WWF

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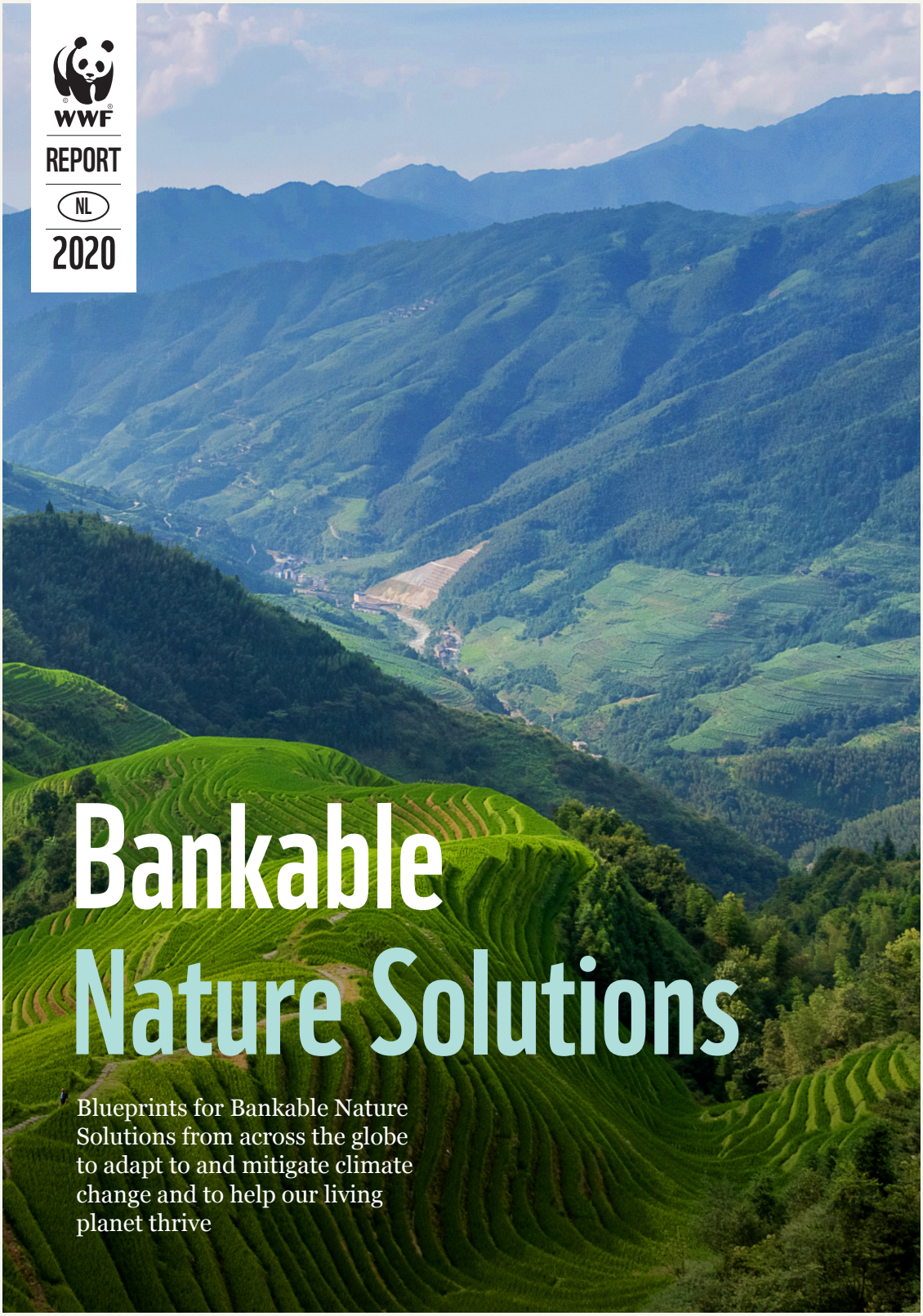


Bankable Nature Solutions

Blueprints for Bankable Nature Solutions from across the globe to adapt to and mitigate climate change and to help our living planet thrive

CONTENTS

FOREWORD

WE NEED TO WORK WITH COMPANIES, FINANCIAL INSTITUTIONS AND LOCAL STAKEHOLDERS TO DEVELOP BANKABLE NATURE SOLUTIONS

Our world faces major challenges. The negative impacts that arise from biodiversity loss and climate change are felt by nature and people across the globe. The number of natural disasters increases, pandemics rise, extreme weather conditions intensify, and wildlife and other species are in decline. Unsustainable agriculture, mining and generation of energy, lead to deforestation, pollution and overexploitation of natural resources.

Healthy nature and ecosystems are key for human wellbeing and development. The Sustainable Development Goals (SDGs) have been set up to counter the challenges we face. Yet, as the World Economic Forum points out there is a US$ 2,5 trillion investment gap per year, as only US$1,4 trillion of the required US$3,9 trillion is invested each year to reach the SDGs by 2030. For preserving and restoring ecosystems alone, the required investment is estimated between US$300 billion to US$400 billion, whereas, only US$52 billion is being invested in such projects.

With money only from governments and philanthropy we will never be able to fill this funding gap. Some asset managers and conservation experts have suggested that the private sector could close more than half of this funding gap by setting up profitable enterprises with a positive impact.

Building conservation and nature-based solutions into projects represents a massive opportunity. We need to work with companies, financial institutions and local stakeholders to develop Bankable Nature Solutions (BNS). This way, we can deliver impacts that reduce pressure on ecosystems, drive resilience and sustainability for both People and Nature, while generating positive financial returns for communities and investors.

That's why WWF is working effortlessly under the umbrella of BNS to set up bankable projects across a wide array of landscapes. Part of this work is done through Mobilising More for Climate (MoMo4C) and the Dutch Fund for Climate and Development (DFCD) partnerships programs. Through these collaborations, we can be instrumental in getting BNS underway and to serve as a catalyst for other bankable projects around the world.

Join us in finding and financing those projects.

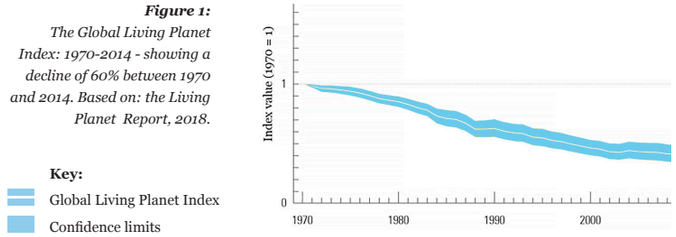
Kirsten Schuijt
CEO WWF-NL

INTRODUCTION

Collapsing ecosystems is a phenonomenon we are increasingly facing, calling for new solutions. Biodiversity loss and climate change pose tremendous challenges to our planet and its people. The Living Planet Report (2018) found a decline of 60% in population sizes of vertebrate species in the period 1970-2014. The tropics of Latin America even faced a 89% loss in the same period. Hundreds of millions of people are already exposed to the effects of biodiversity loss and climate change.

BIODIVERSITY LOSS AND CLIMATE CHANGE POSE TREMENDOUS CHALLENGES TO OUR PLANET AND ITS PEOPLE

Figure 1:
The Global Living Planet Index: 1970-2014 - showing a decline of 60% between 1970 and 2014. Based on: the Living Planet Report, 2018.



Restoring nature can help people to adapt by providing an ongoing source of food and other ecosystem services that support livelihoods, whilst also providing protection against extreme weather events.

There is a quest for bankable projects which have the ability to create positive environmental returns that lead to improved biodiversity and climate mitigation and/or adaptation, while also being attractive for financial institutions to invest in. WWF refers to these bankable projects as Bankable Nature Solutions.

This publication serves an introduction to Bankable Nature Solutions and presents 13 case studies that offer different solutions that generate a financial return and have a positive impact on nature and climate.

The publication is meant to demonstrate what bankable projects are and how WWF through the Bankable Nature Solutions practice/ division can work across different landscapes to overcome various challenges. It aspires to show global landscape practitioners, investors and investees that Bankable Nature Solutions can be a promising solution, helping to upscale projects and to achieve more impact.

IN THIS REPORT

This report aims to get you underway in understanding Bankable Nature Solutions (BNS) and help you to start identifying and develop your own BNS project. We invite you to read the full report, or to jump to one of these chapters:

To get a better understanding of **Bankable Nature Solutions**, start with **chapter 1**

page 10

To learn more about the **landscape approach** and how to adopt it, please navigate to

page 18

To learn more about in what kind of **sectors** Bankable Nature Solutions can be applied, go to **chapter 2**

page 22

To learn more about how to **mitigate risks** and **optimize project** outcomes, you can read about it in **chapter 3**

page 38

To get a better understanding on **how you can structure** a Bankable Nature Solution project, please take a look at

page 40

To find **inspiration** on Bankable Nature Solutions in practice and how you can apply it in your landscape context, take a look at the wide range of **case studies** in **chapter 5**

page 44

To find **key take-aways** from seasoned project developers that are already working on Bankable Nature Solutions, go to **chapter 6**

page 136

To **get started** with developing **Bankable Nature Solutions** yourself, go to

page144

In case you struggle with some of **the technical terms**, please consult the **glossary** on

page 152

CHAPTER 1:

Setting the Scene

BANKABLE NATURE SOLUTIONS:
WHY DO WE NEED THEM?

The negative impacts that arise from biodiversity loss and climate change are felt by nature and people across the globe. The most vulnerable people and communities are particularly affected by these phenomena, as they rely on natural resources for their livelihoods. Land use patterns, such as deforestation and agricultural intensification, are among the main drivers of climate change and ecosystem degradation.

Biodiversity, refers, very simply, to the variety of life: the diversity of all living organisms from the various ecosystems of the planet. It "includes diversity within species, between species and of ecosystems" in which they live (Secretariat of the Convention on Biological Diversity, 2005).

The UN Sustainable Development Goals (SDGs) are a wide set of goals that have been set up to counter the major challenges that our world is facing. Current investments are about a third of total investment needs with an investment gap amounting to US$2,500 billion annually (figure 1). For preserving and restoring ecosystems alone, the required investment is estimated at US$300 billion to US$400 billion, whereas, only US$52 billion is being invested in such projects (figure 2). This funding primarily stems from public and philanthropic sources.

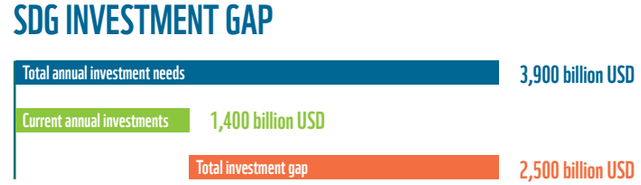
At the same time, many (financial) institutions such as development agencies, banks and corporates are looking for ways to catalyze private investment in this field. Some asset managers and conservation experts have suggested that private investors could close more than half of the funding gap by profitably funding enterprises with a positive impact. Yet, the private sector perceives nature conservation projects as relatively unattractive due to limited large-scale opportunities, limited liquid investment opportunities, non-transparent risks, relatively low returns and long time horizons.

WWF SEARCHES AND DEVELOPS PROJECTS TO PROTECT NATURE AND CONNECT THEM TO INVESTORS. WE DEVELOP THESE INTO PROFITABLE PROJECTS FOR ALL THE ONES INVOLVED.

Bankable Nature Solutions (BNS) are financially viable projects which support the development of more climate resilient and sustainable landscapes and economies. Their bankability enables projects to accelerate scaling and replication, realizing large-scale positive impact on nature and communities.

PRIVATE INVESTORS COULD CLOSE MORE THAN HALF THE FUNDING GAP BY PROFITABLY FUNDING ENTERPRISES WITH A POSITIVE IMPACT

Figure 1: *Estimated investment gap 2015-2030 in key SDG sectors including power, climate change mitigation/adaptation, food security and agriculture, water and sanitation, transport, education, telecommunications, health, and ecosystem/biodiversity. Billions of USD, annual average. Source: World Economic Forum, 2016.*



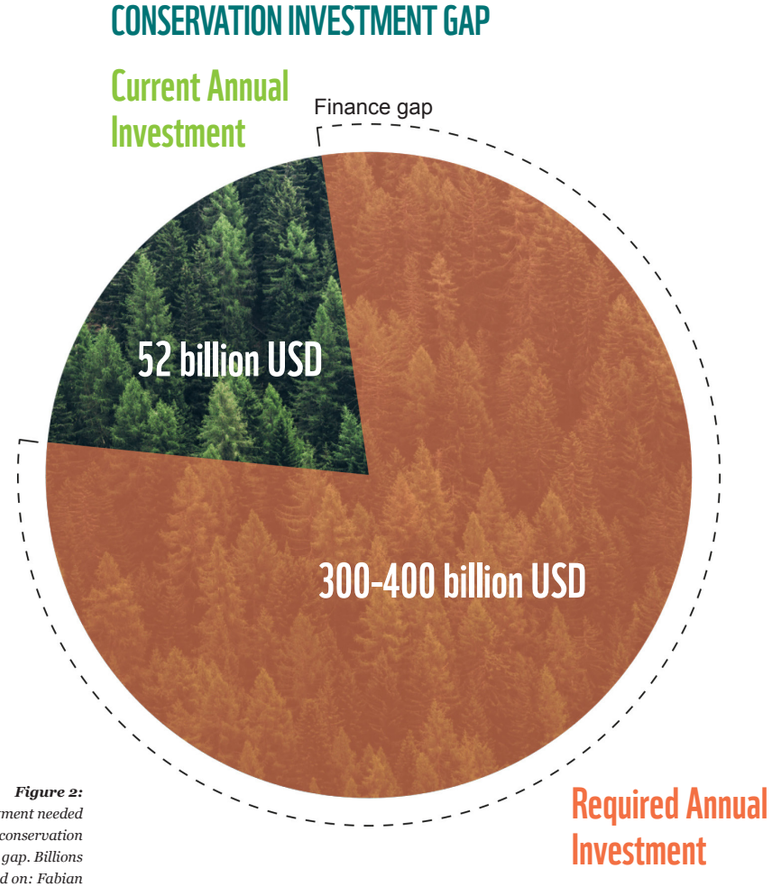


Figure 2: *Annual investment needed to close the conservation investment gap. Billions of USD. Based on: Fabian Huwyler et al., Conservation finance: Moving beyond donor funding toward an investor-driven approach, 2014.*

BANKABLE NATURE SOLUTIONS:
WHAT'S IN A NAME

It is important to have a common understanding of what Bankable Nature Solutions are, before working with them. While there is not one single definition, there is agreement about their main characteristics. Bankable Nature Solutions:

- Create positive environmental returns leading to positive biodiversity impacts or climate mitigation and/or adaptation and;
- Are acceptable to investors as they have (a combination of) characteristics such as:
  - Cashflow generating activities;
  - Sufficient collateral;
  - A high probability of success;
  - A clear exit strategy;
  - An acceptable risk-adjusted rate of return;
  - A clear proof of concept and proven track record.

Thus, Bankable Nature Solutions are solutions for environmental challenges that at the same time generate an acceptable (risk-adjusted) return on the money invested. Bankable Nature Solutions are not just different from regular conservation projects because of their source of funding. They are intrinsically different as they are managed by the private sector and as their design is centered around revenue generating activities that help recover project costs and generate a return on investment.

BANKABLE NATURE SOLUTIONS SOLVE ENVIRONMENTAL CHALLENGES WHILE AT THE SAME TIME GENERATING A RETURN ON THE MONEY INVESTED

Bankable Nature Solutions can be found across different themes – such as climate-smart agriculture, environmental protection, forestry, water and sanitation, and renewable energy. Compared to conventional (grant-driven) environmental projects, there is not only money flowing into a project, but the project itself is also generating sufficient money to pay back investors and generate a positive return. The investment can be through debt, equity or a combination of both. Hence, a bankable project is not an extra influx of money that can be used in the same way as when receiving grants.

IT IS THE TASK OF PROJECT DEVELOPERS TO DEVELOP A SOLID BUSINESS MODEL TO ENSURE THAT A PROJECT BECOMES FINANCIALLY SUSTAINABLE

The term bankability may suggest that it is something that only "bankers" should deal with. Yet, this is not the case. Private investors do not make a project bankable. It is the task of project developers to develop a solid business model to ensure that a project becomes financially sustainable. Activities must be implemented that either generate revenue or lead to cost savings. The role of bankers and other investors is to assess whether the expected risks and returns are acceptable and, if so, to provide the required capital.

Investors, banks and private companies are hungry to invest in more Bankable Nature Solutions, but it is important to make a distinction between the types of investment. The way how investors and investees assess the investment depends on whether it is equity or debt-based, the two most basic categories of investment types.

Debt:	**Equity:**
Lower risk, lower return, less flexible, suitable where cashflows are early (e.g. agriculture)	Higher risk, higher required return, required where long time til cashflows (e.g. forestry)

Text box 1:
Debt and Equity are the most basic categories of investment

Text box 1 explains these main types in more detail.

Debt is in fact a loan, an arrangement between borrower and lender. Money is borrowed on the condition that it is paid back with interest, compensating for the risk the lender is taking. Repayments can be either the total amount at one time or in tranches. Debt financing is straightforward ("you know what to pay back and when") and does not involve giving up a share in ownership. Yet, an inflexible repayment schedule may be challenging if cashflow is seasonal, non-linear or unpredictable. Repayments of debt are divided into the principal (the initial amount) and interest due. This most basic form of debt is also known as senior debt. Yet, there are a variety of debt structures such as subordinated debt (also known as junior debt), mezzanine debt, quasi-equity and profit-sharing loans that have more flexible repayment structures.

Equity is raising capital through the sale of ownership of your business. This means the investor will take a part of the profits or losses that the invested business makes, and accepts the risk that there will be no repayment at all. For this risk, equity investors normally require a higher return than debt providers. Equity investors often have a track record and bring years of experience, and can hence play a crucial role in the development of a bankable project. Conversely, because of their stake, equity investors may require a strict due diligence at the screening phase of a project and a more frequent monitoring during the development of the project. In addition to getting a share of the profits, equity investors can also make a profit by selling their shares at a higher price than the price they bought the shares at.

Private investment can also be combined with development finance and philanthropic funds (figure 3). This is known as blended finance. Blended finance aims to mobilize capital from the private sector through strategic use of public and philanthropic money, leading to positive returns for investors and society. A specific example is Viability Gap Funding (VGF), therewith granting support to projects that are economically justified but not yet financially viable.

Development funding can also be used to directly invest in projects but on concessional (below market) rates or terms. Such concessional investments can lead to allowing for a lower return on investment, accepting a grace period, or by taking a junior loan. Such blended finance structures help to reduce the risk for commercial investors and banks to co-finance projects. The objective of blended finance is to create models for private sector investments to ensure that a project eventually becomes financially viable without concessional finance. Thus, blended finance can provide a bridge from reliance on grant and donor financing towards financially self-sustaining approaches, as it creates the necessary enabling environment for private investors.

Figure 4 provides a spectrum from purely profit investments to purely social investments, highlighting different financial instruments and expected returns. Due to the diversity in types of investors and investments, different investors may have different requirements when financing BNS projects. Criteria for investors may include, among others, risk appetite, thematic or geographic focus, desired impact, return on investment, liquidity and timeframe. Together, this may result in an endless amount of possibilities to structure an investment according to the requirements and demands from the investors involved.

BLENDED FINANCE AIMS TO MOBILIZE CAPITAL FROM THE PRIVATE SECTOR, LEADING TO POSITIVE RETURNS FOR INVESTORS AND SOCIETY

BLENDED FINANCE CAN PROVIDE A BRIDGE FROM RELIANCE ON GRANT AND DONOR FINANCING TOWARDS MORE FINANCIALLY SELF-SUSTAINING APPROACHES, AS IT CREATES THE NECESSARY ENABLING ENVIRONMENT FOR PRIVATE INVESTORS

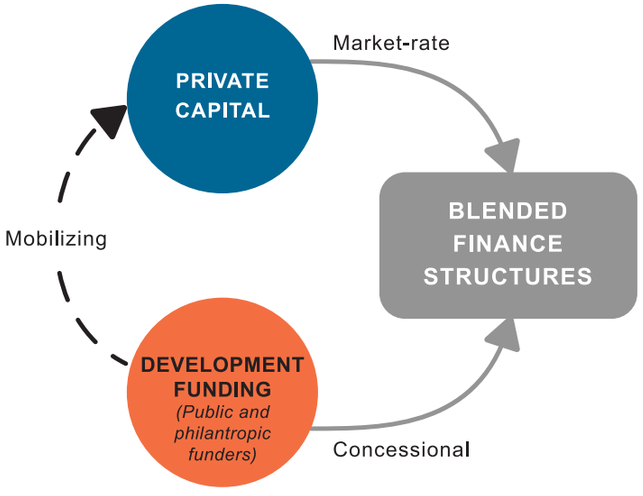


Figure 3:
Development funding can be used for mobilizing capital flows from the private sector. Based on "Blended Finance" by Convergence Finance.

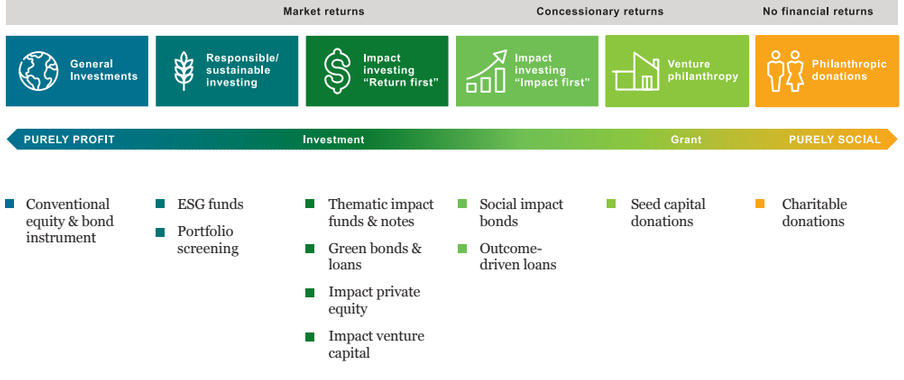


Figure 4:
The financial 'landscape' consists of a wide range of investors and instruments. BNS can span the entire width of this spectrum, often combining different categories through blended finance. Based on "From philanthropy to ESG" by Credit Suisse.

FOCUS ON THE LANDSCAPE APPROACH

For Bankable Nature Solutions to function optimally, it is of great benefit to focus on the wider landscape. The landscape approach is about reconciling competing natural resources demands in a way that is best for human well-being and the environment. More specifically, it seeks to integrate conservation, sustainable use and, where necessary, restoration across a landscape mosaic to sustain biodiversity and ecosystem services, whilst ensuring room for subsistence and commercial activities. It focuses on tackling issues together, which no individual stakeholder can solve alone, with the ultimate goal to achieve sustainable landscapes that help to meet the UN Sustainable Development Goals.

