addressed through additional in-house budget and staff but also targeted technical assistance packages for domestic financial institutions, and regional networking and mentorship programmes to help build an ecosystem of professionals (Terranomics, 2022). Private investors can innovate by designing and/or supporting innovative investment models and should set public biodiversity targets on which they report, showcasing their commitment to increasing investment in nature-positive projects.
- **Governments** must design effective public policies at local, national and international levels, including incentives and regulations that can reduce risks and increase revenues for projects. A few recent reports have provided a quantified assessment of the impacts of several public policies, such as reforming harmful agriculture subsidies (Global Canopy, 2020).



(Image credit: Blue finance)

References

- Baralon, J., Marks, D., Dieterich, U., Hinojosa, G., Mallin, C., Stadelmann, M., . . . Tobin de la Puente, J. (2021). *Conservation Finance 2021. An Unfolding Opportunity*. . Coalition for Private Investment in Conservation.
- CBD. (2020). *Zero draft of the post-2020 global biodiversity framework*. Convention on Biological Diversity.
- Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., . . . Tobin-de la Puente, J. (2020). *Financing Nature: Closing the global biodiversity finance gap*. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability.
- Earth Security. (2021). *The Blended Finance Playbook for Nature Based Solutions*. Retrieved from <https://earthsecurity.org/report/the-blended-finance-playbook-for-nature-based-solutions/>
- Finance Earth. (2021). *A Market Review of Nature-Based Solutions: An Emerging Institutional Asset Class*.
- Global Canopy. (2020). *The Little Book of Investing in Nature*. Retrieved from https://globalcanopy.org/wp-content/uploads/2021/07/LBIN_2020_RGB_ENG.pdf
- Hamrick, K. (2016). *State of Private Investment in Conservation 2016. A Landscape Assessment of an Emerging Market. Forest Trends' Ecosystem Marketplace*. Retrieved from <https://www.forest-trends.org/publications/state-of-private-investment-in-conservation-2016/>
- Hou-Jones, X., Roe, D., & Holland, E. (2021). *Nature-based Solutions in Action: Lessons from the Frontline*. London: Bond.
- IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. IPBES Secretariat.
- Losada, I. J., Menéndez, P., Espejo, A., Torres, S., Díaz-Simal, P., Abad, S., . . . Kirch, L. (2018). *The global value of mangroves for risk reduction*. Berlin: The Nature Conservancy.
- McQuaid, S., Kooijman, E. D., Rhodes, M.-L., & Cannon, S. M. (2021). *Innovating with Nature: Factors Influencing the Success of Nature-Based Enterprises*. Sustainability. doi:<https://doi.org/10.3390/>
- Responsible Investor Research & Credit Suisse. (2021). *Unearthing investor action on biodiversity*.
- Seddon, N., Smith, A., Smith, P., Key, I., Chausson, A., Girardin, C., . . . Turner, B. (2021). *Getting the message right on nature-based solutions to climate change*. *Global Change Biology*, 1518-1546. doi: <https://doi.org/10.1111/gcb.15513>
- Terranomics. (2022). *Nature Based Solutions - a review of current financing barriers and how to overcome these*.
- UNDP and IUCN. (2021). *Nature-based solutions for climate change mitigation*. Nairobi and Gland.
- United Nations Environment Programme, the World Economic Forum, the Economics of Land Degradation & Vivid Economics. (2021). *State of Finance for Nature*. Retrieved from <https://www.unep.org/resources/state-finance-nature>

Other resources

Reports and articles

Altamirano, M.A., de Rijke, H., Basco Carrera, L., & Arellano Jaimesena, B. (2021). Handbook for the Implementation of Nature-based Solutions for Water Security: guidelines for designing an implementation and financing arrangement, DELIVERABLE 7.3: EU Horizon 2020 NAIAD Project, Grant Agreement N°730497 Dissemination. Available at: <http://cpicfinance.com/wp-content/uploads/2021/04/D7.3REV.pdf>

Convergence (2021). The State of Blended Finance 2021. Available at: <https://www.convergence.finance/resource/0bbf487e-d76d-4e84-ba9e-bd6d8cf75ea0/view>

