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TERRANOMICS

Financing Nature-based Solutions in Southeast Asia



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Foreword

This study was funded by the International Climate Initiative (IKI) of the German Government as part of the project "Taking Deforestation out of Bank Portfolios in Emerging Markets". We take this opportunity to thank IKI for making this work possible.

Five WWF offices contributed to this study (Germany, Indonesia, Malaysia, Philippines, and Singapore) along with authors Aqeela Samat, Chris Moore and Jim Stephenson from Terranomics as consultants.

Existing economic data and socio-economic studies on the conservation and social aspects of the projects were provided by the respective WWF teams. This was supplemented by interviews with various stakeholders and partners as well as desktop research.

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Over the past eight months, this project has provided valuable insights that help us understand and address the challenges around developing bankable Nature-based Solutions in WWF priority landscapes. For this, we are grateful and believe the outputs of this work will extend past the boundaries of the project and benefit the larger communities we work to serve.

Parisa Shahyari & Dr. Rolf Sommer, WWF Germany

Executive Summary

This study is part of WWF's 'Taking Deforestation out of the Bank Portfolios in Emerging Markets' project. One of the objectives of the project is to build the capacity of banks in Southeast Asia to implement bankable nature-based solutions (NbS). The project seeks to accelerate the growth of NbS and ensure that financial resources are directed to activities that contribute to biodiversity restoration, low-carbon transition and climate adaptation, and support sustainable agricultural practices. The project is funded by the German government's International Climate Initiative (IKI).

NbS investment needs scaling up today

Unprecedented pressure on nature is resulting in significant species extinction rates globally, compounded by increasingly acute climate change and social pressures. At the same time, the ongoing loss of biodiversity is heightening societal challenges closely linked to nature. NbS are an important tool to address these challenges, reverse the trend of biodiversity loss, and thus meet the international goals enshrined in the [2030 Kunming-Montreal Global Biodiversity Framework \(GBF\)](#).

To meet these goals, finance flows must be directed towards projects that deliver high conservation, climate, and socio-economic impact. NbS projects must also be 'bankable' to attract investment from private investors. In other words, they must provide investors with sufficient returns that will allow them to commit capital.

Key characteristics of the NbS finance landscape in Southeast Asia

Indonesia currently has the most developed NbS finance landscape, both in terms of international impact investment and a domestic enabling environment. Malaysia has fewer private investors and impact funds (both domestic and international) focusing on NbS investment in the country. However, there is increasing government activity to develop its sustainable finance landscape. It remains a primary focus of many international funders (such as Development Financial Institutions) due to the country's high potential for climate and biodiversity impact. The Philippines, meanwhile, has a well-developed finance landscape for smallholder agriculture, blue carbon and sustainable coastal management projects. However, the country receives less attention for terrestrial projects such as sustainable forestry, agriculture, and land restoration and conservation activities.

Mapping the NbS finance landscape in Southeast Asia also revealed key investor criteria for bankable NbS enterprises, crucial to unlocking these larger pools of capital:

- **Investors expect a minimum Internal Return on Investment (IRR) of eight to 10%.** However, some investors may require IRRs of 12% upwards which may be challenging for some NbS projects, especially those at a conceptual stage;
- **NbS enterprises likely need a commercial track record of at least two years.** This can demonstrate to investors the ability to generate profits and thus repay investments;
- **Investment tenor for debt or equity range between four to six years** and grant funding from one to five years. In either case, this may not align with the longer investment horizons that many NbS enterprises require; and
- **Investors in the region tend to require ticket sizes of at least USD 2 million** (at the lowest end). This may rule out many NbS enterprises which require lower amounts of capital.

Project Design Approach

For each project, project design documents have been developed and aligned with the [IUCN Global Standard for Nature-based Solutions](#). More detailed information on each project is provided in Section 4.

- **Indonesia: PT Channa Lestari Senentang (PT CLS)** - PT CLS is an enterprise based in West Kalimantan on the highly biodiverse island of Borneo. PT CLS produces albumin, a

valuable health product, from the native Snakehead fish. The business will support the conservation and restoration of five Indigenous and Community Conserved Areas (ICCAs) to improve forest and lake ecosystem integrity. This will subsequently promote healthy freshwater fish stocks and productivity for local communities.