It acknowledges the complexity in a landscape, provides flexible solutions to adapt to change and integrates multiple objectives for the best results. The landscape approach looks beyond individual projects, creating an enabling environment at scale to attract investors and to support the sustainable financing of landscapes.

The Little Sustainable Landscapes Book (2016) has identified three important catalysts to enable integrated landscape management. These include: good governance, market access and sustainable finance. Five essential elements were distinguished to realize sustainable landscapes in a variety of contexts. WWF's Landscapes Working Group has taken this work a step further by identifying indicators and tools that help bring more definition to the landscape approach in practice.

FIVE ESSENTIAL ELEMENTS OF THE LANDSCAPE APPROACH

Based on: The Little Sustainable Landscapes Book, achieving the Sustainable Development Goals through integrated landscape management, 2016.

1 Establishing a multi-stakeholder platform

There are numerous stakeholders involved in a certain landscape, each with different needs and interests. Their views will not always coincide. Negotiation and trade-offs are therefore a key part of the process of realizing sustainable landscapes. Establishing and facilitating equitable exhange and communication between these stakeholders is thereby critical. The starting point is to identify the various interest groups involved and to find ways in which they can meet and interact in a just and effective way.

2 Building shared understanding

In order to build future pathways together, the various stakeholders need to develop a common understanding of the issues in the landscape, the various interests, and the spatial interrelations. It is key to ensure that everyone has access to the same information in order to make informed decisions about management approaches for a sustainable landscape. The starting point is to assess the natural and social capital in a landscape and to identify longer-term trends and root causes of the issues identified.

3 Collaborative planning

Sharing a common understanding of the issues in a landscape and the diverse motivations helps to identify a negotiated landscape vision with multifunctional objectives. Creating an integrated spatial planning helps to guide stakeholders on how to achieve the landscape vision. This includes a detailed action plan to put these objectives into practice.

4 Effective implementation

Many well-meaning projects fail because of a lack of focus on the implementation phase. During this phase, there might not be enough time and resources, or the right skillset may not be present. Landscape level programs are designed for the long-term and therefore need to be secured from changes in government, donor, corporate or NGO policy to ensure sustainability. For carrying out the work plan, it is crucial to plan realistically, follow rigorously, and monitor carefully. At the same time, these plans need to be adaptive in order to cope with unforeseen events.

5 Monitoring for adaptive management and accountability

Landscape processes are dynamic. We must learn from changes in order to improve decision-making and management. A good monitoring program proves to be one of the strongest indicators for a project's success. It helps to keep the momentum going by showing the impact realized and to identify when things are not working as planned and changes are needed. Monitoring costs are expected to be about 5-10% of the overall budget.

CHAPTER 2:

Investment Themes

INVESTMENT THEMES

Bankable Nature Solutions can be implemented along various themes. This Blueprint Book follows the four investment themes of the Dutch Fund for Climate and Development (DFCD), since this is the first and largest fund where WWF aims to deploy Bankable Nature Solutions. The four themes are: climate-smart agriculture, environmental protection, forestry, and water & sanitation. We have included a fifth category ("other") to allow for a broader spectrum of Bankable Nature Solutions.

Climate-smart agriculture

Climate-smart agriculture is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate. Climate-smart agriculture has three main objectives:

- Sustainably increasing agricultural productivity and incomes;
- Adapting and building resilience to climate change;
- Reducing and/or removing greenhouse gas emissions and the use of (chemical) fertilizers, pesticides and water to reduce the footprint on terrestrial and freshwater ecosystems.

Opportunity

- Climate-smart agriculture contributes to improving food security thanks to higher resilience of crops to extreme weather events;
- Maintains and improves soil quality, reduces soil degradation and saves water;
- Increases biodiversity by creating a healthy and natural environment;
- Reduces reliance on fossil fuels and pesticides resulting in the release of less chemicals and pollution in the environment.

INVESTMENT THEMES

Environmental protection

This theme encompasses projects that aim to protect or restore key ecosystems such as wetlands, peatlands and mangroves. This leads to many benefits ranging from the local to global scale. It provides important services to flora, fauna and local communities whose livelihoods depend on functioning ecosystems. In addition, these ecosystems are essential in protecting people against natural hazards, such as extreme floods, droughts and wind surges, and can serve as enormous carbon sinks.

Opportunity

- Ecosystems can provide ecosystem services e.g. stormwater management, improved air quality etc.;
- Ecosystems are nature's best defences against extreme weather events;
- Formerly degraded land becomes productive again leading to economic benefits resulting from natural resources and ecotourism;
- Biodiversity significantly increases when natural environments are protected or restored.

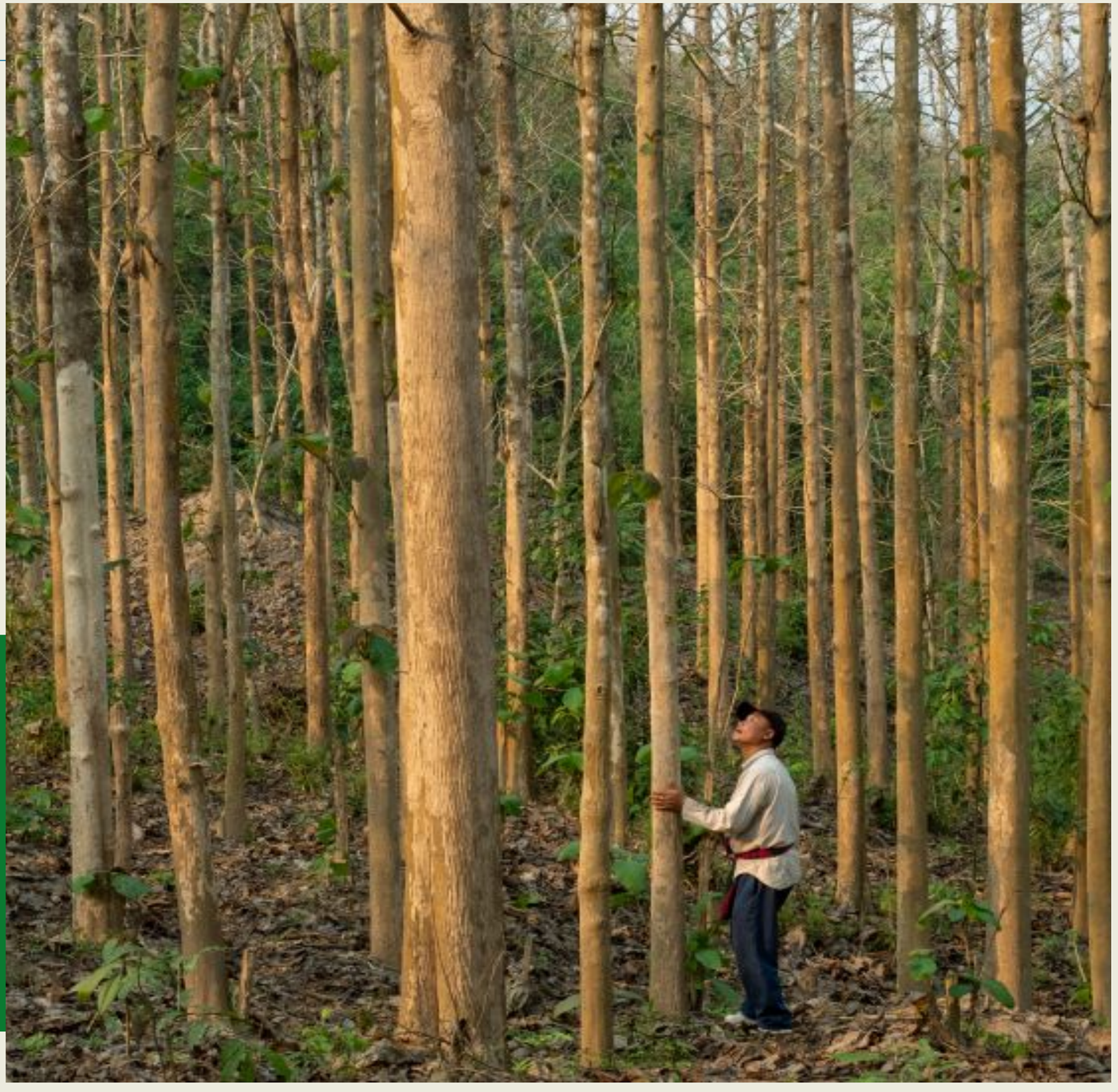
INVESTMENT THEMES

Forestry

This theme promotes healthy and thriving forests. Forests can be conserved or actively planted. Forests can be planted on land which previously contained forest but was converted to other land uses, as in the case of reforestation. Afforestation increases tree cover on land which historically did not contain forest. The diversity in tree cover is key for healthy and thriving forests, maximizing the benefits that these forests provide. Multiple sources of revenue can be derived from forests, including revenues from timber as well as from Non-Timber Forest Products such as nuts and edible fruits.

Opportunity

- Reverse land degradation and rehabilitate degraded land;
- Changes in land use through afforestation can lead to a gradual accumulation of Soil Organic Carbon (SOC), providing an effective climate mitigation strategy;
- Improved ecosystem functions and services such as soil and water conservation;
- Increase in biodiversity when using mixed species;
- Sustainable management of forestry and afforestation, providing job opportunities and benefits to the local economies.



INVESTMENT THEMES

Water & Sanitation

Climate change is expected to cause fluctuations in the water supply (e.g. droughts or flooding) and affect the quality of water. This theme consists of a broad range of possible interventions that mitigate or adapt to these changes. It encompasses restoration and sustainable management of wetlands, headwaters and floodplains in order to conserve crucial water resources. Moreover, it includes Water, Sanitation and Hygiene (WASH) programs that are aimed at improving availability of and access to drinking water and sanitation supplies.

Opportunity

- Restoration and sustainable management of water bodies builds resilience towards weather extremities, such as floods and droughts;
- Good wastewater treatment helps prevent contamination and destruction of natural habitats;
- WASH helps achieve gender equity as women and girls no longer need to collect water over large distances;
- WASH helps to provide more educational opportunities for children due to a decline in diarrheal diseases, and good and safe water supplies and sanitation.

Other

This theme encompasses projects that are outside the direct scope of the Dutch Fund for Climate and Development (DFCD) but that provide a large opportunity for climate and conservation investments. It includes projects related to renewable energy (e.g. wind and solar) and cleaner and more efficient production methods. Projects within this theme are centered around energy and resource efficiency.

Opportunity

- Renewable energy is a growing market currently accounting for one-third of the world's total energy capacity. Renewable energy can help reduce more than three quarters of global emissions, providing a sustainable solution to our growing energy demand;
- Investing in cleaner and more efficient production methods helps to lower production costs and to protect valuable and scarce resources.

CHAPTER 3:

Risks and Safeguards

RISKS AND SAFEGUARDS

While Bankable Nature Solutions aim to generate only positive impacts, unanticipated environmental and social risks may arise, such as pollution, unequitable value distribution and even social turmoil. In anticipation of these negative externalities, implementing safeguards is of key importance. Safeguards are a set of standards and implementation and compliance mechanisms that govern how activities should be carried out in order to mitigate potential negative impacts on environmental and social aspects. In general, safeguards are formulated to manage risks, support human rights and enable Bankable Nature Solutions to deliver the best possible outcomes for nature and communities

Applying safeguard policies can improve stakeholder engagement and the overall quality of project proposals. During the identification and design phase of a project, safeguards help to identify possible negative (and positive) social and environmental impacts, and to understand how to mitigate these impacts with the right interventions. Safeguards are important throughout the project to effectively manage risks and maximize positive impacts. It is more than ticking boxes. Rather, it should be truly engrained in the project.

APPLYING SAFEGUARD POLICIES CAN IMPROVE STAKEHOLDER ENGAGEMENT AND THE OVERALL QUALITY OF PROJECT PROPOSALS

While safeguards are important for all types of conservation projects, they are especially important in the case of bankable nature projects. Bankable Nature Solutions are a relatively new tool for organizations like WWF and conservation organizations that have just recently started working in this field. Moreover, commercial interests may increase the possibility of negative environmental and social externalities. By attracting non-traditional investors, there is the risk that lower safeguard standards are applied. At the same time, financial risks may arise if social and environmental risks are not properly mitigated. The importance of applying safeguards is further emphasized, as many financial institutions require investable entities to adhere to safeguards in order to be eligible for approval of their projects. While investor requirements may differ, they all stress the importance of addressing social and environmental risks comprehensively.

Thus, safeguards should be implemented in all BNS projects where environmental and social risks need to be managed.

THUS, SAFEGUARDS SHOULD BE IMPLEMENTED IN ALL BNS PROJECTS WHERE ENVIRONMENTAL AND SOCIAL RISKS NEED TO BE MANAGED

Safeguard implementation

To successfully implement safeguards the following aspects need to be taken into account:

- Free and Prior Informed Consent: engage all stakeholders in a participatory manner and collaboratively identify risks throughout the process;
- Adapt safeguards to the local context;
- Adopt a safeguards framework - this will help project owners to ensure consistent and in-depth application of safeguards;
- Have sufficient expertise with regards to risks & safeguards.

WWF has published a renewed Environmental and Social Safeguard Framework in 2019 and is continuously improving implementation and guidance material.

Text box 2:
Selection of safeguard frameworks already developed by other organizations.

There are several safeguards frameworks which can help you get underway to develop the right project/program specific safeguards. Best practice amongst impact investors and DFIs is to use IFC PS as the backbone of the safeguard approach. Additional guidelines can be implemented on top.

- **IFC Performance Standards (IFC PS) on Environmental and Social Sustainability**
  Standards developed by the International Finance Corporation that help companies in managing and improving their environmental and social performance.
- **Common Approaches (OECD)**
  An OECD agreement that sets common approaches for identifying, considering and addressing environmental and social risks.
- **United Nations Guiding Principles on Business and Human Rights**
  A set of global standards for preventing and addressing the risk of negative human rights impacts in business operations.
- **Equator Principles**
  A risk management framework, adopted by financial institutions, to determine, assess and manage environmental and social risk in projects.
- **Voluntary Guidelines on the Responsible Governance of Tenure (VGGT)**
  An international voluntary framework, developed by the Food and Agriculture Organization of the United Nations (FAO), to improve land governance through setting out principles and internationally accepted standards or practices for the responsible governance of tenure.

In case of doubt, please consult one of the WWF support networks as listed at the end of the book.

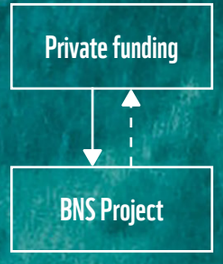
CHAPTER 4:

Blueprints

BLUEPRINTS

There is an infinite amount of options to structure a project, but nevertheless there are some clear and recognizable elements that can be found among a wide range of Bankable Nature Solutions projects.

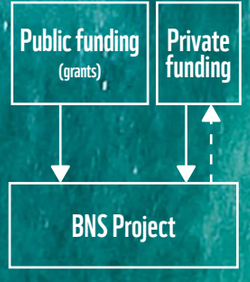
The elements of each of the blueprints can be combined to open a never ending range of possibilities.



Blueprint 1
The simplest blueprint consists of nothing more than an BNS entity that receives funding from a private investor. The investment can be through debt or equity. The investee can be an existing company or a special purpose vehicle.

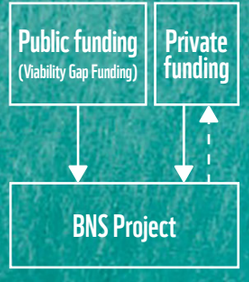
Although this is the most basic blueprint, it's not the most common. A whole range of additional blueprints exists (including blended finance) to cope with specific risks and needs of BNS projects.

Elements of this blueprint can be found in case studies 7 (page 90) and 9 (page 104).



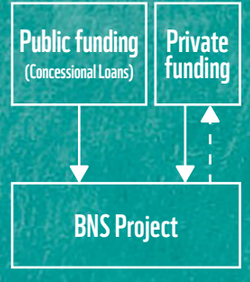
Blueprint 2a
A widely used design is to use grants to mobilize private funding. These grants can support unprofitable activities such as capacity building, technical assistance or monitoring. These grants can be one-off or continuous. Such grants can be provided by a wide variety of governments, organizations, NGOs or even by private companies, through their Corporate Foundations or sponsorships.

Elements of this blueprint can be found in case study 5 (page 78).



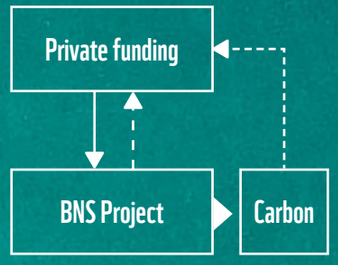
Blueprint 2b
Viability gap funding is a one-off grant that is aimed at bridging the financial viability of economically viable but financially unviable projects. Such projects make a profit, but are not financially viable without the grant (i.e. the Return on Investment is too low to attract the necessary investment). Viability gap funding is most common in infrastructure projects and can also be deployed to deliver public services at an affordable rate.

Elements of this blueprint can be found in case studies 4 (page 70) and 10 (page 110).



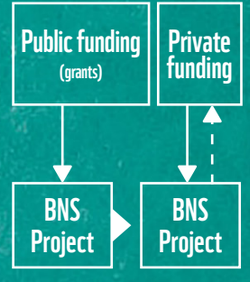
Blueprint 2c
Instead of using grants to mobilize private funding, public funders can also decide to invest through concessional loans. By accepting below-market interest rates, offering a grace-period or by taking a first-loss position, public funders can de-risk the investment from private investors and thereby create more favorable investment options to attract private funding.

Elements of this blueprint can be found in case study 8 (page 98).



Blueprint 3a
Many BNS projects sequester carbon and use this as a revenue stream. The income from the sales of carbon credits can be considered as a regular cashflow, but can also be set aside and used to directly repay the investor. Through such a mechanism, the funder has access to a consistent and predictable cashflow and can de-risk his investment.

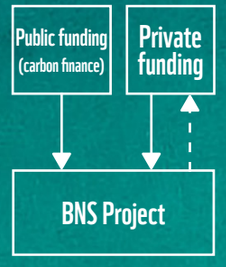
Elements of this blueprint can be found in project 2 (page 58) and 11 (page 118).



Blueprint 2d
Another way of mobilizing private funding is to use grants to establish proof-of-concept and then attract private funding for scaling up the project.

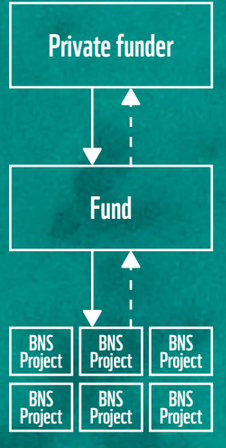
Elements of this blueprint can be found in case study 1 (page 50) and 8 (page 98).

THERE IS AN INFINITE AMOUNT OF POSSIBILITIES, BUT THERE ARE SOME CLEAR AND RECOGNIZABLE ELEMENTS



Blueprint 3b
Some public funders are willing to provide grants based on the carbon sequestration potential of a project.

Elements of this blueprint can be found in case study 6 (page 84).



Blueprint 4
An effective way to decrease risks and transaction costs is by pooling several projects in a fund. The fund structure can be combined with the elements from the other blueprints. Fund-in-fund investments are also quite common, where funds do not directly invest in a project but in other funds.

Elements of this blueprint can be found in case studies 11 (page 118), 12 (page 124) and 13 (page 130).

CHAPTER 5:

Selected Case Studies of Bankable Nature Solutions Across the Globe

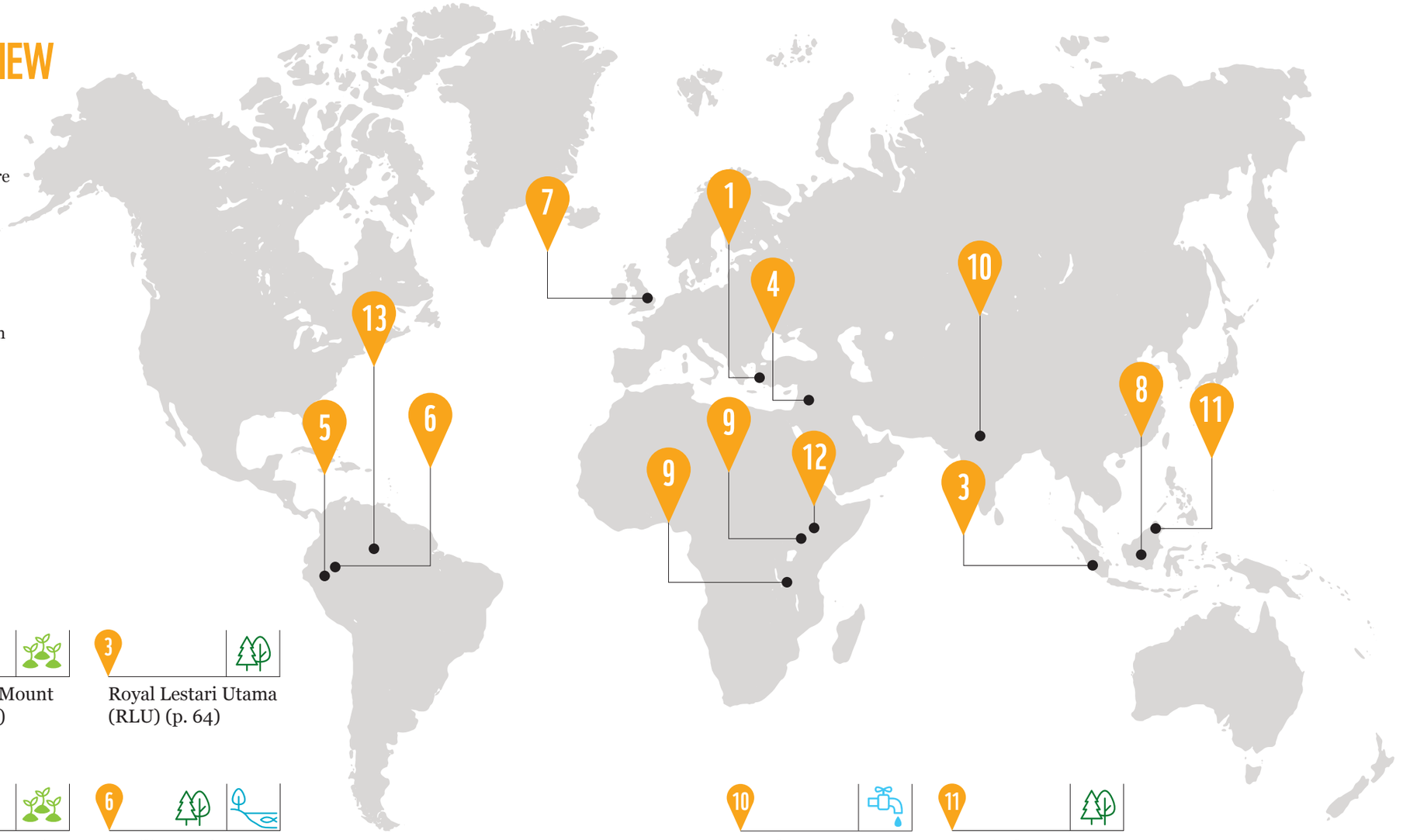
OUTLINE OF PROJECTS

This book provides 13 case studies of Bankable Nature Solutions. It outlines a broad spectrum of projects, allowing for a diversity in investment themes, geographies and ticket sizes. The types of projects vary largely: some are focused on smallholder farmers, whereas others concern large infrastructure projects. Projects also differ with regards to their stage of bankability. The diversity in case studies may help you to identify interesting Bankable Nature Solutions that suit your landscape.