Cohen-Shacham, E., Walters, G., Janzen, C., & Maginnis, S. (eds.) (2016). Nature-based Solutions to address global societal challenges. Gland, Switzerland: IUCN. Available at : <https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf>

Hou-Jones, X., Roe, D., & Holland, E. (2021) Nature-based Solutions in Action: Lessons from the Frontline. London. Bond. Available at : https://www.bond.org.uk/sites/default/files/resource-documents/bond_-_nbs_case_studies_-_v4.pdf

IUCN (2020). Global Standard for Nature-based Solutions. A user-friendly framework for the verification, design and scaling up of NbS. First edition. Gland, Switzerland: IUCN. Available at: <https://portals.iucn.org/library/node/49070>

Rodewald, D.A., Arcese, P., Sarra, J., Tobin-de la Puente, J., Sayer, J., Hawkins, F., Martin, T., Guy, B., & Wachowicz, K. (2020). Innovative finance for conservation: roles for ecologists and practitioners. Ecological Society of America. Available at: https://www.esa.org/wp-content/uploads/2020/11/ESA_IssuesInEcology_no.22.pdf

The Nature Conservancy (2019). Investing in Nature. Private finance for nature-based resilience. Available at: https://www.nature.org/content/dam/tnc/nature/en/documents/TNC-INVESTING-IN-NATURE_Report_01.pdf

WWF-NL (2020). Bankable Nature Solutions. Available at: https://wwfint.awsassets.panda.org/downloads/bankable_nature_solutions_2__1.pdf

Repository of nature-based solutions case studies

Case studies were identified by screening the portfolios of funds and facilities, including technical assistance facilities, with a focus on NbS. Note that some of the funds/facilities support very early-stage, non-bankable projects. They are included here for future references, as their portfolios expand and the projects supported progress towards bankability.

- &Green Fund: <https://www.andgreen.fund/>
- Althelia Sustainable Ocean Fund (2020 Impact Report): <https://althelia.com/wp-content/uploads/2020/08/SOF-Impact-Report-2020.pdf>
- Blue Nature Capital Financing Facility: <https://bluenaturalcapital.org/supported-projects/>
- Dutch Fund for Climate and Development: <https://thedfcd.com/where-we-work/>
- Global Fund for Coral Reefs: <https://globalfundcoralreefs.org/>
- Land Degradation Neutrality Fund – Technical Assistance Facility: <https://www.idhsustainabletrade.com/landscapes/ldn-taf/>

- Livelihoods Funds: <https://livelihoods.eu/>
- Mobilising More for Climate: <https://www.momo4climate.org/>
- Revere: <https://revere.eco/>
- Tropical Landscape Finance Facility: <https://www.tlffindonesia.org/>

The following additional repositories of NbS case studies were consulted (note that only websites providing information on investment models have been included):

- the Climate Finance Lab: <https://www.climatefinancelab.org/project/>
- the CPIC: <http://cpicfinance.com/blueprints/>
- Convergence: <https://www.convergence.finance/resource>
- the GFI's Hive: <https://www.greenfinanceinstitute.co.uk/gfihive/case-studies/>

Resources for specific case studies¹⁶

Blended finance for marine protected areas

Blue Finance's website: <http://blue-finance.org/>

IUCN (2021). Belize's ethereal Marine Protected Areas receive investment of US\$ 1.2 million, raised in latest IUCN BNCFF project for Nature-based Solutions. Available at : <https://www.iucn.org/news/marine-and-polar/202106/belizes-ethereal-marine-protected-areas-receive-investment-us-12-million-raised-latest-iucn-bncff-project-nature-based-solutions>

Café Selva Norte

ECOTIERRA's website: <https://www.ecotierra.co/>

URAPI Fund's website: <https://www.urapi.co/>

LDN. Café Selva Norte. Coffee Agroforestry in Peru. Available at: <https://www.idhsustainabletrade.com/uploaded/2020/02/LDN-Report-5.3-Peru.pdf>