- **Indonesia: PT Alam Bukit Tigapuluh (PT ABT)** - PT ABT is based in Jambi, Sumatra. This enterprise manages an ecosystem restoration concession in a forest ecosystem where the endangered Sumatran Tiger, Sumatran Elephant and Tapir are found. Its concession area is also a reintroduction site for the Sumatran Orangutan. PT ABT generates revenue and income for local community members from sustainable rubber and Non-Timber Forest Products (NTFPs) such as coffee and honey.
- **Malaysia: Rajang-Belawai-Paloh Delta Nbs Project** - The project is located in the Rajang-Belawai-Paloh delta in Sarawak. It aims to secure the long-term conservation of mangroves along with local populations of Irrawaddy dolphins. It will co-design and implement sustainable economic activities which improve livelihoods and support the long-term conservation of the mangroves. The project is still at the conceptual stage but these economic activities will include sustainable shrimp production, ecotourism, and/or sustainable aquaculture.
- **Malaysia: GelamCure** - GelamCure is a community-led enterprise based in Setiu District, Terengganu state. GelamCure produces essential oils using leaves from the native gelam tree which can be sold as cosmetic and aromatherapeutic products. Gelam forest is a valuable yet increasingly rare ecosystem in Malaysia. GelamCure's business model seeks to highlight the economic benefits of conserving and restoring this threatened forest type, while also creating sustainable livelihood opportunities.
- **The Philippines: Dalipi Boutique Resort** - Dalipi Boutique Resort is a planned four-star eco-resort in Sablayan, Occidental Mindoro, due to open in 2025. Sablayan alone contains 10 Marine Protected Areas (MPAs). Dalipi plans to operate with minimal ecological impact and to contribute positively to biodiversity and local communities. Specifically, it aims to engage with local communities through inclusive business practices, and contribute to the management of MPAs in the municipality.
- **The Philippines: Mindoro Solar Ice Plant Project** - Also located in Occidental Mindoro, this project will establish three solar-powered ice plants to provide a much-needed ice supply to small-scale fishing communities. They will serve small-scale fishing communities of the highly productive Mindoro Strait fishery. These fisherfolk currently suffer high post-harvest losses due to an inability to chill their catch. Increasing the region's ice supply aims to thus reduce these losses and improve fisherfolk incomes, crucial for the overall sustainable management of the Mindoro Strait fishery.

Recommendations for project development

Below are the lessons and recommendations from these Nbs projects, according to their stage of development:

Design and planning phase:

- **Emphasise close collaboration with local communities as a critical component of bankable NbS.** Engagement should be inclusive and equitable to ensure effective stakeholder participation, particularly of Indigenous Peoples and Local Communities (IPLCs). This may involve, for example, strengthening local institutions or platforms led and independently managed by local communities.
- **Integrate biodiversity and socio-economic outcomes when designing NbS, as they are inherently interconnected.** Prioritising a participatory approach in project design can identify high impact alternative livelihoods that deliver positive biodiversity and socio-economic outcomes.

- **Secure implementing partners who can help establish commercial relationships and offtake agreements for traditional products and/or non timber forest products (NTFPs).** Traditional and local products such as those sold by the six projects here can form an effective foundation for scalable bankable NbS. However, generating revenue from those products may necessitate partnership with a business entity located in the same region that can secure commercial partnerships and offtake agreements.

Implementation phase:

- **Leverage technical partnerships with research or academic institutions and government agencies in the landscape.** The six projects discussed here demonstrate the value of local technical partners in NbS implementation. Specifically, research institutions such as universities provide unique technical support that improve product offerings or introduce a unique selling point. Government agencies, meanwhile, can help projects align with local development masterplans, for example.
- **Strengthen the commercial skills of your team.** NbS projects can overcome some of the investment barriers they face by continuously reviewing and developing the technical and commercial competencies of their team. This can help alleviate investor concerns for newly established NbS enterprises.

Recommendations for financiers considering investment in NbS projects:

- **Adapt and adjust investment expectations to better fit local realities.** The typical characteristics and circumstances of high-impact NbS projects generally do not match investor expectations (with the possible exception of carbon offsetting projects, though these have their own challenges). Projects having the greatest direct impact in ecosystems of global importance are often operating in remote areas, where operating a business is a daily challenge, as is attracting the talent needed to implement and scale an enterprise effectively. This means investors serious about making a difference with projects that have high direct impact on biodiversity conservation need to be more open to lower returns, smaller ticket sizes and longer investment tenors.
- **Grant funding and technical assistance remain a vital part of the mix.** All six projects developed for this study are expected to generate returns for investors. However, like many deep impact NbS projects, the majority will require grant funding and technical assistance to be incorporated into their financing capital structure. This will allow them to reach a point where they can operate with debt and equity financing alone.