#	Name of the project	Investment theme	Geography	Investment	Time Horizon	Key words
1	Büyük Menderes River Basin	Other (cleaner production methods)	Asia	€ 5-12 M	2017-2023	Landscape program, clean production methods, textile dying SMEs, resource efficiency
2	Livelihoods Mount Elgon	Climate-smart agriculture	Africa	US$ 3.5 M	2016-2026	Smallholders, coops, yield increase through SALM practices, offtake guarantee
3	Royal Lestari Utama (RLU)	Forestry	Asia	US$ 345 M	2018-2033	Large-scale, sustainability bond, conservation area, increasing rubber yield
4	As-Samra Wastewater Treatment Plant	Water & sanitation, Other (renewable energy)	Asia	US$ 371 M	2003-2008 (phase I) 2012-2015 (phase II)	Infrastructure project, large-scale, BOT, diverse financing mix
5	Café Selva Norte	Climate-smart agriculture	South America	US$ 14.5 M	2019-2034	Smallholders, coffee coops, fund-in-fund, value chain development
6	Resilience of Wetlands in Peru	Environmental protection, Forestry	South America	US$ 9.1 M + 5.5 M	2017-2022	Grant funding, potential for bankability, indigenous people, bio-businessses
7	Ingoldisthorpe Wetland	Water & sanitation, Environmental protection	Europe	£ 0.5 M	2017-2037	First water utility bond in Europe, natural wetland, replication
8	Fairventures social forestry	Forestry, Climate-smart agriculture	Asia	US $5 M	2019-ongoing	For-profit social venture, community agroforestry, diverse financing mix
9	REDAVIA: solar farms in Tanzania	Other (renewable energy)	Africa	US $>2 M	2014-ongoing	Renewable energy in remote communities, proof of concept and scaling, convertable loan
10	Hindustan Zinc Sewerage Treatment Plant	Water & sanitation	Asia	US $38.9 M	2014-2020	PPP, infrastructure project, resource efficiency, freshwater conservation
11	Tropical Asia Forest Fund: Malaysia	Forestry	Asia	US $170 M	2013-ongoing	First fund for sustainable forestry in South East Asia, sustainable plantation management, social engagement
12	Kenya Pooled Water Fund	Water & sanitation	Africa	US$ 10 M (annually)	2020-2030	Bond to Kenyan institutional investors, water and sanitation projects, reserve account and guarantees
13	Althelia Biodiversity Fund (ABF) Brazil	Climate-smart agriculture, Forestry	South America	US$ 100 M	2019-ongoing	Blended finance fund, impact investment in the Brazilian Amazon

GEOGRAPHICAL OVERVIEW OF PROJECTS

The selected case studies on Bankable Nature Solutions are spread across nine different countries and four different continents. The vast majority of the case studies are located in the Global South, home to the places and people most vulnerable to climate change and ecosystem degradation. Here we find the largest potential of and support for green investments.



1 Büyük Menderes River Basin (p. 50)

2 Livelihoods Mount Elgon (p. 58)

3 Royal Lestari Utama (RLU) (p. 64)

4 As-Samra Wastewater Treatment Plant (p. 70)

5 Café Selva Norte (p. 78)

6 Resilience of wetlands in Peru (p. 84)

7 Ingoldisthorpe Wetland (p. 90)

8 Fairventures social forestry (p. 98)

9 REDAVIA: Solar farms in Tanzania (p. 104)

10 Hindustan Zinc Sewerage Treatment Plant (p. 110)

11 Tropical Asia Forest Fund - Malaysia (p. 118)

12 Kenya Pooled Water Fund (p. 124)

13 Althelia Biodiversity Fund (ABF)-Brazil (p. 130)

THEME
Other (cleaner production methods)

GEOGRAPHY
Asia

STAGE
Implementation

INVESTMENT SIZE
€ 5-12 million

FINANCIAL INSTRUMENTS
Debt, grant

TIME HORIZON
2017-2023

PAYBACK PERIOD
6 months - 2 years

1. BÜYÜK MENDERES RIVER BASIN

Cleaner production methods in the textile sector

WWF, Central Government of Turkey (Department of Water Affairs), metropolitan authorities of Aydin and Denizli, South Aegean Development Agency (GEKA), international buyers/brands, textile manufacturing companies

1. BÜYÜK MENDERES RIVER BASIN

Project partners:

(Estimated) Impacts	Activity
1.5 million cubic meters of water saved At least **20%** of impact on water quality mitigated	Lowering costs through reducing the use of water, chemicals and energy

Landscape context

The Büyük Menderes river basin in southwestern Turkey is a vital source of water for the region and an area of rich biodiversity. It is home to two globally important wetland protected areas – Lake Bafa and Büyük Menderes Delta National Park. The Büyük Menderes basin is of key importance to the textile industry, accounting for about 60% of Turkey's textile exports. Yet, the textile manufacturing industry near Denizli causes severe water pollution, threatening flora and fauna and local livelihoods. In addition, downstream industries such as cotton farming and fishing are negatively affected by the water pollution, posing additional economic risks to the area.

THE BÜYÜK MENDERES RIVER BASIN IN SOUTHWESTERN TURKEY IS A VITAL SOURCE OF WATER FOR THE REGION AND AN AREA OF RICH BIODIVERSITY

Investment context

Turkey's textile industry is booming. In 2017, the textile industry amounted to US$10.5 billion – roughly 16% of Turkey's total exports - and this number is expected to rise with the predicted demand, production and export. Denzili shows a strong performance as a leading textile manufacturing city in the country. While the Ministry of Environment has shifted its focus towards the textile sector, incentives to implement clean production methods have been limited due to the absence of strong environmental regulations. This triggered the project to form. The project's main financial risk is related to default on repayment by the garment factories. Several instruments have been put in place to mitigate this risk, including offtake guarantees by global brands, (first-loss) guarantees by development finance institutions, and provision of collateral in loan agreements.

Project description

THE PROJECT HAS BEEN ESTABLISHED TO SIGNIFICANTLY IMPROVE WATER QUALITY IN THE BÜYÜK MENDERES RIVER BASIN AND ENSURE A SUSTAINABLE AND CLEAN WATER SUPPLY FOR BUSINESSES, PEOPLE AND NATURE

The project has been established to significantly improve water quality in the Büyük Menderes river basin and ensure a sustainable and clean water supply for businesses, people and nature. The project does this specifically through supporting a group of small and medium-sized textile (dying) companies to adopt cleaner production processes that use less water, chemicals and energy and reduce solid waste and wastewater.

These interventions range from small alterations such as changes in chemicals and improved water management, to large investments in equipment. Investing in ''grey infrastructure'' helps to minimize the impact of the industry on ''green infrastructure'', i.e. freshwater resources and the health of the basin.

The long-term goals are to:

- Raise the water quality from a low to a good status, especially in the highly polluted spots;
- Create a basin wide partnership with civil society, the Turkish government, and (international) private sector companies to set agreed conservation targets in key biodiversity areas, reduce resource use in industry production, and establish an effective monitoring system;
- Enforce effective wetland management and restoration in order to protect freshwater habitat and species.

1. BÜYÜK MENDERES RIVER BASIN

Investment structure

WWF supported textile dyers with attracting grants to fund feasibility studies for ≈40 processing facilities at a cost of €400,000-800,000. The largest sum was granted by the South Aegean Development Agency (GEKA). The additional financing requirement for the feasibility studies was met by textile buyers and brands. In addition, WWF created protocols with participating banks to facilitate the process of obtaining loans worth €3.6-8 million - €90-200k per facility - for cleaner production processes. Seven textile manufacturing companies have already invested €6.5 million in cleaner production methods and 12 other producers are committed to invest an additional €3 million.

Project size	€ 5-12 million
Cost savings	€ 4 -12 million annually
Payback period	6 months - 2 years

Business model & revenue generating activities

The business model is built upon cleaner production processes that help to lower cost of production and sustain the business, e.g. compliance with environmental legislation and regulations, alignment with the demands of international brands, and increased brand value. Financial returns are specifically generated through:

- Reducing the use of water (1.5 million cubic meters), chemicals and energy – cutting production costs.

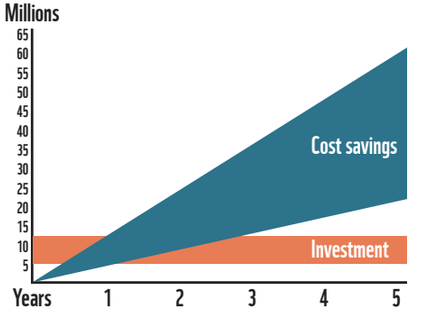
Feasibility studies point out that the interventions resulted in significant savings –€4-10 million/year through an investment of €5-12 million - with payback periods ranging from six months to two years.

THE BUSINESS MODEL IS BUILT UPON CLEANER PRODUCTION PROCESSES THAT HELP TO LOWER COST OF PRODUCTION AND HELP SUSTAIN THE BUSINESS

Risks & safeguards

A potential risk is related to working conditions, as the global trend of cost reductions drive cheap labor and long working hours. To mitigate this, all manufacturers who wish to become part of the project need to provide assurance of fair working conditions. In addition, brands have indicated that they only buy from suppliers who meet the minimum standard as measured by the Higg Index. WWF has moreover developed a safeguards manual to identify and manage social and environmental risks and opportunities. Stakeholder engagement is a key aspect of this manual. To ensure that activities do not harm certain groups, various stakeholders have been engaged throughout the project.

Figure 9: *Payback period is of the investment is between 6 months and 2 years.*



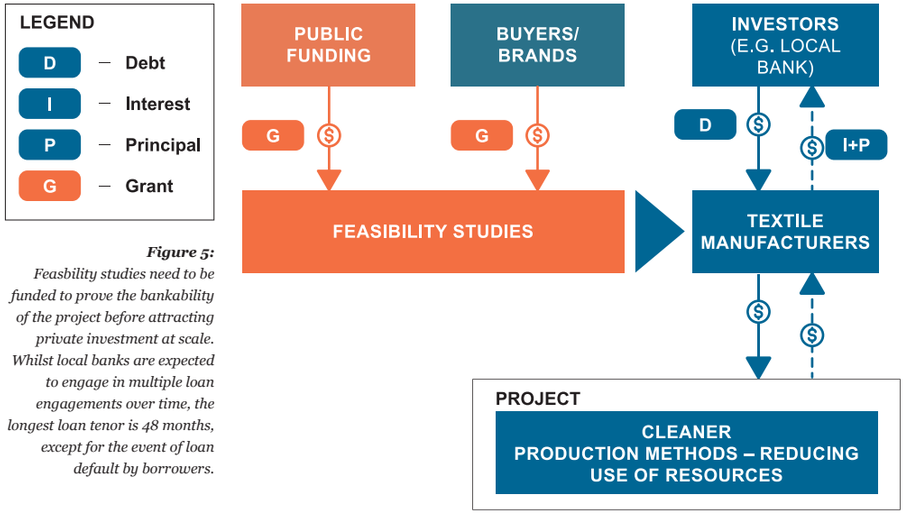


Figure 5: *Feasbility studies need to be funded to prove the bankability of the project before attracting private investment at scale. Whilst local banks are expected to engage in multiple loan engagements over time, the longest loan tenor is 48 months, except for the event of loan default by borrowers.*

Lessons learned

The model is innovative, since it involves different actors throughout the supply chain and along the river basin, and as it aligns the goal of reducing water pollution in the river basin with the commercial goals of the garment industry. The project is supported by the private sector with seven brands having already invested and an additional 12 brands having committed to invest. Key lessons learned include:

- The importance of multi-stakeholder platform negotiations when developing a project at basin level. WWF Turkey did some strong work to align a wide range of stakeholders with diverse priorities and agendas, resulting in widespread support for the project.
- Challenges regarding finding the required financing. It proved to be difficult to provide rates and loans that are attractive enough for Small and Medium-sized Enterprises (SME) . WWF is looking into blended finance mechanisms that can help lower the interest rates. It is thereby important to understand the real desired interest rate.

The project was based on learnings from similar projects across the globe. Other projects and activities in the region were reviewed to optimize models and approaches for the specific landscape of Büyük Menderes. Having a good grasp of local and international finance proved to be key in unpacking certain issues and identifying solutions.

HAVING A GOOD GRASP OF LOCAL AND INTERNATIONAL FINANCE PROVED TO BE KEY IN UNPACKING CERTAIN ISSUES AND IDENTIFYING SOLUTIONS

THEME
Climate-smart agriculture

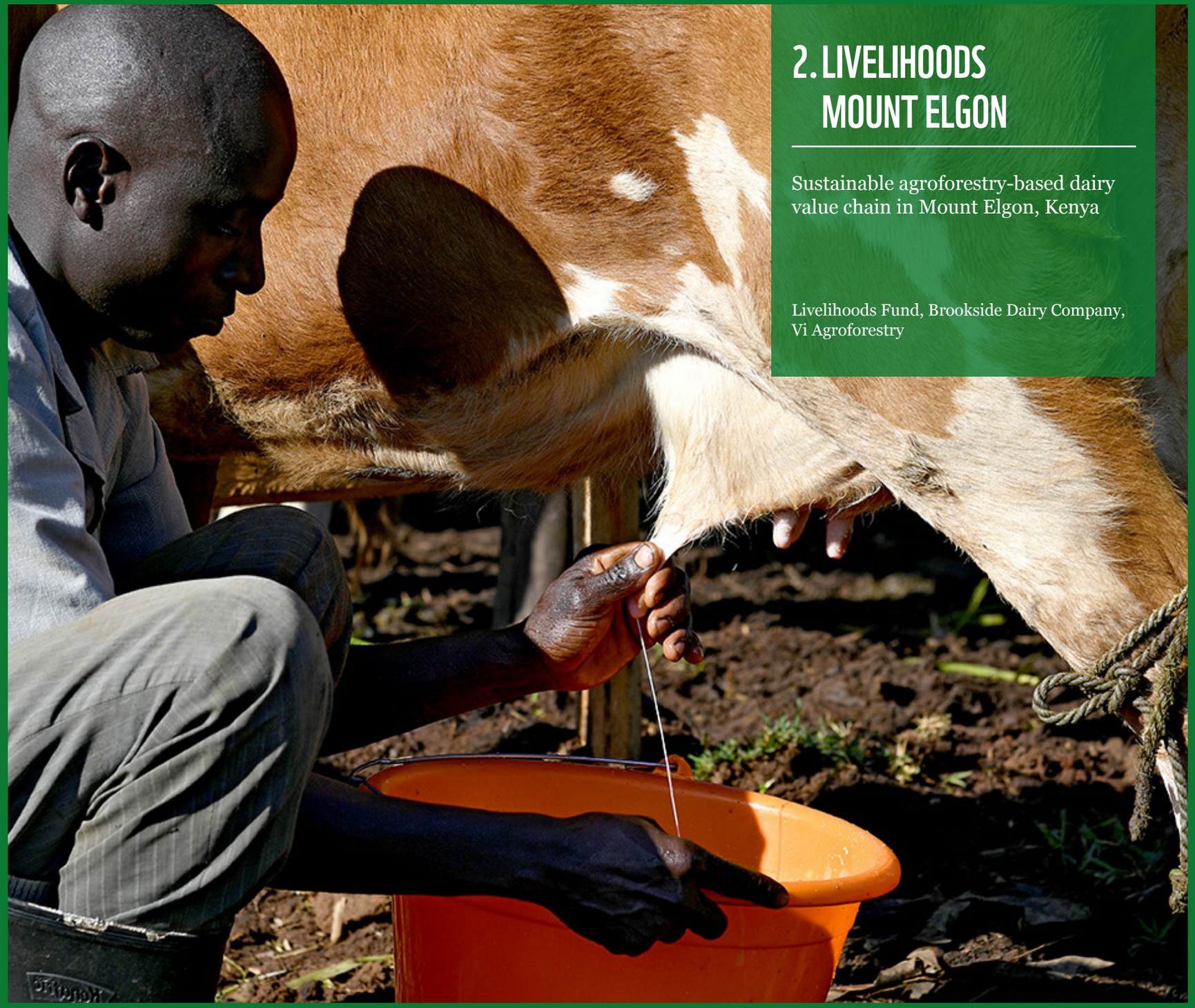
GEOGRAPHY
Africa

STAGE
Implementation

INVESTMENT SIZE
US$ 3.5 million

INSTRUMENTS
Debt, equity, grant

TIME HORIZON
2016-2026



2. LIVELIHOODS MOUNT ELGON

Sustainable agroforestry-based dairy value chain in Mount Elgon, Kenya

Livelihoods Fund, Brookside Dairy Company, Vi Agroforestry

2. LIVELIHOODS MOUNT ELGON PROJECT

Project partners:

LIVELIHOODS FUNDS ACT TODAY FOR A BETTER FUTURE

Brookside BROOKSIDE DAIRY LIMITED

Vi Agroforestry

(Estimated) Impacts

Creating **$200M** in the dairy sector in five years

1 million tons of CO_2e emissions sequestered

30% increase in crop yields supporting livelihoods

Activities

Generating revenue from increased milk production

Carbon credit revenues through increased sequestration

Landscape context

Mount Elgon in Western Kenya is home to two million people and is one of the main water catchments for Lake Victoria, accounting for over 15% of its water resources. Deforestation, unsustainable agricultural practices and uncontrolled grazing negatively impact local biodiversity and soil fertility. This also threatens watersheds and the ecosystem of Lake Victoria, as sediments are carried downstream. Moreover, the region faces socio-economic challenges. Crop yields and milk production are low due to poor access to nutritious feed, water and low producing breeds, and farmers have no sustainable market connection for their produce. In turn, the dairy sector is hindered by an unsecured supply of quality milk.

DEFORESTATION, UNSUSTAINABLE AGRICULTURAL PRACTICES AND UNCONTROLLED GRAZING NEGATIVELY IMPACT LOCAL BIODIVERSITY AND SOIL FERTILITY

Investment context

The investor context in Kenya is relatively favorable. Kenya ranks 56 in the category of ease of doing business. Furthermore, the government has set in place clear frameworks, such as the Kenya Strategic Investment Framework, for sustainable land management, guiding different actors with land management issues. Yet, its economy is highly dependent on climate-sensitive sectors, like agriculture and water management, preventing them to fully mature.

Project description

The Livelihoods Fund is an impact investment fund created by private companies including Danone. The project was developed with the goal of preserving biodiversity and water resources, while boosting the local economy. It combines agricultural productivity, environmental conservation and dairy value chain development, specifically through:

- Empowering and training 30,000 farmers on 35,000 hectares with Sustainable Agriculture Land Management (SALM) practices. This helps land to restore, reducing soil erosion and greenhouse gas emissions, increasing farm productivity, and helping farmers to adapt to climate change. In addition, it helps to conserve watersheds and biodiversity, and to protect Lake Victoria.
- Supporting 15 cooperatives with milk collecting, cooling and bulking, and strengthening them to improve their services to members.

THIS PROVIDES A WIN-WIN BASIS FOR BOTH: FARMERS HAVE LONG-TERM VISIBILITY AND CAN SAFELY INVEST IN THEIR FARM, WHILE BROOKSIDE HAS A SECURITY OF QUALITY SUPPLY

Ultimately, a sustainable supply chain will be created, linking farmers to the supply chain of Brookside Dairy, East-Africa's number one dairy player in which Danone owns a 40% stake. This provides a win-win basis for both: farmers have long-term visibility and can safely invest in their farm, while Brookside has a security of quality supply.

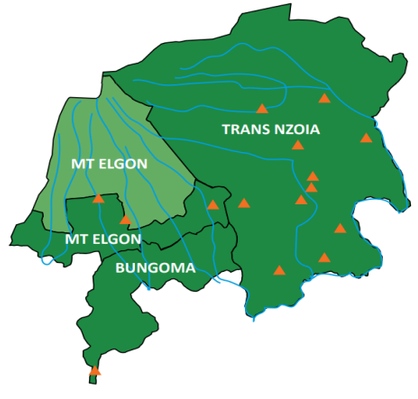


Figure 6:
Map of the project area. Mount Elgon in Western Kenya.

2. LIVELIHOODS MOUNT ELGON PROJECT

Investment structure

The project is built on an innovative model. The Livelihoods Fund bears the investment risk, a dairy company pays according to milk production, and an NGO (Vi Agroforestry) implements and monitors the project over ten years. The fund provides upfront financing through a grant and is financed by result-based payments. Delivered ecosystem services are monetized in the form of carbon credits that are certified under the Gold Standard and Verra scheme and sold to private investors. In addition, Brookside Dairy co-invests in the project and provides guarantees to buy the supply of raw milk over a period of ten years.

BROOKSIDE DAIRY CO-INVESTS, SUPPORTING COOPERATIVES AND GUARANTEES TO BUY THE SUPPLY OF RAW MILK OVER A PERIOD OF TEN YEARS

Business model & revenue generating activities

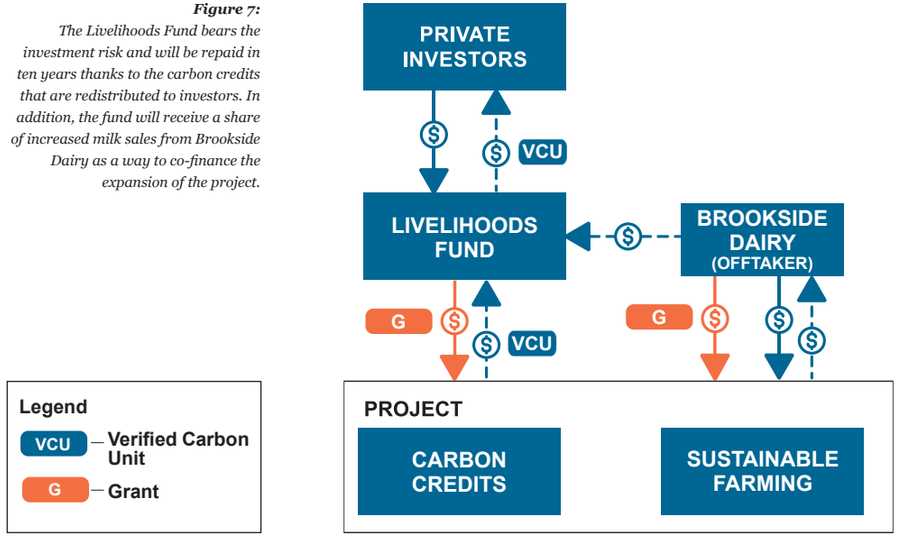
Financial returns are being generated by maximizing value creation for farmers and monetizing externalities:

- Sales of milk – adoption of SALM practices is expected to lead to an increase in milk production by nearly 30 times in 5 years (from 5,000 to 135,000 liters per day);
- Carbon credits – healthier soils as a result of SALM practices and increased efficiency of livestock farming lead to sequestration of one million tons of carbon. Quantity measured by Agroforestry Vi.