The Forest Resilience Bond

Blue Forest's website: <https://www.blueforest.org/>

Blue Forest (2017). Fighting Fire with Finance. A Roadmap for Collective Action. Available at: <https://static1.squarespace.com/static/5e9a1c0d4e0c2e67582026f2/t/5f1b7a5533dc544479ee9dcf/1595636395891/FRB%2B2017%2BRoadmap%2BReport.pdf>

Blue Forest (2021). The Forest Resilience Bond. Annual Impact Report 2020. Available at <https://www.blueforest.org/journal/the-forest-resilience-bond-2020-impact-report>

Blue Forest (2021). The Yuba Project (Story Map). Available at: <https://nff.maps.arcgis.com/apps/MapJournal/index.html?appid=5efcaae52465483d9d6848c1aff1ed50>

Blue Forest. Yuba II. A Forest Resilience Bond Project (Story Map). Available at: <https://blueforest.maps.arcgis.com/apps/Cascade/index.html?appid=c034415b1d69410c9df5d69e172260a8>

Convergence (2020). The Forest Resilience Bond Case Study. Available at : <https://www.convergence.finance/resource/213755b7-2d09-4e41-8ed1-e9a0087b64eb/view>

¹⁶ All web resources were accessed in February 2022.

Livelihoods-mangroves

Yagasu's website: <https://yagasu.or.id/>

International Database on REDD+ projects. Mangrove Restoration and Coastal Greenbelt Protection in the East Coast of Aceh and North Sumatra Province, Indonesia. Available at: <http://ifri.snre.umich.edu/redd/view/project.php?id=547>, <https://www.reddprojectsdatabase.org/view/project.php?id=547>.

Livelihoods Funds (2020). Interview With Bambang Suprayogi, Indonesia: "LIVELIHOODS RELIES ON A RESILIENT MODEL THAT CAN BE REPLICATED AT GLOBAL LEVEL". Available at: <http://livelihoods.eu/interview-with-bambang-suprayogi-yagasu/>

Livelihoods Funds. INDONESIA: mangroves revitalizing coastal villages with fishery & new businesses. Available at: <https://livelihoods.eu/portfolio/yagasu-indonesia/>

One Planet Business for Biodiversity. Livelihoods-Mangrove restoration project in Indonesia: revitalizing coastal villages with fishery, new businesses & improved livelihoods. Available at: <https://op2b.org/livelihoods-mangrove-restoration-project-in-indonesia-revitalizing-coastal-villages-with-fishery-new-businesses-improved-livelihoods/>.

Verra Registry. Available at: <https://registry.terra.org/app/projectDetail/VCS/1493>

Livelihoods-Mount Elgon

Vi Agroforestry's website: <https://viagroforestry.org/>

Global Nature Fund and OroVerde (2019). Case study: Kenya - Improving livelihoods through sustainable livestock husbandry and farming. Available at: https://www.regenwald-schuetzen.org/fileadmin/user_upload/pdf/Projekt/ForestLandscape/case-study-flr-kenya-eng.pdf.

Gold Standard (2021). Gold Standard Project Design Document. Mount Elgon Livelihoods Project. Version 4. Available at: https://impact.sustain-cert.com/public_projects/1811.

Gold Standard. Impact registry. Sustainable agroforestry based dairy value chain in Mount Elgon, Kenya. Available at: <https://registry.goldstandard.org/projects/details/1809>.

Livelihoods Funds. KENYA (Mount Elgon): agroforestry & sustainable dairy cycle with 30,000 farmers. Available at: <https://livelihoods.eu/portfolio/mount-elgon-kenya/>

Verra Registry (2019): Verified Carbon Standard Draft PD Livelihoods Mount Elgon project. Available at: <https://registry.terra.org/app/projectDetail/VCS/1944>.

Vi Agroforestry. Improving the livelihoods of 30,000 farmers through sustainable farming and milk-water-carbon value creation (project brochure). Available at: https://viagroforestry.org/app/uploads/2019/09/web_livelihoods-mt-elgon-brochure_a4.pdf