Table of Contents

1. Introduction	6
Context	6
Methodology of the study	6
2. State of Financing NbS in Southeast Asia	10
Country-level insights	10
Investment criteria insights for bankable NbS projects	11
3. Lessons from existing bankable NbS	13
Building a global market for non-timber forest products: A case study on Forestwise	13
Organic rice conversion in the Philippines: A case study on Family Farms Inc	18
4. NbS project summaries	22
PT Channa Lestari Senentang	23
PT Alam Bukit Tigapuluh	29
Rajang-Belawai-Paloh Delta NbS Project	34
GelamCure	38
Dalipi Boutique Resort	45
Mindoro Solar Ice Plants	49
5. Recommendations	54
Recommendations for the design and planning phase	54
Recommendations for the implementation phase	55
Recommendations for financiers	56
6. Conclusion	57
7. Annexes	58
Annex I. List of financing mechanisms identified in landscape analysis.	58
Annex II. Abbreviations and Glossary	61
Annex II. References	64
Acknowledgements	69
Report Authors	69
Contributors	69
About us	69
Disclaimer	69

1. Introduction

Context

The world is grappling with an unprecedented crisis of biodiversity loss and ecosystem degradation, exacerbated by human activities such as deforestation, unsustainable agriculture, and urbanisation. Addressing biodiversity loss will require a global effort to bridge the global biodiversity financing gap, which represents the funding needed to reverse the decline in biodiversity by 2030 and meet the targets enshrined in the Global Biodiversity Framework (GBF) (Deutz et al., 2020). This includes Target 19 of the GBF which seeks to mobilise USD 200 billion per year for biodiversity from all sources, including USD 30 billion through international finance by 2030. Nature-based Solutions (NbS) have emerged as crucial approaches to close this financing gap for biodiversity (UNEP, 2023; Deutz et al., 2020).

Despite this, NbS remain underfunded. Current levels of annual NbS investment need to triple from USD 200 billion to USD 542 billion in order to meet the 2030 targets (UNEP, 2023). As defined by the IUCN (2020), NbS address environmental and societal challenges through actions that protect, sustainably manage and restore ecosystems, providing benefits for human well-being and biodiversity. Meanwhile, bankable NbS refer to nature conservation projects that offer the potential for commercial returns alongside their environmental and social impacts and supporting the “development of more climate-resilient and sustainable landscapes and economies” (WWF-NL, 2020). Their bankability enables projects to accelerate scaling and realise large-scale positive impacts on nature and communities (WWF-NL, 2020), and thus provide critical cost-effective investment opportunities that provide multiple benefits (UNEP, 2023).

In this context, WWF's ['Taking Deforestation out of Bank Portfolios in Emerging Markets'](#) project, funded by the German International Climate Initiative (IKI), aims to build the capacity of banks to introduce bankable NbS in Southeast Asia. The project seeks to accelerate the growth of NbS and ensure that resources are directed to activities that positively impact biodiversity restoration, facilitate a low-carbon transition and climate adaptation, and support sustainable agricultural practices.

Southeast Asia is a region of particular focus, given its rich biodiversity and the potential for significant growth in the NbS market. This study seeks to analyse the financing landscape for bankable NbS in the region, identify bankable NbS opportunities, and develop a pipeline of six projects with the potential for future investment in Indonesia, Malaysia, and the Philippines.

Methodology of the study

The study consisted of the following three phases. The initial two phases encompassed research tasks, laying the groundwork for the final phase.

Phase 1- Landscape Analysis

As a first step, an analysis of the funding landscape for bankable NbS was conducted across Southeast Asia, with a particular focus on Indonesia, Malaysia and the Philippines. Certain funding sources are global or regional, thereby applicable to the key countries. Others, however, may impose geographical exclusions or focus on a specific country. A total of 75 financing mechanisms were identified for sustainable land use projects through this landscape analysis (Annex I).