Risks & safeguards

Risks related to the quantity of carbon credits are with the investors, ensuring that smallholder farmers do not suffer any income losses. Moreover, local involvement is guaranteed through the engagement of 1200 groups and 15 existing cooperatives. The cooperatives are strengthened to help farmers collect, cool and bulk milk in order to obtain better supply contracts, and to offer additional services, such as cow artificial insemination and veterinary care. Nearly 19,000 farmers have already engaged in the project only two years after its inception. Furthermore, 50% of the farmers trained will be women in order to strengthen and enable them to actively participate in the decision-making on a household and cooperative level. A "Household Roadmap" tool has been designed to support them in reaching this goal.

Figure 7:
The Livelihoods Fund bears the investment risk and will be repaid in ten years thanks to the carbon credits that are redistributed to investors. In addition, the fund will receive a share of increased milk sales from Brookside Dairy as a way to co-finance the expansion of the project.



FINANCIAL RETURNS ARE BEING GENERATED BY MAXIMIZING VALUE-CREATION FOR FARMERS AND MONETIZING EXTERNALITIES

THEME
Forestry

GEOGRAPHY
Asia

STAGE
Implementation

INVESTMENT SIZE
US$ 345 million

INSTRUMENTS
Debt, equity, grant

TIME HORIZON
2018-2033

3. ROYAL LESTARI UTAMA (RLU)

Pioneering Sustainable Natural Rubber

PT Royal Lestari Utama (RLU), Tropical Landscape Financing Facility (TLFF), &Green, WWF-Indonesia, USAID, Bukit Tigapuluh National Park

3. ROYAL LESTARI UTAMA (RLU)

Project partners:

USAID FROM THE AMERICAN PEOPLE · WWF · TLFF TROPICAL LANDSCAPES FINANCE FACILITY · Royal Lestari Utama Natural Rubber

(Estimated) Impacts

Doubling natural rubber yield

9,700 ha established as buffer zone

Two third of concession area set aside for conservation & livelihoods

Activity

Generating revenue from increased rubber production

Landscape context

PT Royal Lestari Utama (PT RLU) is a sustainable natural rubber company in Indonesia, established in 2014. It has two Industrial Forest Plantation concessions in the province of Jambi (70,000 hectares) and one concession in East Kalimantan (18,000 hectares), totaling 88,000 hectares. The concessions are part of tropical forest landscapes, including the wider Bukit Tigapuluh Sumatra landscape, which form a habitat for critically endangered fauna such as the Sumatran orangutan and elephant, and provide important ecosystem services. Yet, around half of the forest has been lost over the past two decades, mostly as a result of illegal encroachment, slash and burn practices, poaching, illegal logging and development of oil palm plantations.

THE CONCESSIONS ARE PART OF TROPICAL FOREST LANDSCAPES, INCLUDING THE WIDER BUKIT TIGAPULUH SUMATRA LANDSCAPE, WHICH FORM A HABITAT FOR CRITICALLY ENDANGERED FAUNA

Investment context

The investor climate in Indonesia is moderate. Indonesia ranks 73 among 190 in the category of ease of doing business. The government has set in place laws concerning land development with percentages dedicated to commercial crops, community livelihoods and conservation. Sustainable landscape investments in the agricultural sector are characterized by a high level of risk. A project like this demands long-term funding of over 15 years. This time horizon, coupled with the difficult geographical situation, provides a large risk for most conventional financial partners. To counter these perceived risks, blended finance structures including public capital are encouraged in the early stages of transition.

Project description

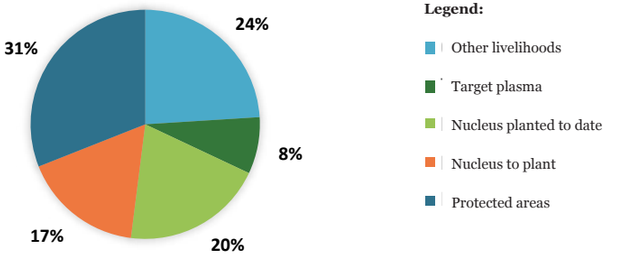
THE PROJECT GOAL WAS TO DEVELOP SOCIALLY INCLUSIVE RUBBER PLANTATIONS WHICH WILL TRANSFORM A SEVERELY DEGRADED LANDSCAPE INTO A PRODUCTIVE AREA

The project goal was to develop socially inclusive rubber plantations which will transform a severely degraded landscape into a productive area. The project does this specifically through:

- Establishing a wildlife conservation area (9,700 hectares) on the Jambi rubber concessions as a buffer to the Bukit Tigapuluh National Park;
- Setting aside High Conservation Value (HCV), High Carbon Stock (HCS) Areas and riparian areas for protection – 31% across all concessions;
- Providing direct employment to 16,000 people on the plantations and mills;
- Developing livelihood programs, including sustainable outgrower programs (plasma rubber) for 3,500 smallholders - providing training in best-practice and purchasing rubber at a slight premium.

Only 34,000 of the total concession area of 88,000 will be planted with commercial rubber and 7,000 with plasma rubber. The rest is being left for conservation, restoration and community development, and managed in collaboration with WWF.

Figure 8: *Investment allocated to different actvities. The largest investment was allocated to managing protected areas.*



3. ROYAL LESTARI UTAMA (RLU)

Investment structure

The project has a total value of US$345 million of which US$100 in equity is provided by PT RLU, an Indonesian joint venture between Groupe Michelin (49%) and PT Barito Pacific (51%). US$245 million is provided by the Tropical Landscapes Finance Facility (TLFF) through their loan fund (US$195 million) and grant fund (US$40 million for smallholder financing). TLFF provides a long-dated Sustainability Bond to fund PT RLU. The bond is organized by BNP Paribas and monitored by ADM Capital. It totals US$95 million under tranche 1 and issues three classes of notes (figure 9). USAID is providing a 50% first-loss guarantee for the A shares, which allowed them to gain AAA rating, attracting institutional investors. The class B2 notes appeals to impacts funds such as &Green, which has purchased 7 year and 15-year notes of US$23.75 million in total. Tranche 2 is projected at US$120 million.

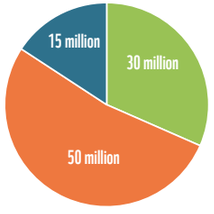


Figure 9:
Tranche 1 is issued in 3 classes of notes.

Investor	Investment (in US$M)	Type
PT RLU	100	Equity
TLFF loan fund (tranche 1)	95	Sustainability bond
TLFF loan fund (tranche 2)	120	Sustainability bond
TLFF grant fund	40	Grant

Business model & revenue generating activities

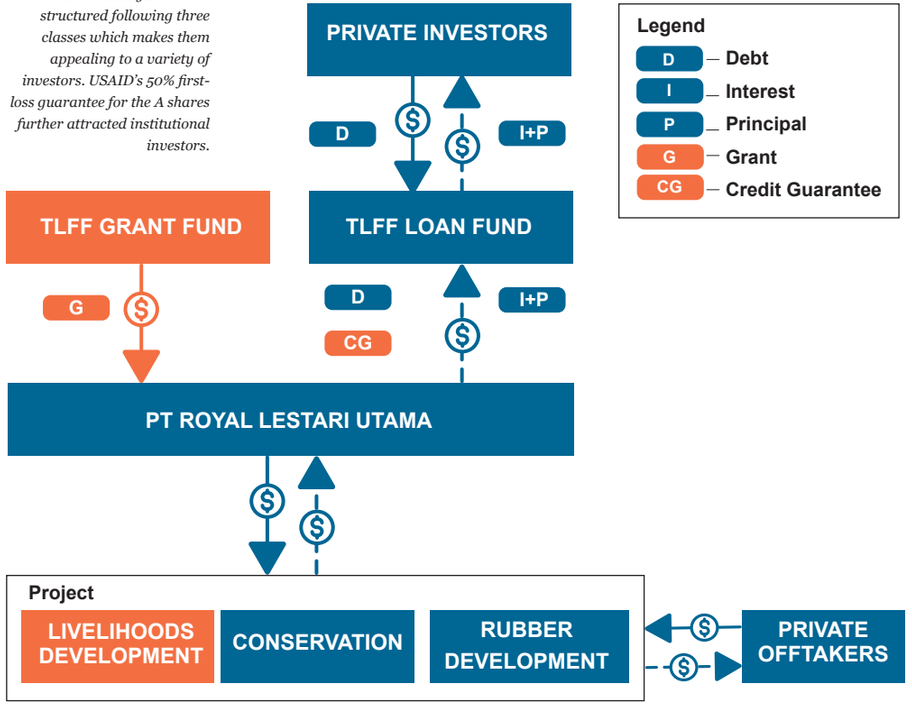
Financial returns are being generated by increased yields from the rubber plantations. As a result of the interventions, annual rubber yield is expected to be as high as 1.7 tons per hectare - compared to Indonesia's current 0.8 tons per hectare. Michelin has committed to purchasing at least 75% of production from the plantations, which will represent 10% of all natural rubber purchased worldwide by Michelin.

MICHELIN COMMITTED TO PURCHASING 75% OF PRODUCTION FROM THE PLANTATIONS

Risks & safeguards

Risks arise from the complexity of the landscape and its challenging social dynamics. The area is already highly encroached making it even more important to carefully manage relations with the surrounding communities. Environmental risks are related to balancing agricultural intensification with biodiversity conservation, erosion control and water management. To mitigate these risks, PT RLU has developed strict commitments and has set up both a landscape protection plan and an Environmental and Social Monitoring System. The latter includes an Environmental & Social Action Plan, a Community Partnership Program and an Integrated Forest Management Plan. These additional plans aim at ensuring that business practices support sustainable use of the land across all key pillars: social, environmental and commercial.

Figure 10:
TLFF consists of a loan fund and a grant fund. The Sustainability Notes are structured following three classes which makes them appealing to a variety of investors. USAID's 50% first-loss guarantee for the A shares further attracted institutional investors.



THEMES
Water & sanitation,
Other (renewable energy)

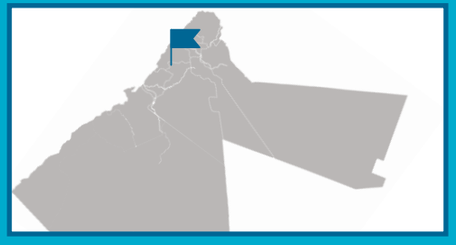
GEOGRAPHY
Asia

STAGE
Completed

INVESTMENT SIZE
US$ 371 million
(phase I and II)

INSTRUMENTS
Debt, equity, grant

TIME HORIZON
2003-2008 (phase I)
2012-2015 (phase II)



4. AS-SAMRA WWTP

The largest wastewater treatment facility in Jordan

USAID, Millennium Challenge Corporation (MCC), Jordan Ministry of Water and Irrigation, Consortium of Banks led by the Arab Bank, the Samra Plant Company (SPC) (comprising Suez Environment, Ondeo Services, Ondeo-Degremont and Morganti)

4. AS-SAMRA WASTEWATER TREATMENT PLANT

(Estimated) Impacts

Affordable treatment of **70%** of wastewater

80% of renewable energy installed

Irrigating **4,000** farms on **10,000 ha**

Activities

Generating revenue from water tariffs

Lowering energy costs through on-site energy production

Landscape context

Jordan is one of the driest countries in the world. Groundwater levels are declining, causing salination, while demand for water is high. Amman and Zarqa are Jordan's largest cities and population growth combined with the influx of Syrian refugees further trigger the demand for water. Outside the cities, agricultural production in the Jordan Valley is highly dependent on non-conventional water resources: 60% of crops are irrigated with treated wastewater. Meeting this demand is challenging as the country's water infrastructure is aging. The As-Samra Wastewater Stabilization Ponds (WSP) was constructed in 1985 but was overloaded very quickly, causing major environmental and health concerns. Its effluents were unable to meet the domestic wastewater discharge standards, causing pollution into the Zarqa river. There is a need to confront these challenges and to counter the prospect of declining water supplies per capita.

JORDAN IS ONE OF THE DRIEST COUNTRIES IN THE WORLD. THERE IS A NEED TO COUNTER THE PROSPECT OF DECLINING WATER SUPPLIES PER CAPITA.

Investment context

Investments in the Jordan infrastructure sector through private sector engagement remains a challenge, especially when there is a lack of excludability. Water infrastructures often have poor commercial rates of return through substantial investments,

Project partners:

Hashemite Kingdom of Jordan Ministry of Water and Irrigation · ARAB BANK · MILLENNIUM CHALLENGE CORPORATION UNITED STATES OF AMERICA · USAID FROM THE AMERICAN PEOPLE · MORGANTI A SOLID FOUNDATION · SUEZ

long gestation periods and fixed returns. There are, moreover, profound political and social changes happening in the region which have an adverse financial impact. Jordan is ranked 75 among 190 economies in the ease of doing business.

Project description

THE AS-SAMRA WASTEWATER TREATMENT PLANT WAS IMPLEMENTED ALONG WITH THE WASTEWATER NETWORK PROJECT TO REPLACE THE OLD AS-SAMRA WASTEWATER STABILIZATION PONDS

The As-Samra Wastewater Treatment Plant (WWTP) was implemented along with the Wastewater Network Project of the Jordan Ministry of Water and Irrigation to replace the old, overloaded As-Samra WSP and to treat wastewater released from the Zarqa River Basin. It helps to improve Jordan's water management by:

- Helping to improve environmental conditions by increasing the capacity to treat growing volumes of wastewater (from 267,000 to about 365,000 cubic meters a day), serving 2.2 million people living in the Greater Amman and Zarqa areas;
- Providing increased supply of high-quality treated wastewater for agricultural use at an affordable price;
- Freeing up fresh water for other uses (e.g. fresh drinking water);
- Eliminating the odors that were being released from the former WSP.

The project will further help increase on-site energy production through biogas and hydroelectric turbines which will have considerable environmental and economic benefits.

PHASE I
Public (54%)
Private (46%)

PHASE II
Public (51%)
Private (49%)

4. AS-SAMRA WASTEWATER TREATMENT PLANT

Investment structure

A diverse mix of financing has been put in place to finance the project where viability gap grant funding enabled the project to become financially viable, bringing down capital costs therewith ensuring that water tariffs could remain low. The facility has been built under a build, operate and transfer (BOT) basis which was put in place by the Government of Jordan, the Samra Project partners, the financial institutions led by Arab Bank, USAID (phase I) and the Millennium Challenge Corporation (phase II expansion). The facility received a concession for a period of 25 years. The tenor on the loan provided by the banks is 20 years marking the longest maturity Jordanian banks have ever offered for this type of project. The floating interest rate is extremely competitive. Cashflows generated during the first phase have been used to support the phase of expansion. A second expansion (~US$235 million) is underway, again structured as a blended finance model to reduce risks.

A DIVERSE MIX OF FINANCING HAS BEEN PUT IN PLACE TO FINANCE THE PROJECT WHERE VIABILITY GAP GRANT FUNDING ENABLED THE PROJECT TO BECOME FINANCIALLY VIABLE

PHASE I - Construction

Investor	Investment (in US$M)	Type
Public Funding (54%)		
USAID	78	Grant
Jordanian government	14	Government contribution
Private Investment (46%)		
Consortium of banks led by the Arab Bank	60	Loan
The Samra Plant Company (SPC)	17	Equity

PHASE II - First expansion

Investor	Investment (in US$M)	Type
Public Funding (51%)		
Millennium Challenge Corporation	93	Grant
Jordanian government	20	Government contribution
Private Investment (49%)		
Consortium of banks led by the Arab Bank	102	Loan
The Samra Plant Company (SPC)	178	Equity

Business model & revenue generating activities

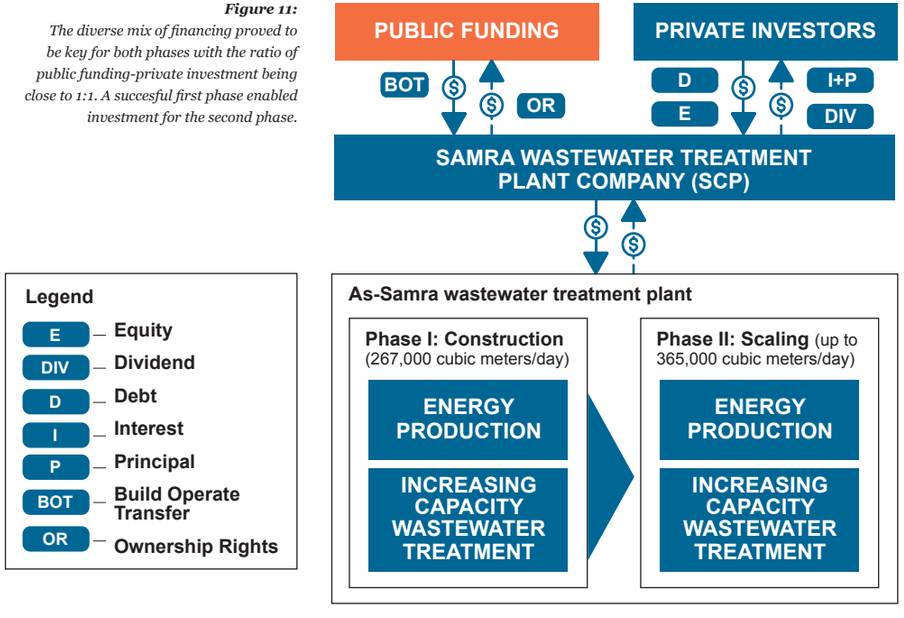
Financial returns are being generated through both cost-saving and profit-generating activities:

- Wastewater treatment at affordable tariff - increase in volume of wastewater treated at an affordable tariff. Total cost of treatment per cubic meter is the lowest in Jordan;
- Energy production – the facility is 80% self-sufficient in terms of electricity need, saving US$14 million in annual operation costs.

Risks & safeguards

Significant anticipated environmental and social risks of construction and operation of the plant are related to air quality and noise, land use and landscape, pest nuisance, and water quality and quantity. The project sponsors' consortium has prepared a health, safety and environment (HSE) management plan to mitigate these risks. As part of this plan, daily on-site supervision is provided including monitoring and supervision of HSE performance. In addition, viability gap funding was used to ensure that water tariffs for rate-payers remained low. Total cost of treatment is even the lowest in Jordan.

Figure 11:
The diverse mix of financing proved to be key for both phases with the ratio of public funding-private investment being close to 1:1. A succesful first phase enabled investment for the second phase.



Lessons learned

The first expansion phase turned out to be a success. The Zarqa river quality has significantly improved. The plant has a positive impact on the irrigation practices and on the enhancement of wildlife and its habitats. The project is now in the process of developing a second expansion (to an additional treatment capacity of 100,000 cubic meters per day) with an expected additional investment being at least US$235 million. The public-private ratio is expected to be similar with USAID acting as a grantor of US$100 million, ensuring viability. Key lessons learned from the first two phases are that:

- Public-private partnerships provide important benefits. Viability gap funding enabled the project to get to the volume and become financially viable, benefitting the government and rate-payers without subsidizing the private sector. Political will is key here. Make sure that the public and private sector have a similar understanding to optimize financial structuring.
- Within a public-private partnership, the role of the private sector is to manage the capital. This helped the WWTP to optimize costs, facilitate implementation of new technologies, and to adapt fast to external pressures and opportunities, all while keeping tariffs affordable.
- The BOT structure proved to be successful and was replicated at other locations.

AS-SAMRA IS NOW IN THE PROCESS OF DEVELOPING A SECOND EXPANSION, WITH AN EXPECTED ADDITIONAL INVESTMENT OF $235 MILLION

THEME
Climate-smart agriculture

GEOGRAPHY
South America

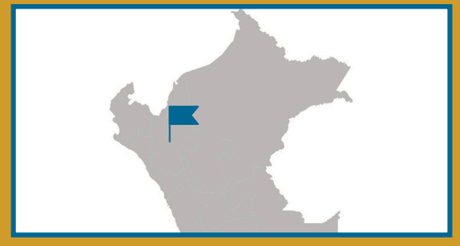
STAGE
Implementation

INVESTMENT SIZE
US$ 14.5 million

INSTRUMENTS
Debt, equity

TIME HORIZON
2019-2034

IRR (EXPECTED)
12%



5. CAFÉ SELVA NORTE

Climate-smart coffee agroforestry systems in Peru

The Land Degradation Neutrality (LDN) Fund, LDN Technical Assistance Facility (TAF), URAPI Sustainable Land Use Vehicle, ECOTIERRA

5. CAFÉ SELVA NORTE

Project partners:

ECOTIERRA ŪRAPI Sustainable Land Use idh the sustainable trade initiative

(Estimated) Impacts

1.3 million tons of CO_2e sequestered/ reduced

8,250 ha of productive agroforestry systems

Livelihoods of **2,000** producers improved

Activities

Generating revenue from timber and increased coffee sales

Generating revenue from the processing plant's services

Carbon credit revenues through increased sequestration

Landscape context

Coffee cooperatives in the Amazonas and Cajamarca regions in Peru face significant barriers to realize sustainable growth. While the cooperatives are professional organizations, exporting hundreds of tons of high-quality coffee each year and recognized in the markets, their development is hampered. There is a lack of availability of processing facilities and there are limited resources available to invest in the required infrastructure to ensure quality and traceability. In addition, thousands of hectares of coffee plantations are underutilized or degraded and similar numbers are unprofitable. Farmers are poorly protected against the effects of climate change and have limited means to change this. This leads to continuous deforestation, soil erosion and loss of income.

FARMERS ARE POORLY PROTECTED AGAINST THE EFFECTS OF CLIMATE CHANGE AND HAVE LIMITED MEANS TO CHANGE THIS

Investment context

There are substantial risks related to this type of investment. The agricultural sector and the coffee sector in particular is volatile. Moreover, the investment is illiquid which means that investors cannot access their investment before the end of the proposed term. In addition, the URAPI Fund has no management operating history. This risk is mitigated by the fund's business and revenue model that have been tested through previous projects implemented by ECOTIERRA. To further minimize risk, ECOTIERRA targeted cooperatives that are certified and have existing infrastructures and clear governance structures, and selected farmers with best yield and performance.

Project description

The project is about mitigating land degradation and climate change and, more broadly, about ensuring sustainable development of the coffee value chain through transforming deforested and degraded land into productive agroforestry systems. It does this by supporting four coffee cooperatives and their producers over the course of four years specifically through:

- Providing micro-credit and technical assistance for changing land use to sustainable productive coffee agroforestry systems, forest protection and large-scale tree planting activities;
- Strengthening and professionalizing the value chain – capacity-building, setting up a local Q-grading laboratory and a state-of-the-art dry processing mill, and developing marketing tools to improve quality and traceability and marketing positioning;
- Diversifying revenue streams through climate finance and strong monitoring systems – securitizing and trading carbon credits generated by the regeneration of degraded land through agroforestry systems and forest protection.

THE PROJECT IS ABOUT MITIGATING LAND DEGRADATION AND CLIMATE CHANGE AND, MORE BROADLY, ABOUT ENSURING SUSTAINABLE DEVELOPMENT OF THE COFFEE VALUE CHAIN

5. CAFÉ SELVA NORTE

Investment structure

The US$14.5 million project is financed through the URAPI Sustainable Land Use Vehicle which received a capital injection from the Land Degradation Netruality (LDN) Fund. The LDN fund is a privately managed fund run by Mirova with a target size of US$300 million. The URAPI vehicle, managed by ECOTIERRA, provides long-term financing with a 15-year investment strategy with up to two one-year extensions. URAPI provides debt to farmers' cooperatives whereas equity is directly invested in the processing plant. The cooperatives also own shares from the processing plant from the start. URAPI's exit strategy is to gradually transfer 100% of the processing plant's ownership rights to the cooperatives and have the carbon credits paid for.

Project size	US$ 14.5 million
Investment period	15 years

Business model & revenue generating activities

Financial returns are being generated by providing commercially viable activities and strengthening the economic models of cooperatives. More specifically, returns arise from:

- Sales of coffee and timber – improved agricultural systems leading to increased productivity and quality of coffee, against a premium through the Eleva Finca certificate. Timber revenues will be generated later in the project;
- Processing plant - fees for delivering processing and commercialization services to cooperatives;
- Avoided carbon emissions – monetizing the positive environmental impacts of newly planted forests through carbon credits.

Risks & safeguards

Potential risks related to land tenure have been mitigated by the project's focus on working with smallholder farmers that have secured land rights. To ensure sustained impact, there are efforts towards building the capacity of cooperatives and strengthening women leadership. Moreover, the diversified revenue base and rescheduling of debt helps mitigate risks around decreased commodity and carbon credit prices, helping secure farmers' income. To reduce environmental risks, the project provides technical assistance to producers to support them with sustainable agriculture. Technology (MINKA) will be used for monitoring progress and impact. The outcomes will in turn be used for adaptive management.

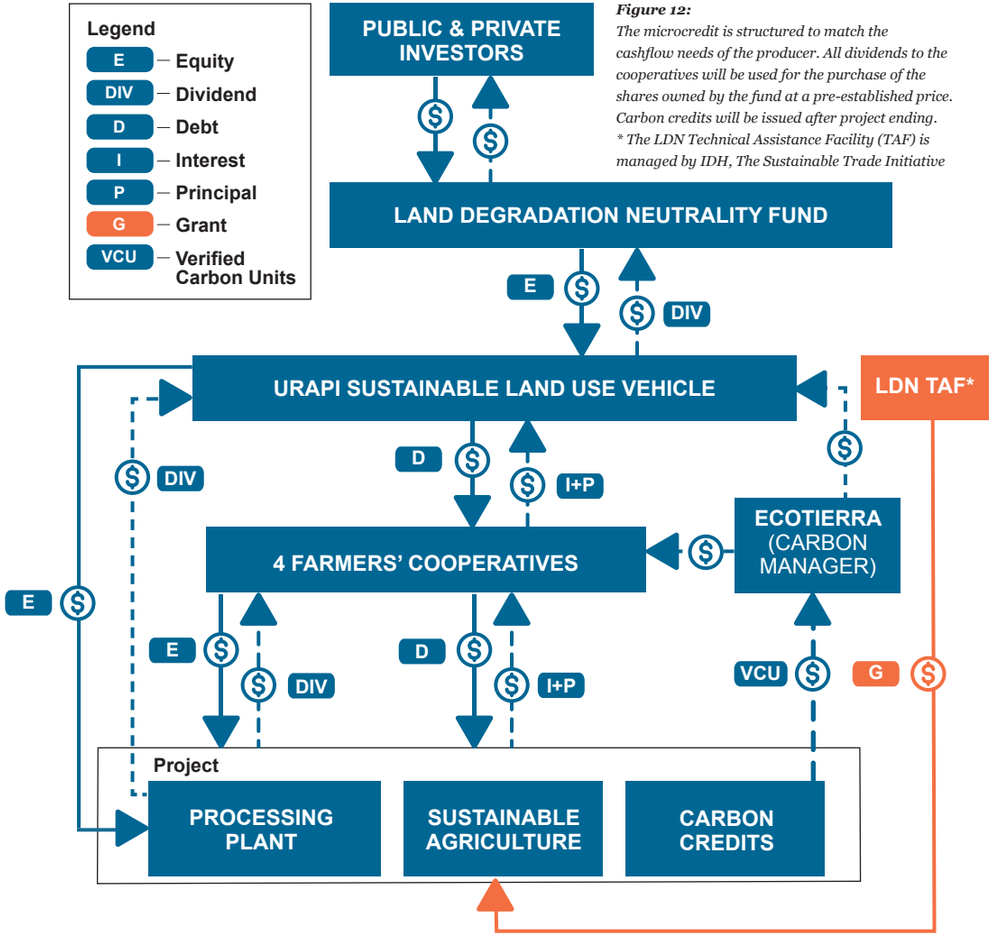


Figure 12:
The microcredit is structured to match the cashflow needs of the producer. All dividends to the cooperatives will be used for the purchase of the shares owned by the fund at a pre-established price. Carbon credits will be issued after project ending.
** The LDN Technical Assistance Facility (TAF) is managed by IDH, The Sustainable Trade Initiative*

6. RESILIENCE OF WETLANDS IN PERU

Building the resilience of Wetlands in the Province of Datem del Marañón, Peru

Green Climate Fund (GCF), Peruvian Trust Fund for National Parks and Protected Areas (Profonanpe), Korean government

THEMES
Environmental protection, Forestry

GEOGRAPHY
South America

STAGE
Implementation

INVESTMENT SIZE
US$ 9.1 + US$ 5.5 million (endowment fund)

INSTRUMENTS
Grant, endowment fund

TIME HORIZON
2017-2022

IRR (bio-businesses)
21%

6. RESILIENCE OF WETLANDS IN PERU

Project partners:

GREEN CLIMATE FUND

profonanpe resources for nature

KOICA Korea International Cooperation Agency

(Estimated) Impacts

2.6 million tons of CO_2e avoided

343,000 ha of peatlands and forests conserved

Deforestation of **4,861 ha** avoided

Activities

Carbon credit revenues through avoidance

Generating revenue from newly created bio-businesses

Landscape context

The Datem del Marañón province in the Peruvian Amazon is of high biodiversity value. About 25% of the area is covered by peatlands, holding a total carbon stock of around 3.78 billion tons of CO_2e. Yet, these peatlands face a range of threats, including large-scale (illegal) logging, hydrocarbon extraction and expansion of the agricultural frontier. Climate change is likely to exacerbate these impacts with more frequent droughts, flooding and heatwaves, affecting ecosystems and directly threatening the livelihoods of the seven indigenous groups inhabiting the area.

CLIMATE CHANGE IS LIKELY TO EXACERBATE THESE IMPACTS, THREATHENINGTHE LIVELIHOODS OF THE SEVEN INDIGENOUS GROUPS INHABITING THE AREA

Investment context

It is a challenging area for investment due to governance challenges associated with a sparse population of largely native communities in a remote location. There is a long history of mistrust, 39% of the province has no clear land tenure status, indigenous people lack access to finance and government institutions are either absent or weak, lacking coordination and effective cooperation. This results in high transaction costs of setting up new businesses. Bio-businesses in particular are not perceived as attractive investment opportunities as they are characterized by high risk, preventing private sector financing to come in. The project aims to address these barriers and allow members of the indigenous community to access funding.

THE PROJECT AIMS TO ENHANCE THE CLIMATE RESILIENCE AND LIVELIHOODS OF 120 INDIGENOUS WETLANDS COMMUNITIES OF DATEM DEL MARAÑÓN, WHILE REDUCING GREENHOUSE GAS EMISSIONS FROM DEFORESTATION

Project description

The project goal is to enhance the climate resilience and livelihoods of 120 indigenous wetlands communities of Datem del Marañón while reducing greenhouse gas emissions from deforestation. Key is to strengthen private sector participation. It does this by:

- Strengthening institutional capacity in government organizations - facilitating better land use planning and management of the region's wetlands;
- Strengthening the capacity of community-based institutions - entrusting resource management to indigenous communities and empowering women;
- Strengthening and expanding sustainable, commercial bio-businesses of Non-Timber Forest Products (78 by 2025) incorporating solar energy – providing sustainable economic activities;
- Developing science, technology and knowledge management to enhance the knowledge base through technical assistance, workshops and trainings.

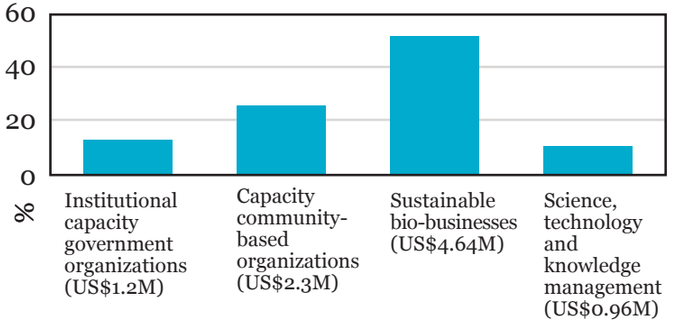


Figure 13: *Most investment is directed to sustainable bio-businesses (51%) followed by capacity-building of community -based organizations (25%), government organizations (13%) and science, technology and knowledge management (11%)*

DISCLAIMER: This project description is based only on publicly available information, as during the compilation of this book we have not been able to verify the contents with the respective project partners.

6. RESILIENCE OF WETLANDS IN PERU

Investment structure

The Green Climate Fund (GCF) is the main financier, providing a US$6.2 million grant, as a payment for the 2.6 million tons of CO_2e sequestred through this project. The project received 31.5% of co-financing in the form of grant money offered by the Korean government and Profonanpe, a not-for-profit private entity. A US$5.5 million endowment fund (51% of total project size) has been set up by Profonanpe to invest in a number of bankable bio-businesses. This fund is expected to achieve an Internal Rate of Return of 21%. The returns are used to invest in another series of bio-businesses and the continuity of the capacity building activities.

Investor	Investment (in US$M)	Type	IRR
GCF	6.2	Grant	n/a
Korean government	1.8	Grant	n/a
Profonanpe	1.1	Grant	n/a
Endowment Fund	5.5	Grant	21%

Business model & Revenue generating activities

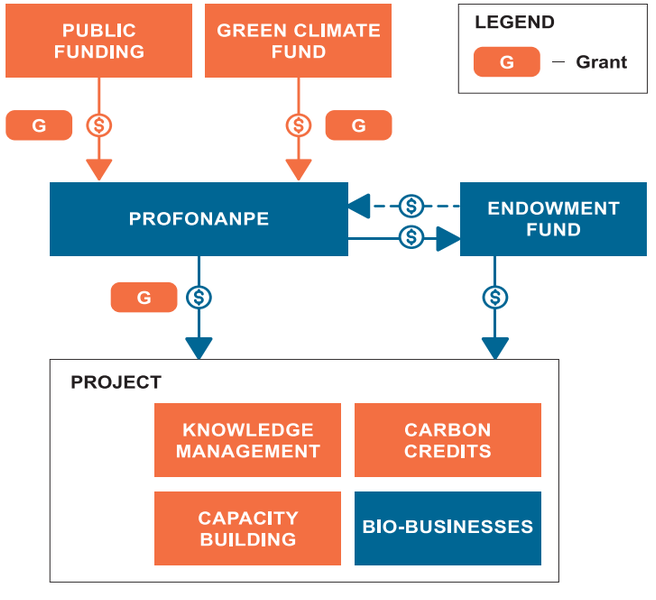
Financial returns are being generated through:

- Avoided CO_2e emissions – generated after the fourth year of the project, reaching over US$1 million/year by the sixth year;
- Bio-businesses – revenues will increase after successful commercialization of nature-based products such as dried, salted and frozen fish, aguaje pulp, flour and oils. During their first year of operation, the seven established bio-businesses achieved profits with cashflow increasing every year.

Risks and Safeguards

Key to the project is to include indigenous people in the management process. This involves a risk component as multiple ethnic groups in the area have not been able to formalize titles to their communal lands, and as there have been experiences in the past where they have not been adequately consulted. It is therefore of great importance to conduct an earnest process of Free and Prior Informed Consent. Studies suggest that this risk has not been sufficiently mitigated and as a result the project lacked the required support and endorsement.

Figure 14: *The endowment fund provides funding and enables continuity of the project. It will allocate US$ 350,000-400,000 annually to strenghten bio-businesses that have not yet achieved profitability. At project completion, 50 bio-businesses will be funded through this mechanism and another 28 are expected to be funded through this fund in the first four years after. Thereby the endowment fund serves as flywheel to create more impact with the available funding. In other projects this could also be achieved through private funding in the form of equity or debt instead of using a grant for the endowment fund.*



7. INGOLDISTHORPE WETLAND

A natural capital solution of the first water utility green bond in Europe

Norfolk Rivers Trust (NRT), Anglian Water, Environment Agency, William Morfoot Ltd

THEMES
Water & sanitation, Environmental protection

GEOGRAPHY
Europe

STAGE
Completed

INVESTMENT SIZE
£ 500 thousand as part of £ 250 million green bond

INSTRUMENT
Debt (green bond)

TIME HORIZON
2017-2037

INTEREST RATE
1.6%

7. INGOLDISTHORPE WETLAND

Project partners: Environment Agency, William Morfoot, Norfolk Rivers Trust, love every drop anglianwater

(Estimated) Impacts

53% water consumption savings

Natural filtering of **millions** of liters of water a day

89% reduction in CO_2e emissions

Activities

Lowering costs through power savings

Lowering costs through water consumption savings

Lowering costs through chemical usage savings

Landscape context

Norfolk Rivers Trust is an NGO, working to protect and enhance Norfolk's aquatic environments, including the River Ingol, one of only 200 chalk rivers in the world. The river provides an extremely rare habitat for a variety of plants and wildlife and runs close to the Norfolk coast, which is of international natural importance. Anglian Water is the largest water (recycling) company by geographic area in England and Wales. It operates in the UK's fastest growing yet driest region with a high proportion of low-lying areas. This provides significant environmental challenges including water pollution. Anglian Water has a treatment facility in Ingoldisthorpe in West Norfolk close to the river Ingol. The river is threatened by increased levels of phosphate and ammonia released into the river by the water recycling center.

THE RIVER INGOL IS ONE OF ONLY 200 CHALK RIVERS IN THE WORLD AND PROVIDES AN EXTREMELY RARE HABITAT FOR A VARIETY OF PLANTS AND WILDLIFE

Investment context

Ranking 9 out of 190 economies in ease of doing business, the UK provides a favorable investment context. Yet, the water industry is subject to extensive legal and regulatory obligations and controls. Having to comply with all applicable laws may have a tangible adverse impact on Anglian Water's operations and financial condition. This risk is mitigated by Anglian Water's level of professionalism and the development of its Industry National Environment program. In addition, utility companies in developed countries are generally characterized by very strong cashflows.

THE PROJECT AIMED AT CREATING A NATURAL WETLAND OF ONE HECTARE TO NATURALLY FILTER THE WATER DOWNSTREAM FROM THE ANGLIAN SITE AND IMPROVE THE QUALITY OF WATER.

Project description

Together, Norfolk Rivers Trust and Anglian Water arrived at a natural solution for the challenges in the Ingoldisthorpe facility. The project aimed at creating a natural wetland of one hectare to naturally filter the water downstream from the Anglian site and improve the quality of water flowing into the River Ingol. The project aimed to reduce Anglian Water's carbon footprint and costs and to enhance the local environment and ecosystems through:

- Making wider improvements to the plant and equipment at the Water Recycling Center to improve removal of the majority of substances such as phosporus that could affect the ecological status;
- Further filtering the water by creating a wetland consisting of four shallow interconnected ponds planted with native chalk wetland species that remove acutely toxic ammonia and other chemicals;
- Providing a thriving habitat for wildlife - attracting breeding birds, amphibians, bats and water voles – and reducing the risk of flooding through the creation of the wetland and its effect on the reprofiling of the River Ingol to a more natural meandering line;
- Improving management of land and forest, contributing to emission reductions.

7. INGOLDISTHORPE WETLAND

Investment structure

The Ingoldisthorpe wetland project accounted for £500,000 and its funding was part of the first water utility green bond in Europe, totaling £250 million issued by Anglian Water. Green bonds are a category of fixed-income securities, raising capital for projects with environmental benefits. The bond was arranged by BNP Paribas, HSBC, ING and JP Morgan with a maturity of eight years and an annual fixed-rate yield of 1.6%. Norfolk Rivers Trust funded and undertook the feasibility study, designed and built the wetland, and hold the lease on the site while carrying out the maintenance under a 20-year agreement.

Project size	£ 500 thousand
Total bond size	£ 250 million
Maturity	8 years
Annual yield	1.6% (fixed-rate)

Business model & revenue generating activities

The business model is built upon innovating activities that lower cost of production and help sustain the business. Wider infrastructural improvements and the construction of the wetland helped Anglian Water to treat used water to high standards while reducing costs through:

- Water consumption savings;
- Power savings by replacing conventional, energy intensive infrastructure;
- Chemical usage savings.

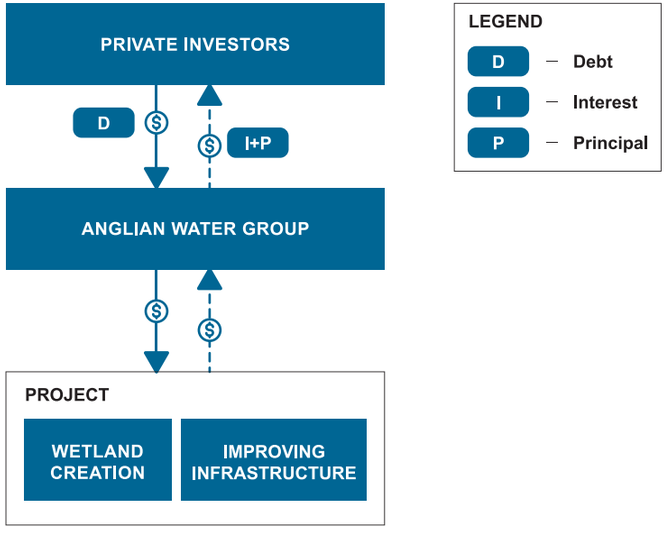
WETLAND TREATMENT SITES TREAT USED WATER TO THE SAME HIGH STANDARDS WHILE REDUCING COSTS

Risks & safeguards

The project was characterized by low environmental and social risks. The following safeguards were in place to further optimize the project's success:

- High level of professionalism - strong financial structure, governance and reporting at Anglian Water proved to be key to investor confidence;
- Clear regulation – both company and public regulation;
- Customer engagement – strong mandates from the community and local organizations;
- Multi-stakeholder networks – the wetland was partly constructed on farmland. Negotiations took place and landowners received a price on the lease which was higher than the opportunity cost.

Figure 15: *Anglian Water issued a first ever Class A £250 million green bond in the UK water sector with a tenor of 8 years. £500 thousand was used to fund the Ingoldisthorpe Wetland project.*



Lessons learned

The project delivered positive environmental and economic impacts. With regards to environmental benefits, there has been a rapid positive change in both the plant community and diversity and abundance of invertebrates, as well as a gradual improvement in lake plant community. In relation to economic benefits, there have been substantial operational savings as a result of this project. The ammonia scheme made the project considerably cheaper. A key consideration is that in the case of phosphorus removal, chemical dosing is a cheaper alternative to the creation of wetlands. Yet, triggered by their customers' support for natural capital solutions, Anglian Water has committed to undertake 34 additional feasibility studies for wetland treatment sites. In addition, natural capital approaches will become part of Anglian Water's routine options appraisal proposal so these will be evaluated with more traditional approaches. Norfolk Rivers Trust is currently engaging with financial experts on finding additional ways to unlock finance for the restoration of wetlands.

THERE HAS BEEN A RAPID POSITIVE CHANGE IN BOTH THE PLANT COMMUNITY AND DIVERSITY AND ABUNDANCE OF INVERTEBRATES

8. FAIRVENTURES SOCIAL FORESTRY

Community agroforestry in Indonesia

Fairventures Social Forestry, LDN Technical Assistance Facility (TAF), Unique Forestry and Land Use

THEMES
Forestry,
Climate-smart agriculture

GEOGRAPHY
Asia

STAGE
Pre-investment, implementation

INVESTMENT SIZE
US$ 5 million

INSTRUMENTS
Debt, equity, grant

TIME HORIZON
2019 - ongoing

IRR
10%

8. FAIRVENTURES SOCIAL FORESTRY

Project partners:

idh the sustainable trade initiative | FAIRVENTURES SOCIAL FORESTRY | UNIQUE forestry and land use

(Estimated) Impacts

7,000,000 tons of CO_2e sequestered/ avoided

100,000 ha of degraded land rehabilitated

50,000 livelihoods improved

Activities

- Potential carbon credit revenues through increased sequestration
- Revenues from timber and cashcrop sales
- Revenues from NTFPs

Landscape context

Widespread practices of deforestation, slash-and-burn, illegal mining and large-scale agriculture have had a negative impact on Indonesia's forests. Consequently, land degradation continues and local communities face a lack of income opportunities. This is also the case in Central Kalimantan. To reverse this trend, forest-dependent communities have been granted access to forested land through social forestry permits. Yet, distribution of permits has been slow and concrete economic benefits have not been demonstrated. There is therefore a need to build on the social forestry scheme by balancing natural resource protection with creating real economic benefits for local communities.