The exercise provided an overview of the funding landscape in the region and identified the following:

- The range and diversity of the types of financing mechanisms potentially accessible to bankable NbS in Southeast Asia;

- The financing criteria (including aspects such as thematic areas and ticket size; see Box 2 below for future information) that these 75 financing mechanisms in Southeast Asia and the respective countries stipulate for applicants;
- Trends for the key countries and Southeast Asia more broadly, such as the prominence or frequency of different financing mechanisms within a given country or region. This has implications for the type of funding that bankable NbS should pursue; and
- Successful bankable NbS projects in the region that have demonstrated the adoption of innovative business or conservation models. Two of these projects were developed into case studies as a knowledge resource.

Box 1. *Information that was captured of each financial mechanism as part of the landscape analysis.*

- Funder
- Institution type
- Mode of financial mechanism (e.g. debt, equity, grants or technical assistance)
- Thematic areas relevant to bankable NbS (e.g. sustainable land use, nature-based carbon projects, blue economy, and smallholder financing)
- Minimum or maximum ticket size
- Overview of investment criteria (e.g. proof of commercial track record, and environmental and social impacts)
- Geographic focus (i.e. international, regional or country-specific)

Phase 2 - Identifying a Pipeline of Bankable NbS

In this phase, an initial pipeline of prospective bankable NbS opportunities was developed with a focus on projects in Malaysia, Indonesia, and the Philippines. This initial pipeline underwent further assessment based on a set of screening criteria, designed to shortlist six projects for progression to the next phase.

The screening criteria (Box 2) were developed to identify projects with a high potential for social and environmental impact, as well as potential for commercial viability. These criteria highlight the key criteria of fundamental importance to WWF, while also recognising the realities of the potential project pipeline within the countries. Through this process, six WWF projects were identified to have met the criteria.

Box 2. *The four screening criteria were developed to identify suitable projects.*

1. Positive Impact on Nature

- This project meets the definition of a bankable NbS, as defined by the WWF (2020), creating positive environmental returns that lead to positive biodiversity impacts or climate mitigation and/or adaptation.
- Additionally, it is deemed acceptable to investors and has a strong potential to meet the criteria of the IUCN's Global Standard for Nature-based Solutions (2020). Types of sustainable land-use bankable NbS include climate-smart agriculture, environmental protection, sustainable forestry, improved water management, and land-use-based renewable energy.
- The project has a strong potential for measurable positive impact on nature within the project area, either by reducing the negative impact of productive activities on

biodiversity, sustaining or enhancing ecosystems or biodiversity, or avoiding land conversion and degradation.

2. Social and Economic Impact

- The project has a measurable positive local economic impact, such as securing and improving the livelihoods of workers or suppliers in their supply chain or through purchasing materials and services from local suppliers.
- It demonstrates evidence that the project or aspects of the business have been consulted upon and designed in collaboration with local community stakeholders. Furthermore, the project has a strong potential to (or already demonstrates its ability to) contribute positively to gender equality and address other forms of social inequality in the project area.

3. Commercial Viability

- NbS of varying stages of commercial maturity, from early stage to commercial growth, are considered for this project. It has a viable pathway to generate profit through nature-positive business activities and achieve break-even or profitability within the next three years.
- Nature-positive production is defined by WWF (2021) as protecting nature and managing agriculture in ways that enhance the richness of biodiversity and restore the functionality of degraded agroecosystems. The project has a confirmed ambition to scale up its size and/or nature-positive impact.

4. Governance

- If relevant, the project demonstrates the presence of a legally registered entity that could take on loan, equity, and potentially grant-based financing. There are no publicly available records of criminal activity, land disputes, community conflict, corruption, or other activities that would risk reputational damage to WWF. If relevant, there is evidence of an actively functioning governance oversight function for the organisation, such as a Board of Directors or Trustees. The project demonstrates its ability to comply with WWF's Environmental and Social Safeguard procedures.

Phase 3 - Bankable NbS Project Design

This involved the technical design and development of each project, which included developing a project design document, data collection and analysis, and conducting an economic feasibility assessment. Each project was designed according to internationally accepted best practices for NbS design. The project document template was developed in close alignment with the [IUCN's Global Standard for NbS](#). This template included critical elements in NbS project design, such as a theory of change, stakeholder engagement plans, governance structures and a business model.