THE PROJECT AIMS TO DEMONSTRATE A COMMERCIAL MODEL FOR LANDSCAPE RESTORATION WITH INDONESIA'S SOCIAL FORESTRY SYSTEM AT THE BASE

Investment context

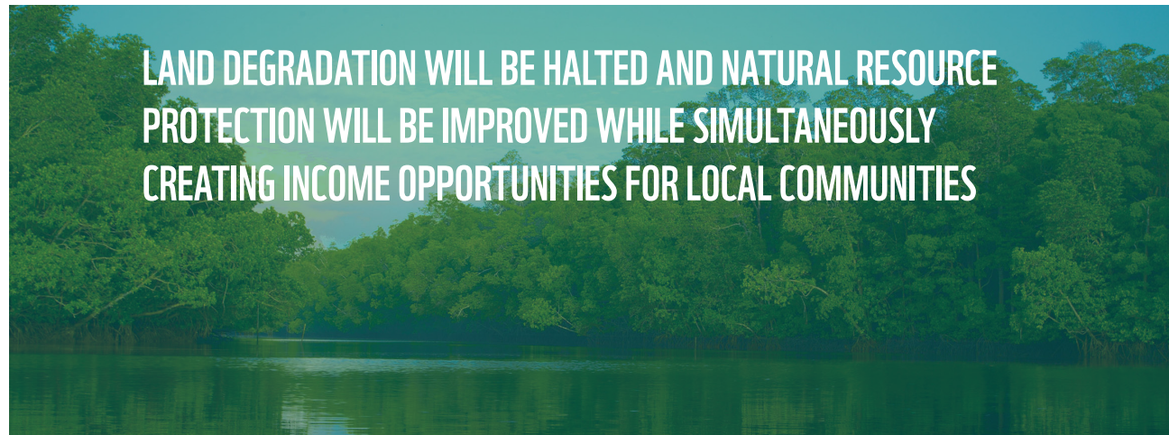
The project has put several investment risk mitigation strategies in place. In order to mitigate risks related to timber offtake, direct supply agreements with industry partners have been made. Moreover, diversification of revenue streams helps to mitigate underperformance of specific crops, therewith decreasing the risk of default on repayment. A key driver for success is the role of Fairventures Social Forestry. It builds on five years of experience of its partner NGO Fairventures Worldwide and has a well-developed concept for sustainable development within communities combined with a business mindset. In addition, technical assistance from IDH helps to build proof of concept.

Project description

The innovative restoration finance case was initiated by an NGO and turned into a for-profit social venture: Fairventures Social Forestry. The project aims to demonstrate the potential of a commercial model for landscape restoration with Indonesia's social forestry system at the base. The project does this specifically through:

- Rehabilitating degraded lands through introducing agroforestry systems including fast-growing tree species and cashcrops;
- Managing forests as protected areas and planting Non-Timber Forest Products (NTFPs) to increase the value of secondary forests.

Resultingly, land degradation will be halted and natural resource protection will be improved, while simultaneously creating income opportunities for local communities. In 2019, 4,000 hectares have been included in two Social Forestry permits in the administratives of Kadishut Tusang Raya and Kadisut Mangkawuk.



8. FAIRVENTURES SOCIAL FORESTRY

Investment structure

The proposed financial structure for the initial investment of US$5 million to establish proof of concept is based on a blended financing arrangement including grants, soft loans and patient equity. Seed funding is used to finance the technical assistance and development of the first 4,000 ha. Where equity and soft loans will be provided to finance capital and operational expenditures, grants or public finance will be used for less commercial work and tasks related to the earlier proof of concept. Debt financing is suggested for scaling operations up to 100,000 ha. The Land Neutrality Degradation (LDN) Fund has expressed their interest to invest in the project.

FINANCIAL RETURNS ARE BEING GENERATED THROUGH COMMERCIAL AGROFORESTRY COMBINED WITH ACTIVE PROTECTION OF PRIMARY AND SECONDARY FORESTS

Business model & revenue generating activities

Financial returns are being generated through commercial agroforestry combined with active protection of primary and secondary forests, specifically through:

- Timber sales (82%) – sales revenues from fast-growing lightwood will be generated after an initial growth period of seven years;
- Cashcrop sales (16%) – additional sales revenues of intercropped agricultural crops (e.g. peanuts);
- Carbon revenue (2%) – potential for sale but not yet fully developed;
- NTFPs (e.g. rattan) sales – potential but not yet included.

Cashflow is expected to be positive in the eight year. The project has a 13-year pay back period and an Internal Rate of Return of around 10%.

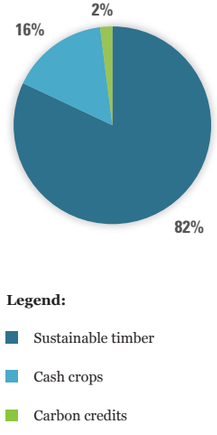


Figure 16:
Revenue streams arising from the project with sustainable timber being the main revenue generating activity

Risks & safeguards

Main risks are related to lack of involvement and support of local communities. To rightfully involve them, the communities provide the land for the investment case and have been granted the right to provide the largest part of the required labor. In turn, they are paid wages and a share of the profit from sales. Furthermore, Free and Prior Informed Consent processes have been put in place and specific support will be provided to help communities understand their rights and responsibilities. With regards to environmental risks, the project uses satellite and drone mapping to select degraded areas for agroforestry and maps High Conservation Value zones in line with FSC regulation. This effective monitoring helps to reduce deforestation and fire risks, and conserve biodiversity.

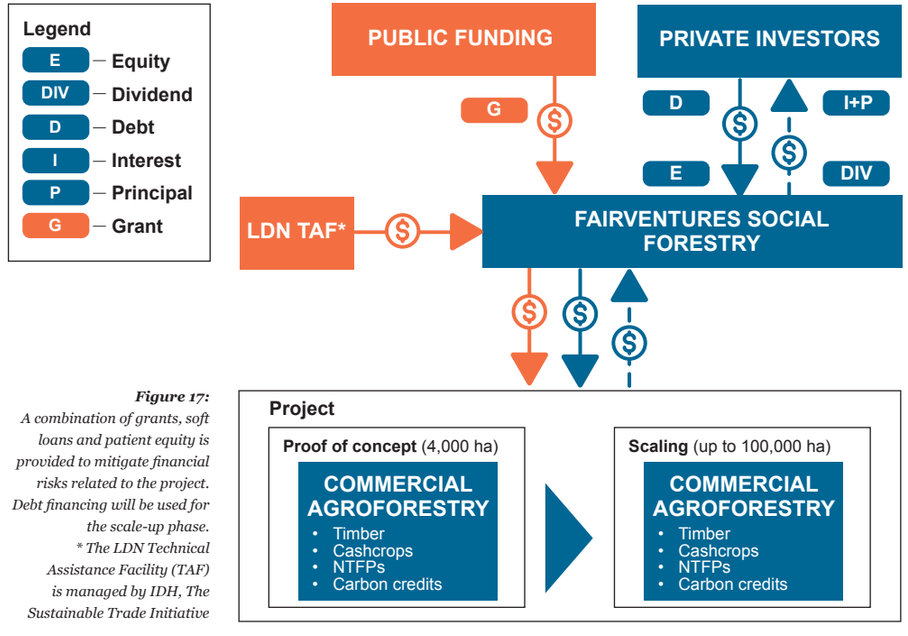


Figure 17:
A combination of grants, soft loans and patient equity is provided to mitigate financial risks related to the project. Debt financing will be used for the scale-up phase.
** The LDN Technical Assistance Facility (TAF) is managed by IDH, The Sustainable Trade Initiative*

THEME
Other (renewable energy)

GEOGRAPHY
Africa

STAGE
Completed

INVESTMENT SIZE
>US$ 2 million

INSTRUMENTS
Debt, equity

TIME HORIZON
2014 - ongoing

9. REDAVIA: SOLAR FARMS IN TANZANIA

"Electricity gives women like me opportunities to make a contribution to the development of our communities"
Potfar Hira Mwamlima, resident in Shitunguru

InfraCo Africa, Shell Foundation, Renewable Energy and Energy Efficiency Partnership (REEEP), REDAVIA

9. REDAVIA: SOLAR FARMS IN TANZANIA

Project partners: pioneering infrastructure changing lives; Shell Foundation; REDAVIA RENTAL SOLAR POWER; InfraCo AFRICA; REEEP

(Estimated) Impacts

3 MWp clean power generated

20-30% Cost reduction

9,400 Beneficiaries reached

Activity

Generating renue from electricity tariffs

Landscape context

In Tanzania, inadequate access to sustainable and affordable power has been linked to low literacy and poor business productivity. Tanzania has an electrification rate of 15.3%, dropping to 3.6% in rural areas. Many of the 7.8 million rural households and 2.4 million small businesses operating in Tanzania's frontier markets are reliant upon kerosene or diesel generators. Both fuels are relatively expensive. Moreover, they may not always be available and are often associated with health concerns. A local PV solar plant and/or mini-grid could provide the reliable, competitively priced power that Small and Medium Sized Enterprises (SMEs) need, but requires upfront capital investment that is beyond the reach of fledgling businesses.

Investment context

Tanzania has a relatively unfavorable investment context. It ranks 141 among 190 countries in terms of ease of doing business. In addition, early-stage infrastructure projects are risky due to information gaps, corruption and first-mover (dis)advantages. Introducing cutting-edge technology to remote villages in rural Tanzania poses multiple challenges. For instance, REDAVIA, industry leader in solar power, experiences challenges with obtaining debt finance, finding batteries, and identifying suitable local entrepreneurs to rent and operate mini-grids.

THE MAIN GOAL IS TO IMPROVE LIVING STANDARDS WITHIN RURAL COMMUNITIES AND PROVIDE ISOLATED SMEs WITH THE POWER THEY NEED TO BE PRODUCTIVE AND PROFITABLE

Project description

The project is established as part of a phased growth plan of REDAVIA with the main goal to improve living standards within rural communities and provide isolated SMEs with the power they need to be productive and profitable, fuelling economic growth in Tanzania. The project does this specifically through:

- Renting containerized, fully assembled 87kWp solar farms to remote communities, utilities and businesses - deploying two solar farms to two rural communities in the Mbeya region of Tanzania: Isenzanya and Shitunguru.

This investment coupled with investments in the Commercial & Industry (C&I) sector will enable REDAVIA to prove its business model and grow to a commercially viable scale in Tanzania.

Lessons learned

While the project originally aimed to scale up mini-grid development from two to 30 mini-grids, REDAVIA changed course to focus on the C&I sector. There are a number of lessons learned that supported this transition:

- While the mini-grids can be run sustainably, the C&I sector provides a better predictability of cashflows and has a better risk-return rate compared to mini-grids. This attracted more private investment for REDAVIA and allowed REDAVIA to develop follow-up projects in West- and East-Africa.
- It takes longer for mini-grids to realize constant and attractive revenues. As some people never had access to power before, the mini-grids experienced oversupply at the start. However, the prospects are promising as REDAVIA witnesses a growing customer base for its mini-grids.
- The funding environment for "not yet commercially viable" projects like mini-grids is challenging, although such projects can make a large positive impact.

9. REDAVIA: SOLAR FARMS IN TANZANIA

Investment structure

Two pioneering containers were financed by InfraCo Africa, part of the multilateral Private Infrastructure Development Group (PIDG), with an initial investment of US$350,000 which sized to US$1.2 million through a convertible loan agreement with REDAVIA. Coupled with co-investments, the project received over US$2 million. Two mini-grids are now up and running. Originally, the project aimed to scale up to 30 mini-grids but changed course to the C&I sector due to improved predictability of cashflows. The two sectors learn and benefit from each other. For instance, a portion of the returns from the C&I sector flows back to the mini-grids.

THE PROJECT TAKES STRINGENT HEALTH AND SAFETY CONSIDERATIONS INTO ACCOUNT WHEN CONNECTING HOUSEHOLDS AND SMALL BUSINESSES TO THE GRID

Business model & revenue generating activities

Financial returns are being generated from the following revenue generating activities:

- Electricity tariffs paid by users of the containerized solar farms - the two operational mini-grids have achieved break-even on site-level OPEX.

In addition, REDAVIA's reorientation on C&I seems very promising which has led to the development of several follow-up projects across West and East Africa.

Risks and safeguards

Risks may arise from delivering energy services to remote communities. The project takes stringent health and safety considerations into account when connecting households and small businesses to the grid. These considerations are based on PIDG's Health, Safety, Environmental and Social policies. They define how these values will be realized through its standards and procedures. In addition, REDAVIA made sure that there is no financial commitment from communities. REDAVIA bears all the financial risks for building the community grids. Household users pay tariffs for the electricity they choose to use.

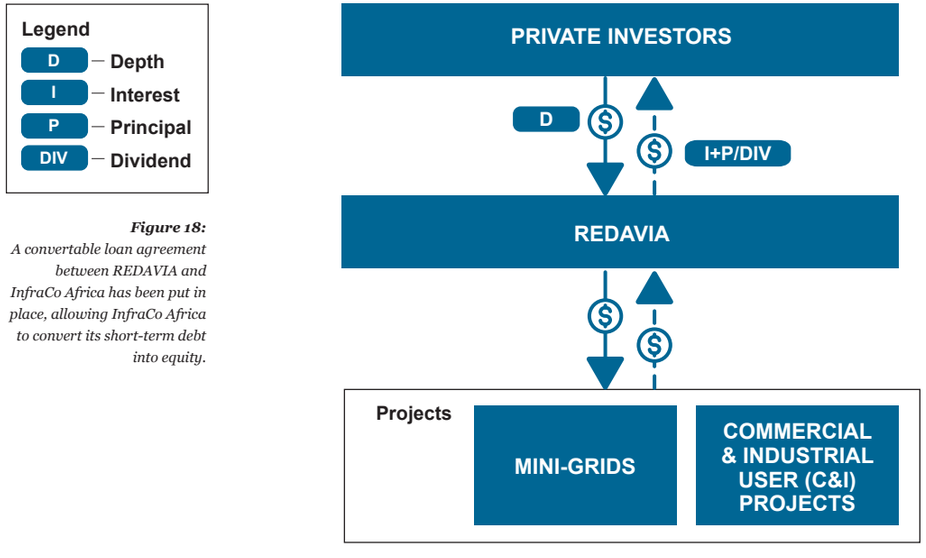


Figure 18: *A convertable loan agreement between REDAVIA and InfraCo Africa has been put in place, allowing InfraCo Africa to convert its short-term debt into equity.*

10. HINDUSTAN ZINC STP

Optimizing the water potential in the City of Lakes

Hindustan Zinc limited (HZL), The Urban Improvement Trust (UIT), Udaipur Municipal Corporation (UMC), Udaipur Smart City Limited (USCL)

THEME
Water & sanitation

GEOGRAPHY
Asia

STAGE
Completed

INVESTMENT SIZE
US$ 27.7 million (phase I)
US$ 11.2 million (phase II)

INSTRUMENTS
DBOOT, HAM

TIME HORIZON
2014 - 2020

10. HINDUSTAN ZINC SEWERAGE TREATMENT PLANT

Project partners:

Hindustan Zinc Limited

(Estimated) Impacts

100% of domestic sewage treated

50% of treated wastewater ready for reuse

60 million liters of freshwater conserved everyday

Activities

Lowering costs through freshwater savings

Generating revenue from sales of manure

Landscape context

The city of Udaipur, also called the City of Lakes, in the state of Rajasthan is witnessing rapid urbanization and is a popular tourist destination. It generates about 60 million liters of wastewater per day. Most of this water is untreated, finding its way to the nearby Ahar River and Pichola and Udai Sagar lakes. This poses a potential threat to the environment and the aesthetic look of the lakes. Water bodies become contaminated and there is an enhanced dependency on freshwater resources. There is an unutilized potential of wastewater which was recognized by Hindustan Zinc Limited (HZL), a Vedanta Group Company, India's largest integrated zinc lead silver producer.

THERE IS AN UNUTILIZED POTENTIAL OF WASTEWATER WHICH WAS RECOGNIZED BY HINDUSTAN ZINC LIMITED

Investment context

Udaipur city has been shortlisted as one of the Smart Cities in India. Investing in treatment of domestic sewage will be a huge impulse for the city. Rajasthan lies in the National Capital Region (NRC), providing the area a strategic location and good access to markets. The government of Rajasthan has set up various organizations which promote investments and provide a favorable investment context. One of these organizations is specifically dedicated to water and wastewater treatment.

Project description

Udaipur's first wastewater treatment plant (WWTP) has been established by Hindustan Zinc to prevent contamination of lakes and to save freshwater resources by developing an alternative source to potable water. Pipelines have been built to link the treatment plant to the company's industrial complex. The plant has been built in such a way that:

- It will be able to treat 20 million liters per day (MLD) which equals 30% of Udaipur City's domestic sewage;
- It will significantly reduce freshwater consumption at the operational side by using the recycled sewage into various process applications;
- It will generate a large quantity of manure which will be sold to local bodies and applied in e.g. horticulture.

The sewage treatment capacity will be expanded to 60 MLD by setting up three additional treatment plants with a combined capacity of 40 MLD. With these expansions, Hindustan Zinc will be able to treat 100% of Udaipur City's domestic sewage.

10. HINDUSTAN ZINC SEWERAGE TREATMENT PLANT

Investment structure

The WWTP was the first of its kind to be built under a public-private partnership with Hindustan Zinc and the local government (Udaipur Municipal Corporation and Radjasthan State-Owned Urban Improvement Trust). The plant was constructed on a design, built, own, operate and tranfer (DBOOT) basis and mainly financed by Hindustan Zinc who invested ~Rs. 1.7 billion (~US$27.7 million) in land acquisition, the construction of the sewerage treatment plant and pipelines. Rs. 0.8 billion (~US$11.2 million) was reserved for scaling the treatment capacity to 60 MLD which was constructed under the Hybrid Annuity Model (HAM) for a period of 15 years. The plant ownership will be transferred to the government of Radjasthan in 2039.

THE PLANT WAS CONSTRUCTED THROUGH A DESIGN, BUILT, OWN, OPERATE AND TRANFER BASIS AND MAINLY FINANCED BY HINDUSTAN ZINC

Business model & revenue generating activities

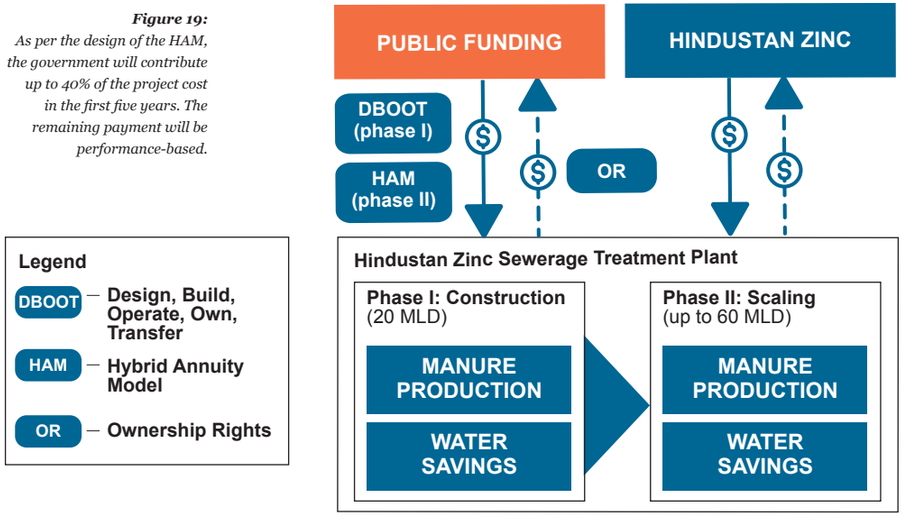
Financial returns are being generated through both cost-saving and revenue generating activities:

- Sewage treatment – significant freshwater savings and water supply. About half of the treated wastewater is reused by the Industrial Zinc complex, resulting in water withdrawal cuts of 60% (from 16,500 to 7,000 cubic meters a day). The other half is available for river recharge and horticulture;
- Sales of manure – sewage treatment generates a large quantity of manure which will be sold by the Udaipur Municipal Corporation to local bodies. This is likely to generate revenues of about 10 million Rs. (~US$140,000) per year.

Risks & safeguards

Hindustan Zinc maintains high environmental standards. It pioneers the adoption of clean and green energy in running its operations. Saving water is a key focus point of the company and it takes important steps towards zero-discharge into the nearby lakes. The project faced a challenge with regards to land acquisition. It proved to be difficult to find a location close to the city that would be financially viable. In addition, local stakeholders were concerned about the aesthetics and odor of the plant. To address these risks, the neighboring community was consulted about the technicalities of the plant, which resulted in building trust and support for the project. Another risk relates to fees that may be imposed on communities. It is unclear how this risk is mitigated. What is clear is that Hindustan Zinc has helped to create awareness about the importance of sanitation, and has constructed 40,000 household toilets in rural Rajasthan and seperate toilets for boys and girls in 623 government schools.

Figure 19:
As per the design of the HAM, the government will contribute up to 40% of the project cost in the first five years. The remaining payment will be performance-based.



FUNDS

Setting up a fund can be a useful mechanism to structure funding for bankable projects. Funds can provide multiple benefits both to the investors as well to the bankable projects.

For investors, funds can mitigate risks. First of all, by investing in funds rather than projects, investors make sure they do not put all eggs in one basket. If an individual investment may fail, other investments within the same fund may make up for that loss. Funds may be structured in a way to include risk mitigation tools, such as guarantees or first-loss positions at portfolio level. Moreover, funds can provide financing to projects in various stages, making financial flows more stable and future-proof. These aspects also allow funds to invest in harder to reach sectors and geographies that are currently undercapitalized but have a large potential for realizing positive environmental impacts.

Funds can also be of interest from the perspective of bankable project developers. If individual bankable projects do not meet the risk appetite or the ticket size of prospective investors, pooling several projects can be a great way to improve chances of getting funded.

Please bear in mind that creating a fund does not generate any impacts without concrete bankable projects to invest in. An important consideration is that funds should be set up at a landscape level, channeling funding to projects in a specific landscape or sector. Step one is to develop a bankable project. Step two is to approach or develop a fund to structure the financial flows to the project.

The described funds on the next pages may give you inspiration on how funds can be structured and how they aim to optimize environmental and financial returns in specific geographies and sectors.

11. TROPICAL ASIA FOREST FUND - MALAYSIA

First forestry fund dedicated to sustainable forestry in Southeast Asia

New Forests, Acacia Forest Industries Sdn Bhd (AFI), Sabah Forestry Development Authority (SAFODA), Hijauan Bengkoka Plantations Sdn Bhd (HBP)

THEME
Forestry

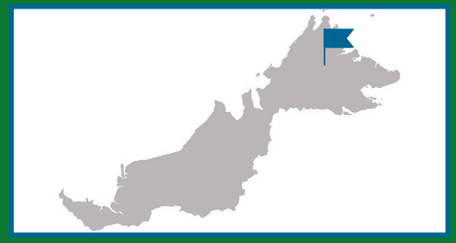
GEOGRAPHY
Asia

STAGE
Implementation

INVESTMENT SIZE
US$ 170 million

INSTRUMENT
Equity

TIME HORIZON
2013 - ongoing



11. TROPICAL ASIA FOREST FUND - MALAYSIA

Project partners:

NewForests SAFODA AFi

(Estimated) Impacts

2.5 million seedlings per year

25,000 ha planted with timber species

Half of plantation area set aside for conservation & livelihoods

Activities

Generating revenue from timber sales

Generating revenue from other products

Carbon credit revenues through increased sequestration

Landscape context

Hijauan Bengkoka Plantations (HBP) and Acacia Forest Industries (AFI) are responsible for the management, harvest, and future rotations of an Acacia mangium plantation on the Bengkoka Peninsula in Northern Sabah. The plantation area includes about 11,000 hectares of acacia plantation and borders the Bengkoka Forest Reserve which has been classified as a Class 1 protected forest. The forest and the plantation are important habitats for wildlife including the Sunda Clouded Leopard and Proboscis Monkey, as well as Banteng (wild cattle) and sunbear. Yet, human settlements combined with mixed horticulture have caused fewer fauna species to be found in the area, increasing the need for a more sustainably managed plantation that balances a growing wood demand with positive community relations and environmental stewardship.

HUMAN SETTLEMENTS COMBINED WITH MIXED HORTICULTURE HAVE CAUSED FEWER FAUNA SPECIES TO BE FOUND IN THE AREA, INCREASING THE NEED FOR A MORE SUSTAINABLY MANAGED PLANTATION

Investment context

Timber in Southeast Asia is a high-growth market with the bulk of global demand over the next 30 years coming from Asia. The fund responds to this demand by sustainably managing plantations and by offering the scale and resources as sought by investors. The financing is liquid, meaning that immediate cashflow can be generated from mature timber. Yet, as Malaysia is an emerging market, forestry investment demands a high standard for managing environmental, social and governance aspects. For this reason, after rating the risk-adjusted returns attractive enough due to a degree of acceptable policy and market certainty, the Australian-based company New Forests has launched the Tropical Asia Forest Fund (TAFF).

Project description

THE INVESTMENT WAS REALIZED WITH THE GOAL OF MAKING AFI THE MAJOR SUPPLIER OF CERTIFIED EUCALYPTUS TO DOMESTIC AND REGIONAL MARKETS

TAFF is a closed private equity fund introducing best-in-class management systems and modern forestry practices to hardwood timber plantations and environmental assets that are often poorly managed or abandoned. The investment was realized with the goal of making AFI the major supplier of certified eucalyptus to domestic and regional markets. It supports the improvement of AFI's plantation quality, while strengthening its position as a leading plantation company in Sabah. The project does this through:

- Planting and replanting an area of 25,000 hectares. Applying best forest management practices and attaining FSC certification for its assets;
- Switching crops from planting primarily Acacia mangium to Eucalyptus pellita - as this crop offers additional market versality and is more resilient to locally prevalent tree diseases;
- Implementing capital investments to construct a new state-of-the-art nursery for Eucalyptus pellita with an improved production capacity as well as to refurbish facilities and support local water infrastructure projects;
- Making management, governance, technical and operational improvements in line with international best practice – increasing the value of the estate;
- Piloting new models for out-grower forestry to support livelihood opportunities.

11. TROPICAL ASIA FOREST FUND - MALAYSIA

Investment structure

Launched in 2012, TAFF is the first private investment vehicle dedicated to sustainable forestry in Southeast Asia. Overseen by New Forests, it uses long-term institutional capital totaling US$170 million from three European development finance institutions, two funds managers, and four pension fund groups. The fund has taken equity positions in three forestry businesses in Malaysia, Indonesia and Laos, encompassing more than 150,000 hectares of land with the target of managing and establishing over 60,000 hectares of certified plantation forests. TAFF's first investment in Malaysia was in 2013 by acquiring a majority interest in the Hijauan Group of companies. In 2018, New Forests, together with SAFODA, a Sabah State government agency involved in reforestation development, made an additional equity investment to continue to improve and execute AFI's strategic plans.

TAFF IS THE FIRST PRIVATE INVESTMENT VEHICLE DEDICATED TO SUSTAINABLE FORESTRY IN SOUTHEAST ASIA

Business model & revenue generating activities

Financial returns are being generated from a combination of cash yield and capital appreciation:

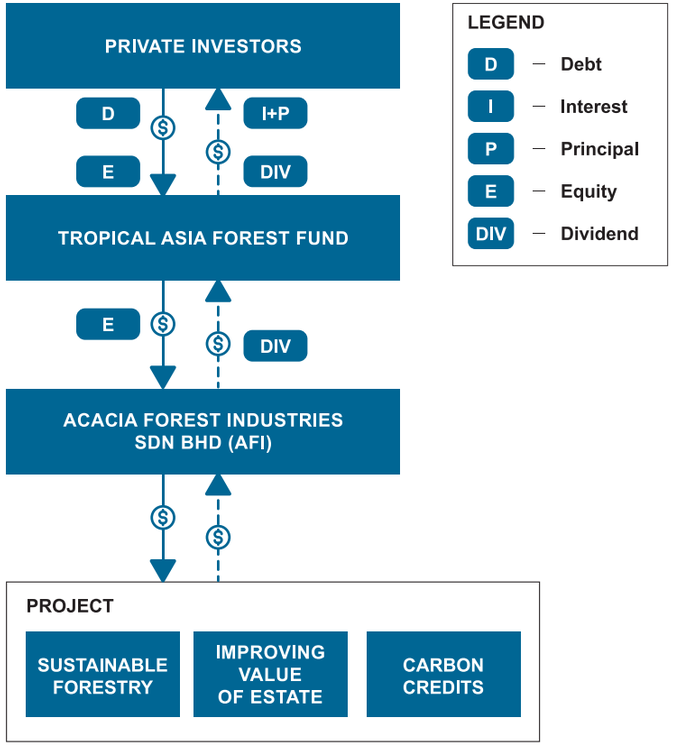
- Sale of timber – immediate cashflow will arise from mature FSC-certified timber being sold at a premium price. A continuous supply of timber will be ensured as a result of the introduction of more resilient species. The professionalization of the estate further enhances sales;
- Sale of other products – the fund's investments include, other than eucalyptus and acacia, rubber plantations that will produce latex additionally to timber products;
- Carbon revenue – monetizing carbon revenue that is generated through the management of a mixed landscape of conservation and production.

RISKS MAY ARISE FROM POTENTIALLY CONFLICTING INTERESTS OF MAXIMIZING WOOD PRODUCTION AND MANAGING POSITIVE COMMUNITY RELATIONS AND ENVIRONMENTAL STEWARDSHIP

Risks & safeguards

Risks may arise from potentially conflicting interests of maximizing wood production and managing positive community relations and environmental stewardship. A social engagement program was therefore carried out. AFI has developed a new social forestry strategy based on the outcomes, including land tenure arrangements and improved local livelihood opportunities. Moreover, New Forests is a signatory to the UN backed Principles for Responsible Investment. It operates a corporate Social and Environment Management System, using third-party forest certification and performance standards.

Figure 20:
This investment structure is simplified for clarity purposes. Ownership of AFI by TAFF is structured through its majority ownership of the Hijuan group, whose subsidiary HBP is a joint shareholder of AFI, alongside SAFODA.



THEME
Water & sanitation

GEOGRAPHY
Africa

STAGE
Implementation

INVESTMENT SIZE
US$ 10 million annually

INSTRUMENT
Debt

TIME HORIZON
2020-2030

12. KENYA POOLED WATER FUND

The first initiative by the Kenya Finance Facility for Water

Water Finance Facility, Cardano Development, DGIS-IGG, Netherland Embassy in Nairobi, the Kenyan National Treasury, the Ministry of Water and Sanitation, the Water Sector Trust Fund, USAID, SIDA and SNV

12. KENYA POOLED WATER FUND

Project partners: USAID FROM THE AMERICAN PEOPLE, WaterFund, Ministry of Foreign Affairs of the Netherlands, cardano Development, Water Finance Facility, SNV, Sida

(Estimated) Impact	Activity	
1 billion people get access to water and/or sanitation	Reducing Non-Revenue Water	Generating revenue from increasing water volume and tariffs

Landscape context

The Kenyan government has the ambition to realize universal access to safe sanitation for all by 2030. However, in 2017 water coverage stood at 55% in areas covered by Water Service Providers (WSP), while sewage coverage stood even lower (16%). Water demand in Kenya is expected to rise significantly, fueled by population growth, urbanization, industrialization and climate change. While the required investment for complete coverage by 2030 is US$11.56 billion, the government budget is far from achieving this. In fact, Kenya faces a tremendous financing gap of US$11.53 billion. Private finance is needed in order to close this gap and realize the required infrastructure projects.

Investment context

Kenya has a relatively sophisticated domestic institutional investor base and a mature debt capital market. Moreover, constitutional reforms in 2010 provided the backbone for a robust regulatory environment, e.g. WASREB – Kenya's water sector regulator – requires water companies to report on performance indicators and may adjust tariffs to cover loan repayments. Through the creation of an innovative financial structure and through generating support from credible institutions, the Kenyan Pooled Water Fund (KPWF) limits risks for institutional investors.

THROUGH THE CREATION OF AN INNOVATIVE FINANCIAL STRUCTURE AND THROUGH GENERATING SUPPORT FROM CREDIBLE INSTITUTIONS, KPWF LIMITS RISKS FOR INSTITUTIONAL INVESTORS

Fund description

THE OVERALL GOAL IS TO ENABLE ACCESS TO WATER AND/OR SANITATION FOR ABOUT ONE BILLION PEOPLE OF WHICH 25% LIVE IN DESIGNATED LOW-INCOME AREAS

The KPWF is a non-profit company and is the first National Water Finance Facility (NWFF). It has been established to close the wide funding gap in Kenya's water sector. The overall goal is to enable access to water and/or sanitation for about one billion people of which 25% live in designated low-income areas. The KPWF annual funding program will provide WSPs access to long-term financing through the local capital markets to finance sanitation infrastructure projects. By providing structural funding, KPWF enables WSPs to have multiple-year planning, therewith improving their financial management. Other than matching WSPs with funding, KPWF engages them in an early state, assisting them with the scoping of projects, their transition into bankability and the actual implementation. Several mechanisms have been put in place to lower financial risks. WSPs are screened based on their interest and credit worthiness. Moreover, the construction of pooling loans lowers the risk exposure to bondholders. A reserve account and guarantees will serve as credit enhancements, thereby making the bonds more secure. In addition, the long-term nature of the bond lowers annual costs of financing, which allows for lower tariff increases to service debt.

12. KENYA POOLED WATER FUND

Investment structure

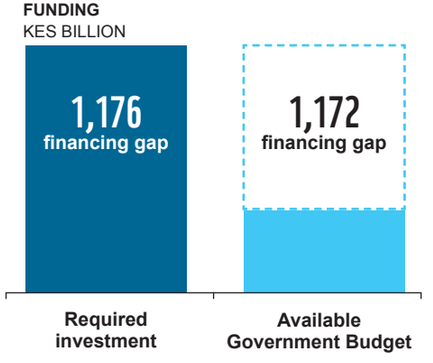
KPWF aims to establish an annual funding program of KES 1 billion (about US$10+ million) in the medium term. The KPWF will issue a long-tenor bond (~15 years) to Kenyan institutional investors, e.g. pension funds and insurance companies. The bond proceeds are on-lent to WSPs to fund projects. Credit enhancements are provided to the fund through a reserve account (first-loss aimed at 50%) and guarantees to secure bond repayments to the investors. This vehicle, combined with the relatively long-term loan tenor, allows the price of the loan to WSPs to be low. As of date, 14 WSPs have been supported and six are now ready to receive investments.

WFF REDUCES WIDER IMPLEMENTATION RISKS BY PUTTING IN PLACE CONSULTATION AND COOPERATION MECHANISMS WITH RELEVANT STAKEHOLDERS

Business model & revenue generating activities

Financial returns are being generated from payment of interest and principal on the loans which have been realized by:

- Reducing Non-Revenue Water - reducing the amount of water that has been produced and is lost before reaching the customer;
- Establishing new water connections - for the six projects that are ready to receive investment, 400,000 people will be connected to sanitation.



Risks & safeguards

One of the key risks of the fund are possible future changes in government support. To mitigate this risk, the Water Finance Facility's (WFF) works to clearly communicate how this type of funding fits into the political strategy and to get an approved public security. Moreover, WFF reduces wider implementation risks by putting in place consultation and cooperation mechanisms with relevant stakeholders, regularly consulting and engaging with them throughout the process.

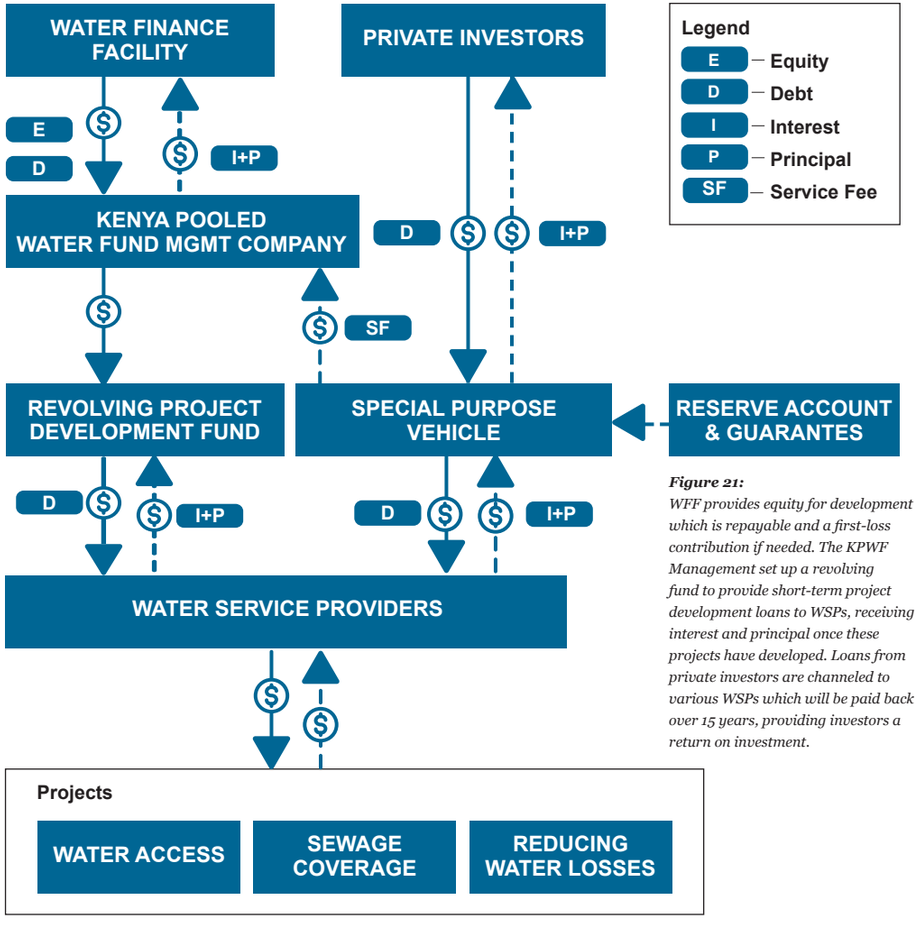


Figure 21:
WFF provides equity for development which is repayable and a first-loss contribution if needed. The KPWF Management set up a revolving fund to provide short-term project development loans to WSPs, receiving interest and principal once these projects have developed. Loans from private investors are channeled to various WSPs which will be paid back over 15 years, providing investors a return on investment.

13. ALTHELIA BIO-DIVERSITY FUND

"A new investment fund dedicated to making pioneering impact investments in the legal Amazon"

Mirova, USAID, Center for Tropical Agriculture (CIAT)

THEMES
Climate-smart agriculture, Forestry

GEOGRAPHY
South America

STAGE
Implementation

INVESTMENT SIZE
US$ 100 million

INSTRUMENTS
Debt, equity, grant

TIME HORIZON
2019 - ongoing

13. ALTHELIA BIODIVERSITY FUND (ABF) BRAZIL

Project partners: CIAT International Center for Tropical Agriculture, USAID FROM THE AMERICAN PEOPLE, mirova

(Estimated) Impacts			Activities		
Net positive impact on climate change	Positive impact on ecosystem integrity & species protection	Improved livelihoods & well-being	Carbon credit revenues through avoidance	Generating revenue through increased sales of agricultural produce	Generating revenue through NTFPs sales

Landscape context

The Amazon in Brazil has seen a sharp increase in illegal deforestation in 2019 compared to 2018. This has fueled an intense debate about the future of the Amazon rainforest. On the one hand, there is a call for greater enforcement of laws to halt deforestation and support actions for environmental protection. On the other hand, parties call for alternative, legal and economic livelihoods for Amazon communities as a mean to stop deforestation. The solution lies in bridging these two seemingly opposite views to create a truly sustainable solution for the Brazilian Amazon.

THE AMAZON IN BRAZIL HAS SEEN A SHARP INCREASE IN ILLEGAL DEFORESTATION IN 2019 COMPARED TO 2018

Investment context

Impact investing in Brazil is rapidly expanding and can facilitate better access to finance for forest-dependent communities, companies and entrepreneurs. However, most impact investors avoid expansion into the hard-to-reach region due to the high risk and complex challenges related to working in the Amazon. Specifically, investments in agroforestry, farming, buffer zones of protected areas and biodiversity-friendly initiatives are left aside. Most investments in agriculture and changed land uses have a relatively short-time horizon, since long-term investments are considered risky and therefore often neglected. To stimulate the required investment in the region, new private investments at scale are needed and can be attracted by providing risk mitigation tools.

Project description

THROUGH UNLOCKING PRIVATE FINANCE FOR NEW ECONOMIC MODELS IT IS POSSIBLE TO CREATE LEGAL ECONOMIC OPPORTUNITIES WHILE SIMULTANEOUSLY PROTECTING THE RAINFOREST IN THE BRAZILIAN AMAZON

Mirova, a French asset manager dedicated to impact investing, has created the Althelia Biodiversity Fund (ABF) Brazil to deploy US$100 million of blended finance into sustainable activities that protect, restore and improve biodiversity and community livelihoods in the Legal Amazon of Brazil. Over the next five years the fund will invest in:

- Conservation and community livelihoods (e.g. carbon projects or sustainable Non-Timber Forest Products (NTFP) projects);
- Smallholder production systems (e.g. agroforestry);
- Sustainable farming and reforestation, combining the intensification of agricultural production with zero-deforestation commitments;
- Innovative biodiversity linked services (e.g. financial or technical assistance to smallholders who embrace conservation measures).

Through unlocking private finance for new economic models it is possible to create legal economic opportunities while simultaneously protecting the rainforest in the Brazilian Amazon. The fund aims to provide venture and growth finance for transformational businesses and projects, strengthening the autonomy of forest-dependent communities and companies, and realizing a positive impact on biodiversity.

ALTHELIA BIODIVERSITY FUND BRAZIL is a Fundo de Investimento em Participações incorporated in Brazil (FIP), closed to new subscription. Mirova Natural Capital is the investment advisor. This fund is approved by the Comissão de Valores Mobiliários (the "CVM").

13. ALTHELIA BIODIVERSITY FUND (ABF) BRAZIL

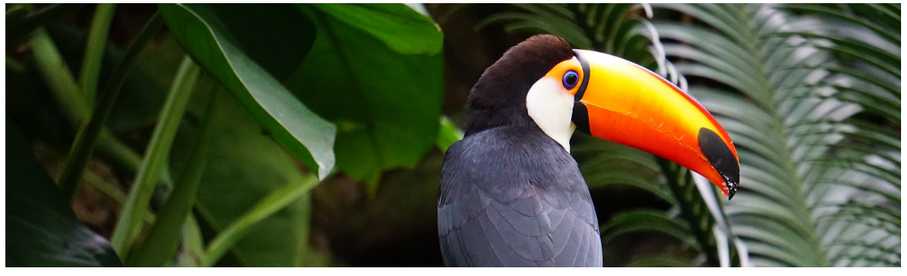
Investment structure

ABF Brazil provides venture and growth finance for transformational businesses. Blended finance is used to build bridges between public and private institutions. This is considered key in achieving an ecological transition. The fund has a layered structure: investors can invest at different points in the capital stack, with varying levels of risks and returns. The fund's cornerstone investor, Center for Tropical Agriculture (CIAT), bought in the junior tranche. Mirova is working with third parties to provide risk mitigation tools. USAID mitigated risk through providing a 50% portfolio-level credit guarantee. Both equity and debt is provided to companies, NGOs and cooperatives, and Mirova is also participating in environmental markets.

BLENDED FINANCE IS USED TO BUILD BRIDGES BETWEEN PUBLIC AND PRIVATE INSTITUTIONS. THIS IS CONSIDERED KEY IN ACHIEVING AN ECOLOGICAL TRANSITION.

Risks & safeguards

The fund will endeavor to decrease the presence of marketing products derived from illegal activities related to deforestation, and to increase demand for sustainable Amazonian products that are produced in a legal way. To guarantee sustainable development and the conservation of biodiversity, forests and natural resources of the Amazon, Mirova has a rigorous ESG and impact screening built into the investment decision-making and monitoring processes. It has also started collaborating to expand the Partnership Platform for the Amazon (PPA). The PPA was co-facilitated by CIAT and USAID to cultivate a pipeline of proven initiatives that are ready for scaling.

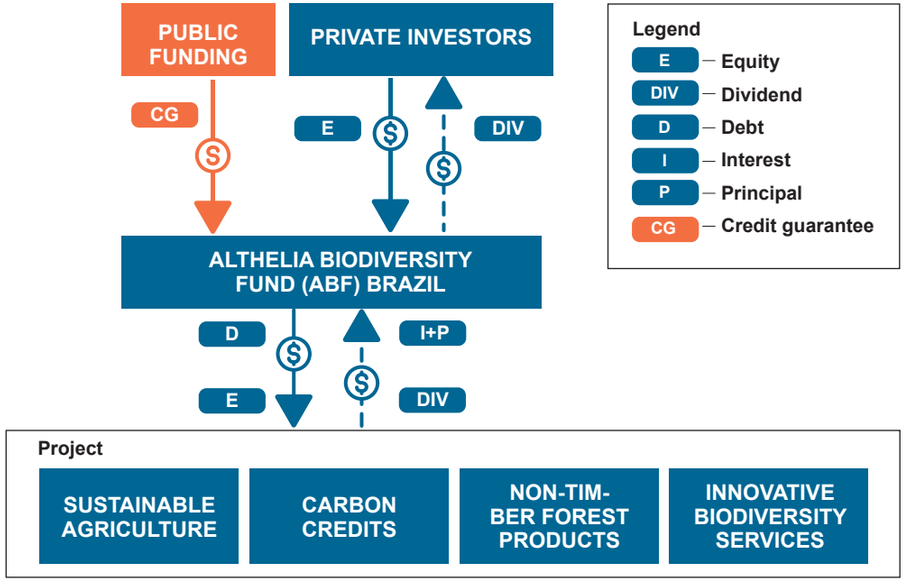


Business model & revenue generating activities

Returns will be generated through loan repayments, sale of equity, profit-sharing arrangements, dividends, carbon credits or a combination of these instruments. Specifically, revenue is generated through:

- Avoided carbon emissions - monetizing the positive environmental impacts through carbon credits;
- Sales of agricultural produce – improved agricultural systems leading to increased yield and quality of agricultural crops that can be better marketed;
- Sales of NTFPs.