As part of the data collection exercise, in-person and remote interviews were conducted with the relevant NbS project stakeholders. Data request forms that clearly outlined key information requirements were also sent to project stakeholders. Further desktop research was conducted to fill any data gaps. Finally, each project was assessed for its economic feasibility to assess the opportunities and barriers to achieving commercialisation. This included identifying potential future revenue streams (e.g. alternative commodities like non-timber forest products) and the estimated resources and time required to achieve profitability.

2. State of Financing NbS in Southeast Asia

The following section provides an overview of the state of financing for NbS in Southeast Asia based on the landscape analysis conducted in Phase 1. As part of this exercise, information on 75 potential financing mechanisms was collected via a desktop review. Given the reliance on publicly available information, the financing mechanisms described are not intended to be an exhaustive list of those available in Southeast Asia for bankable NbS.

Moreover, the level of publicly available information varied considerably across the identified sources, leading to imperfect information on total available funding, conditions of financing, and eligibility criteria. As such, while the analysis serves as a starting point for exploring funding opportunities, there are limitations to the level of possible insight and analysis. Direct engagement with the fund managers would be necessary to uncover additional information.

Country-level insights

Southeast Asia is a primary target for development finance institutions (DFIs) and international, private impact investors. According to Prasad et al. (2020), private impact investment has increased considerably in the region, both in terms of the number of deals as well as total capital deployed. Moreover, Southeast Asia receives relatively little philanthropic funding generally. In 2021, only seven percent of donor funds went to the region, while 39% went to Latin America, and 16% to Africa (Ford Foundation, 2022). In terms of philanthropic funding, there is little activity by the largest philanthropic donors globally such as the Bezos Earth Fund, or Arcadia Fund, for example.

Indonesia

Of the three key countries in focus, Indonesia has the most active finance landscape for NbS and receives the largest amount of impact investment in the region (Prasad et al., 2020). This is demonstrated in both the range and diversity of mechanisms that include Indonesia in their focus, either exclusively or as part of a wider geographical focus. There are therefore considerable opportunities for bankable NbS that will bring climate and biodiversity benefits. Private impact funds such as [ADM Capital's Asia Climate-Smart Landscape Fund](#) and [ADM Capital's Tropical Landscapes Finance Facility](#) only focus on Indonesian projects at this point in time. Innovative funders such as [Terrataji](#) also focus on Indonesia initially before potentially expanding to other Southeast Asian countries.

Malaysia

Compared with Indonesia, and given its smaller economy, Malaysia appears to have a less developed finance landscape when considering private investors and impact funds, both domestic and international. However, Malaysia is developing its sustainable finance landscape which could catalyse investment in NbS in the coming years. This is demonstrated by the Government of Malaysia's intention to issue a USD 200 million biodiversity Sukuk¹ facility to finance a range of forest restoration activities and carbon credit projects (Kareem, 2023).

Malaysia also remains a primary focus of many international donors and DFIs due to the high potential for climate and biodiversity impact in the country. There is also considerable commercial investment activity in land use sectors in Malaysia. For example, domestic bank CIMB has multiple finance initiatives that could potentially support agricultural smallholders, while Maybank is the largest single financier of palm oil production.

¹ Sukuk is a sharia-compliant bond-like instrument used in Islamic finance. Sukuk involves a direct asset ownership interest, while bonds are indirect interest-bearing debt obligations.

The Philippines

The Philippines receives high levels of impact investment as compared to other Southeast Asian countries (Prasad et al., 2020). In particular, the country has a well-developed finance landscape for smallholder agriculture, blue carbon and sustainable coastal management projects. However, terrestrial projects such as sustainable forestry, agriculture and restoration and conservation activities receive less attention. For example, the Philippines is absent from some impact investment funds' target countries that otherwise target other countries in Southeast Asia.

However, there are examples of individual innovative finance mechanisms or domestic finance mechanisms in the country that may be opportunities for nature-positive businesses (though these are principally focused on blue carbon). Existing domestic finance mechanisms could also provide the opportunity for financing smallholder farmer-focused NbS projects. Though these schemes currently do not have an environmental impact as a remit, in the absence of other funding mechanisms, this could provide opportunities for sustainable agriculture businesses.

Investment criteria insights for bankable NbS projects

Investment in bankable NbS still needs to meet the required level to address the global biodiversity financing gap (UNEP, 2023; Deutz et al., 2020). Financing in this area is typically confined to public or non-commercial entities that prioritise biodiversity conservation and social impact. However, these organisations may need more access to the substantial pools of capital necessary to drive transformative change.

This is largely due to significant barriers that impede investment. In the forestry and sustainable land use sectors for example, these barriers include a mismatch between the tenor preferences of investors and companies, a lack of robust fund and company track records, weak investment fundamentals and low risk-adjusted returns, as well as liquidity challenges (FMO and Terranomics, 2023). The inherent characteristics of NbS projects also mean that there are high project-level risks associated with the project located in remote places or risky markets, the reliance on small and medium enterprises and hard-to-monetise project benefits (WWF-UK and Terranomics, 2022). Furthermore, investors tend to prioritise factors that directly impact their investment returns, whereas bankable NbS projects or enterprises are focused on a broader set of considerations, such as environmental and social impact, as well as local community participation (FMO and Terranomics, 2023).

This is reflected in the investment criteria required by the 75 finance mechanisms identified in this study. For many finance mechanisms, eligibility or investment criteria are not publicly explicit or detailed. Based on the information available, private impact investors seek minimum levels of financial returns and viability. Therefore, a strong project track record, financial considerations, and environmental co-benefits will maximise the chances of receiving funding.

The following are potential implications for bankable NbS in Southeast Asia seeking financing:

- **At a minimum, the bankable NbS enterprise will require an internal rate of return (IRR) of eight to 10% to meet investor expectations.** However, some investors may require greater returns of up to 12%, or even higher returns ranging from 15% to 18% for carbon projects or in other sectors such as renewable energy. Hence, low risk-adjusted returns pose a significant barrier to attracting investors (FMO and Terranomics, 2023). To enhance their returns and appeal to investors, bankable NbS should diversify their commercial strategy by incorporating a mix of revenue streams and seek to increase their overall returns.
- **The bankable NbS project will likely require a commercial track record of at least two years to qualify for financing.** Many funds do not publicly disclose the minimum track

record expected of potential investees, and further information can typically be obtained through direct engagement with the funder. However, the lack of a proven and established joint track record is widely acknowledged as a key barrier for investors (FMO and Terranomics, 2023). BNS projects can address this challenge by preparing detailed business plans and financial models that provide comprehensive disclosures on potential risks, thereby helping to build confidence among prospective investors.

- **Financing tenors, or loan durations, offered by funds vary depending on the type of fund.** Generally, financing tenors range from one to six years. Most private or impact investors provide debt or equity financing with tenors between four and six years. However, projects seeking grant funding or microfinance should aim to secure financing for shorter periods, which typically range from one to five years. This may lead to a tenor mismatch as bankable NbS may have longer investment horizons that extend beyond the typical financing tenors.
- **The ticket size, or the amount of financing provided, varies significantly depending on the specific financing mechanism employed.** For instance, philanthropic or microfinance grants can be as small as less than USD 1,000. On the other hand, among the private impact funds that disclose information on deal size, they generally offer financing from USD 2 million to USD 20 million, although there may be exceptions that fall outside of this range.

3. Lessons from existing bankable NbS

Building a global market for non-timber forest products: A case study on Forestwise

Project Overview

[Forestwise](#) produces and promotes unique, high-quality organic and Fairtrade-certified ingredients harvested from the rainforest in West Kalimantan by local communities for the food and cosmetics industries. Its mission is to stop deforestation by producing and promoting unique non-timber forest products (NTFPs) that are sustainably harvested from the natural rainforest by local communities (Partnerships for Forests, 2020).

How does the business model help to address threats to nature?

Borneo, the world's third-largest island, has experienced extensive deforestation, with half of its forests lost in the last 50 years due to fires, illegal logging, and the expansion of palm oil and pulpwood plantations. Forestwise focuses on the sustainable harvesting and processing of NTFPs, including illipe nuts from the Indigenous tengkawang trees (*Shorea stenoptera*) for the global food and cosmetics market. According to Forestwise, their close collaboration with local communities has led to mutually beneficial forest-protection agreements with communities, wherein Forestwise offers special benefits, such as providing free electricity, in exchange for the communities' commitment to protect the rainforest.