Figure 22:
Risk mitigation tools are provided by public institutions to optimize risk-return for private investors. While the public investors invest in the junior tranche, private investors invest in the senior tranche respectively.



CHAPTER 6:

Key Take-Aways

KEY TAKE-AWAYS

Bankable Nature Solutions hold a lot of promises for the future of our planet and its people.

However, they do not get established overnight and successful implementation may not come easy. How do you make sure the financial returns are realized as predicted beforehand? Have you identified and mitigated all the relevant risks? Proper project development is key in delivering on the promises of BNS.

Based on conversations with a wide panel of experts and project developers, this report outlines ten take-aways to support the development of future projects and to maximize their potential impact.

TAKE-AWAYS FROM THE FIELD

1

Money in – money out
BNS generate both environmental and financial returns.

Channeling private funding to a project does not automatically make the project bankable. Therefor income generating activities need to be implemented as these enable the project to provide financial return for investors. To make a business case, it should be clear how and how much financial return can be generated from activities within a project.

2

It all starts with patience
Start early and make sure to diversify the projects you wish to develop as not all projects may survive the screening process.

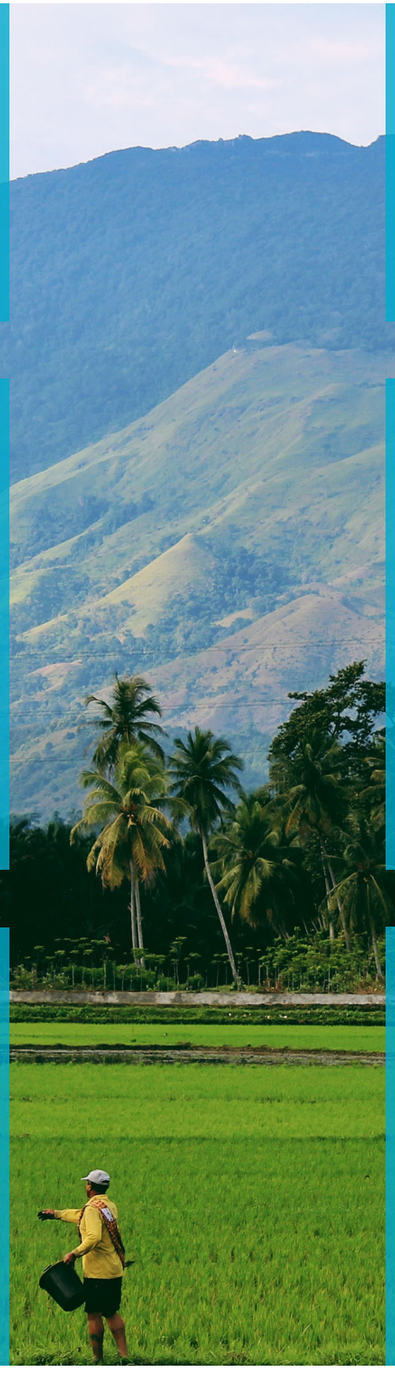
The process of getting a BNS project to the stage of implementation can be lengthy. Structuring the information, writing a project proposal and receiving a response from a potential investor might take up to six months. Follow-up questions could further increase the lead time.

Altogether, project development is time consuming, as you need to create a solid business plan and set up a good structure. All of this can take about 18 months.

3

Investable entity
Make sure to identify or set up a clear vehicle instead of pitching an abstract program or unstructured consortium. Investors need a clear investment vehicle to direct their investments to. It is important to check the bankability of a specific entity (including leadership skillset, track record, credit history) in order to assess the potential success of a project.

“There are a lot of interesting programs out there, but they need a vehicle, something that is investable”, as one fund manager put it. That can be a company (including (farmers’) cooperatives) or a special purpose vehicle. When WWF, or another NGO, is leading project development, partnering with the private sector is one way to organize a feasible implementation.



4

The roadmap to financing Bankable Nature Solutions
There are plenty of support materials available and several support networks within the global WWF network to help you on this journey (see page 150).

We identified a number of recurring components for financing BNS. These Blueprints (page 42 & 43) can help you to get started in developing your roadmap to financing BNS.

5

Understand the difference in information needs
The structure provided by technical assistance providers does not always neatly align with the requirements from the potential investors. Different reports are required for different audiences. For example, a grantor might be interested in the expected socio-economic and environmental impacts, whereas a fund manager may need additional information on for instance the investable entity, financial details and project-related risks. Be prepared for differences in those needs for each BNS project and get a clear picture by engaging with the investors in a timely manner.

Time is an important factor, especially with regards to performing baseline studies or ex-ante evaluations. You’ll need to get these started in time if they are required before starting the project, or if they are required later on. You can’t do a base-line study afterwards.

6

Diverse skillset
Make sure a broad skillset is on board or available and that leadership skills suit external requirements.

There are different skillsets needed in different growth stages of BNS projects. Technical (hard) language is likely to be needed for obtaining loans while more empathic (softer) language is useful further along to build and manage a team and convince stakeholders. Yet, sometimes, a different skillset is needed from business leaders when a project scales, and this may also may need to be reflected in the leadership team.

TAKE-AWAYS FROM THE FIELD

7

Funding and investment at various stages
Different stages of a BNS project ask for different types of investment and funding.

Public funding is mostly used to fund activities that hold greater risk and uncertainty. This way, an enabling environment is created by public funding making a bridge to investments. Public institutions and NGOs have an important role to play in the phase before bankability.

At a later stage, public and private investments are used for business activities focused on self-sustaining financing approaches.

8

Not all parts of Bankable Nature Solutions are bankable
Blending income generating activities with more supportive activities in one investment will discourage investors, especially large private investors.

In order to effectively attract public and private investment, it must be clear what activities generate a financial return.

In general, public and private investment is used for business activities, while (public) funding is used for supporting activities such as technical assistance and capacity building.

9

Not a single blueprint
In order to prevent disputes and create Bankable Nature Solutions that work for all, make sure to identify all stakeholders in the area and to truly engage them in the process.

All BNS projects are unique. They are being carried out in specific landscapes with a wide range of stakeholders with different needs.

Projects that do not adequately address these differences, are exposed to a higher risk of failure.

10

Look beyond the project
Having a landscape focus is key to ensure that investments can trigger integrated positive impact.

Some direct venture development investments may look sustainable but can sometimes be questionable when looking at the landscape as a whole. At the same time, projects that may look ‘grey’ at first sight (e.g. infrastructure projects), may result in highly beneficial outcomes for the wider landscape.

For example, a water treatment plant could have a positive impact on water quality and availability in the area. It is key to adopt and maintain a holistic view to understand possible positive and negative outcomes.

CHAPTER 7:

Getting Started with Bankable Nature Solutions

HOW TO GET STARTED

Everyone can start a Bankable Nature Solutions project, but exactly how to develop a bankable project varies from case to case. There is no “one size fits all” approach. Instead, each BNS project requires a tailor-made approach. Having said that, there are clear steps that you can guide you through the process of developing BNS.

For setting up a bankable project, you go through several phases. The first step is very much depending on what you already know and the phase your project is in. For each of these phases, there are some guiding questions that help you to move on to the next phase up until getting your project financed. When you are able to answer these questions together and have all the relevant stakeholders on board, you are on the right track towards a successful bankable project. If you are struggling with some of these steps or if you are looking for validation of your work so far, please do not hesitate to reach out to one of the support networks that WWF has on offer.

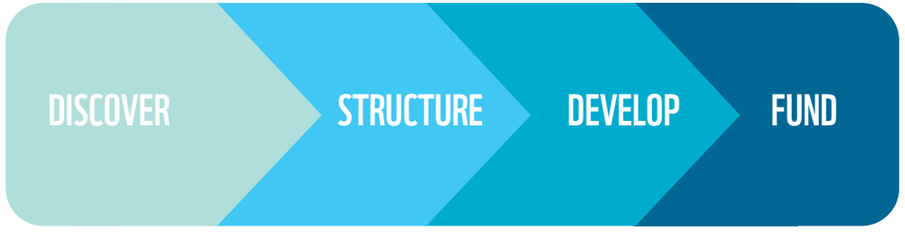
THERE IS NO “ONE SIZE FITS ALL” APPROACH

IF YOU NEED HELP WITH SOME OF THESE STEPS OR IF YOU ARE LOOKING FOR VALIDATION OF YOUR WORK SO FAR, PLEASE DO NOT HESITATE TO REACH OUT TO ONE OF THE SUPPORT NETWORKS THAT WWF HAS ON OFFER

NEXT STEPS

Four phases can be distinguished when setting up a Bankable Nature Solutions project.

1. **Discovery**: identifying opportunities in the landscape.
2. **Structuring**: make the project outline including a financial model.
3. **Project development**: creating a detailed project design including financials and securing a project site.
4. **Funding**: having a committed funding partner to provide the required investment.



Discover

Scan the landscape, including its natural characteristics and current land uses, and gather and discuss ideas for Bankable Nature Solutions with stakeholders in the landscape. Local WWF offices can build on the Landscape Plans and establish a project team dedicated to the proposed bankable project.

Guiding questions:

- What are the predominant types of land use in the landscape? Are these sustainable?
- What are the climate-related risks and pressures on these land uses?
- Are there alternative, more sustainable land uses?
- What is missing in the landscape?
- Is there a demand for the services or products from these land uses? By whom?
- Are there business opportunities that arise from these demands?
- Who else benefits from improving the ecosystem services and how?

Guiding questions based on Landscape Finance Framework by Nature^Squared.

Structure

Structure the ideas into a concrete project and construct a basic financial model. Key activities during this phase are to carry out a stakeholder analysis, risk analysis and impact analysis.

Guiding questions:

- Which possible interventions are relevant for the area? What are the key environmental and social benefits?
- Are there examples of projects in similar landscapes?
- Who are the relevant stakeholders and how are they related? And who needs to get on board to build the business case?
- Wat is the general outline of the business case: e.g. which cost-saving or revenue generating mechanisms can be deployed? What is your product or service? Who is the client? Who else benefits?
- What are potential (social and environmental) risks that may arise from the proposed landscapes interventions? And how are these risks safeguarded?

Develop

Create a detailed project design, prepare the financial structure and secure the project site. Engage with experts to further develop the bankable project.

Guiding questions:

- What is/are the most suitable location(s) for this project?
- Which stakeholders are willing and capable to participate in the project? Did you go out and ask them?
- Which project activities are bankable and which ones are not?
- What kind of investment do you need? Are they used for operational expenses (OPEX) or for assets (CAPEX)? Can you provide any form of collateral, guarantee or security? Do you need all the money at the same time?
- What are the expected economic returns and what is their time horizon? How will the project make money? What is your business model?
- Do you have the right people in your team in terms of skills and track record?

Fund

Now that a detailed project design has been created, find and select financing partner(s) and agree on a financial structure. Select a suitable implementation partner and sign the final agreements.

Guiding questions:

- Which funding partners are already active in the area and what are their requirements? Who else may be interested in funding the project?
- What kind of ROI do they expect and what are their requirements to secure an investment?
- Who are the expected implementation partners? Do they already have experience working with similar projects in similar landscapes?

SUPPORT

WWF has several support networks that can guide you through each step of developing a Bankable Nature Solution project: from identifying BNS within a landscape context to getting it funded. The table below provides an overview of these support networks and their focal points within the organization. Which network to consult depends on the themes you are working with, the landscapes you are working in, and what phase you are in. These networks can help you with questions you may have during the process or with the validation of your work so far.

Networks	Focus	Contact details
Land Degradation Neutrality Fund	Broad focus on sustainable land use and restoration projects. Can be a key financing partner for projects with blended finance structures.	Nienke Stam, Senior Program Manager for the LDN Technical Assistance stam@idhtrade.org
WWF Impact Ventures	Focus on businesses that positively impact the natural ecosystems in which they operate, with four key areas: Wild Sourced & Agroforestry Products, Marine & Freshwater Resources, Eco Lodges, Enabling Technology. Useful to consult during project development and to identify possible investments.	Zamir Wiget, Head Impact Ventures info@wwf-impact.ventures
WWF Landscape Finance Lab	Focus on an integrated landscape approach, bringing together a variety of sectors and stakeholders. Particularly useful to consult in the scoping phase. E.g. what financial solutions can be applied?	Paul Chatterton, Landscapes Finance Lead pc@wwf.at
WWF Green Finance Unit	WWF Netherlands, under the Green Finance Unit, is part of a consortium that is managing the €160 million Dutch Fund for Climate and Development (DFCD). This pioneering partnership of NGOs (WWF & SNV) and financiers (FMO & CFM) aims to help developing countries build climate-resilient economies.	Aaron Vermeulen, Director Green Finance Unit avermeulen@wwf.nl

Networks	Focus	Contact details
WWF Germany and WWF France	WWF Germany and WWF France are collaborating on bankable land use projects by bringing together strategic elements of the WWF Forest and Food practices. They will work together to support activities relating to agriculture, agroforestry, and forestry bankable projects, as part of the wider WWF Bankable Nature Solutions programme. This includes identifying and developing promising sustainable land use projects, and increasing and supporting financing for projects. Agriculture and forestry bankable projects have many shared characteristics at project, landscape, and investment level, so it makes sense to consider them together.	Yougha von Laer, Forest and Climate Officer, WWF Germany Yougha.vonLaer@wwf.de James Rawles, Program Manager, WWF France jrawles@wwf.fr
Sustainable Landscapes ACAI (Areas of Collective Action and Innovation)	Particularly useful to consult for the identification and initial development of the project	Ingeborg Magi, Coordinator imagi@wwf.nl
Bankable Water Solution	The program, which is led by the Freshwater Practice, aims to identify bankable projects, companies or ventures with a positive impact for nature and people at a landscape level and with a positive financial return.	Keiron Brand, Bankable Water Solution Initiative Lead kbrand@wwf.nl

GLOSSARY

Asset
Anything of value that can be converted into cash. Assets can be classified as either short-term or long-term assets. A short-term asset is expected to be consumed within one year, while long-term assets are to be consumed in more than one year.

Bankable project
A project that is financially viable, meaning that it generates an acceptable risk-return on investment. If investors assess the bankability of the project to be acceptable, then the required capital for the project will be provided. The bankability of a project is established already during the phase of project development, laying out the revenue generating activities and an optimal risk-sharing model.

Bonds
A fixed income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental).

Build-Operate-Transfer (BOT)
Through a Build-Operate-Transfer model a public entity gives a concession to a private company to build and operate a project for a set time period (usually 20 or 30 years). After this period, control of the project is returned to the public entity.

Capital Expenditures (CAPEX)
CAPEX are capital expenditures to buy, maintain, or improve its fixed assets. CAPEX includes purchasing new assets or using money to extend the life of an existing asset.

Carbon credits
In this context carbon credits are defined as tradable certificates that provides companies the right to emit one ton of carbon dioxide per credit. Carbon credits can be traded on carbon markets, generating financial returns.

Cashflow
The net amount of cash and cash-equivalents being transferred into and out of a business. Positive cashflow enables a company to settle debts, reinvest in its business and redistribute money to shareholders.

Collateral
Collateral is an asset that a lender accepts as security for extending a loan. If the borrower defaults on the loan payments, the lender may seize the collateral and sell it to recoup some or all of his losses.

Convertible loan
This loan gives the debtholder the possibility to exchange all or a portion of the loan principal for equity. This exchange happens at a predetermined conversion rate within a set period.

Credit enhancements
Credit enhancements refer to improving credit risk of a company by providing reassurance to a lender.

Design-Build-Own-Operate-Transfer (DBOOT)
DBOOT is a public-private partnership model in which a private company conducts a large development project under contract to a public-sector partner. It is a variation on the BOT model and differences in the fact that the contractor also designs and owns the project during the project period.

Discount Rate
Cashflow in the future does not equal today's cashflow due to uncertainty in projections and because cash today is expected to be worth more tomorrow when it produces an interest or Return On Investment. Reversely, that means that cash in the future has a lower value in the present. The discount rate refers to the rate that is used to discount future cashflow in order to compensate for these risks and determine its present value. A high discount rate refers to greater uncertainty, lowering the present value of future cashflow.

Dividend
A dividend is a token reward paid to shareholders for their investment in a company's equity. It usually originates from the company's net profits.

Endowment fund
An endowment fund is an investment fund that is established by a foundation that makes consistent withdrawals from invested capital. Endowment funds are typically funded entirely by donations and are structured in a way that the principal amount invested remains intact while investment income can be provided for immediate funding in order to keep a non-profit company operating efficiently.

ESG
Environmental, social and Governance (ESG) criteria are a set of standards for a company's operations that responsible investors use to evaluate companies in which they might want to invest.

First-loss position
An investment that will suffer the first economic loss if the underlying assets lose value or are foreclosed on.

Fund
A pool of financial resources, often invested and professionally managed, dedicated for a specific purpose.

Fund-in-fund
A pooled investment fund that has a portfolio which contains different underlying portfolios of other funds.

Gestation period
The gestation period is the timespan from investment to profit generation. The longer the period, the riskier a project becomes for investors.

Grace period
A set length of time after the due date during which a financial obligation may be met without penalty or cancellation. Sometimes, grace periods can last several years to allow projects that have low cashflow in the onset of a project to become bankable.

Grant
Grants are financial resources that do not have to be paid back. Typically, a grant is provided to facilitate a purpose or stimulate performance.

Guarantees
A financial guarantee is a contract by a third party (guarantor) to back the debt of a second party (creditor) to ensure that the creditor can pay off its debt to the investor(s).

Hybrid Annuity Model (HAM)
Under a HAM model, the government makes payments in a fixed amount for a considerable time length and consequently in a variable amount for the remaining period. The model was introduced in 2016 in order to revive public-private partnerships and stimulate investments in highway construction in India.

Interest
Interest is the amount charged on top of the principal originally lent to the borrower. It is the amount the borrower has to pay for the ability to use the money.

Internal Rate of Return
The IRR is a financial metric used to estimate how profitable potential investments are. The IRR is a discount rate that makes the Net Present Value of all cashflows equal to zero: today's value of the expected cashflow equals today's value of invested cash. In general, the higher a project's IRR, the more desirable it is to invest in the project. External factors, such as cost of capital or inflation, are left out of the calculation.

Junior loan
Junior loans have a lower priority than a first or senior lender. In the case of a foreclosure, the senior debt will be paid down first. Therefore, it is considered a subordinate debt.

Maturity
The maturity is the date on which a financial transaction ends. On this date the transaction should be renewed or ceases to exist on which the principal is returned to the investor.

Net present value
The Net Present Value is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. It is used to estimate the profitability of a project. A positive Net Present Value indicates that the expected earnings (in present dollars) generated by a project, exceeds the anticipated costs (in present dollars), and is therefore considered to be profitable. A negative value is expected to result in a net loss.

Operating Expenses (OPEX)
OPEX refers to operating expenses which represent the day-to-day expenses necessary to keep the business running. These costs are short-term and used up in the same period in which they were purchased.

Principal
The original amount of investment in a project. It can also refer to the actual value of the bond issued.

Public-Private Partnerships (PPP)
Public–Private Partnerships are a cooperative arrangement between two or more public and private parties, typically of a long-term nature and aimed at delivering goods or services to the public.

Reserve account
A reserve account helps to mitigate financial risks by making up for losses up to the amount allocated to the reserve. Over the life of an investment, the reserve account will be replenished to a specified level to increase credit support.

Seed funding
Refers to the initial funding used for setting up a new business or project.

Senior loan
A senior bank loan is a debt financing obligation issued to a company by a financial institution that holds legal claim to the borrower's assets above all other debt obligations. Because it is considered senior to all other claims against the borrower, in the event of a bankruptcy, it will be the first loan to be repaid before any other creditors, preferred stockholders, or common stockholders receive repayment.

Special Purpose Vehicle (SPV)
A subsidiary created by a parent company to isolate financial risk. An SPV has a separate legal status that serves as a method of isolating the risks of these activities.

Tenor
Tenor refers to the length of time remaining before a financial contract expires. In contrast to maturity, tenor is mostly used in relation to bank loans, insurance contracts and derivative products. High-tenor contracts are sometimes considered riskier than short-tenor contracts.

Verified Carbon Unit (VCU)
Under the Verified Carbon Standard (VCS) Program, projects are issued unique carbon credits, also known as VCUs. Each VCU represents a reduction or removal of one ton of carbon dioxide equivalent.

Viability Gap Funding (VGF)
Refers to a grant provided to support infrastructure projects that are economically justified but not financially viable. The lack of financial viability usually arises from long gestation periods and the inability to increase user charges to commercial levels.

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WWF
WWF is one of the world’s largest and most experienced independent conservation organizations, with over 5 million supporters and a global network active in more than 100 countries. WWF’s mission is to stop the degradation of the planet’s natural environment and to build a future in which humans live in harmony with nature, by conserving the world’s biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

Nature^Squared - www.nature-squared.org | info@nature-squared.org
Nature^Squared is an Amsterdam-based project office specialized in translating knowledge about natural capital, green finance, sustainable land use, ecosystem services, and biodiversity into action. Nature^Squared is committed to creating a truly sustainable Earth on which people, companies and societies prosper. Nature^Squared takes nature as the starting point to reach that goal and regards biodiversity as the engine behind a planet that can provide us in our needs. Nature^Squared delivers tailor-made projects to its clients, but has also developed a number of out-of-the-box solutions for its government, corporate and NGO clients, including the Landscape Finance Framework.

Nature^Squared
CONNECTING ECOLOGY AND ECONOMICS

BANKABLE NATURE SOLUTIONS

100% RECYCLED

BANKABLE NATURE SOLUTIONS

Are promising solutions to close the immense funding gap as they attract private finance, creating positive impact for nature and communities at scale.

$300 BILLION TO $400

Annual investment needed to preserve and restore ecosystems around the globe.

MITIGATE AND ADAPT

The atmosphere has reached the highest levels of carbon dioxide in at least 800,000 years. Currently, 11% of the world's population is vulnerable to climate change impacts. Both mitigation and adaptation measures are essential.

TIME TO START!

There are countless options to start a BNS project. Select a tailored-made approach to optimize impacts within your landscape.

WWF

Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

panda.org/lpr