Key Stakeholders

Forestwise collaborates with local communities in West Kalimantan, engaging around 33 villages across three districts covering over 219,000 hectares. Within these districts, Forestwise also collaborates with several locally active Civil Society Organisations (CSOs) including Riak Bumi, PRCF, SIPAT, GIZ FORCLIME programme, AMAN and YP MAN. Since 2019, [Partnerships for Forests \(P4F\)](#) has played a crucial role in supporting this project, including the development and implementation of a viable business model, providing technical assistance, and helping to scale up operations (Partnerships for Forests, n.d.).

Box 3. *Overview of Partnerships for Forests*

P4F is an incubation programme that provides a mixture of grant finance and technical assistance to catalyse investment in sustainable forestry and land use. It supports partnerships and projects that can deliver deforestation-free commitments and improve community livelihoods, particularly those that depend on forests. These partnerships can be at different levels of maturity, from the concept stage to commercial scale-up. However, all should be able to deliver impact at scale, either through their operations or replication elsewhere.

Business Model and Activities

What is the business model?

The core of Forestwise's business model is creating sustainable economic value for rainforest communities to incentivise rainforest conservation. Founded in 2018, Forestwise opened its own factory in 2020 in Sintang, West Kalimantan. The factory processes raw materials, harvested from the surrounding area, to be used in consumer products. Forestwise employs between 20 and 50 staff (including from the local community) depending on the season who work in finance, production, the buying of raw materials and Corporate Social Responsibility (CSR) activities.

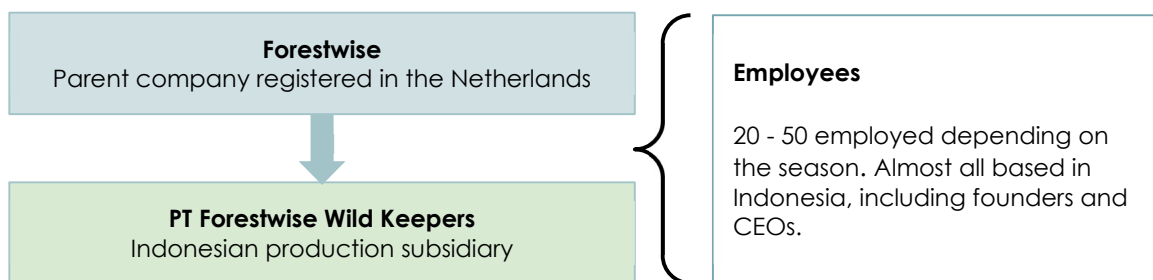


Figure 1. An overview of Forestwise's organisational structure (Forestwise, n.d.a). PT Forestwise Wild Keepers is a full subsidiary of Forestwise Netherlands.

Forestwise works with farmers, communities, and organisations that own or manage rainforest land to help conserve those forests by developing a market for valuable rainforest products. It provides advice and assistance on protecting the forests, as well as training on sustainable production of rainforest products that generate income for the communities. Additionally, Forestwise sets up agreements with its producers to ensure low-intensity harvesting² and compliance with several certification schemes. These include Fair for Life, NOP Organic and EOS Organic certificates.

By acting as a centralised off-taker of NTFPs from local communities, Forestwise facilitates smallholder access to supply chains to process and add value to rainforest products locally and internationally. This has led to the development of alternative sources of income from crops such as illipe nuts, kukui nuts, coconuts and arenga sugar. They sell these products both in Borneo and overseas, providing a fair price to the farmers and creating a financial incentive for them to protect the forests and stop deforestation. For example, communities receive at least six times their usual income for each kilo of illipe nuts harvested, resulting in a 17% increase in annual income (Forestwise, 2022a). Forestwise also has an established brand around rainforest products to connect businesses in the food and cosmetic industries to these sustainable rainforest resources.

Forestwise's Main Objectives

Forestwise's approach involves transforming monoculture practices towards regenerative agroforestry, thereby increasing productivity, biodiversity, and environmental value. This model promotes economic value from nature while preserving Borneo's rainforests, crucial for commodities like illipe nuts, coconuts, and arenga sugar. This also highlights the importance of robust market access to improve the incomes of forest-dependent communities.

Investment Structure

Investment Process

The investment process initiated by P4F included establishing Forestwise as a business entity, building processing and storage facilities, and direct purchasing of nuts from villagers. This was augmented by strategic partnerships with commercial partners. For example, their partnership with Lush, a cosmetics and skincare manufacturer, has been a major success. Forestwise received grants from Lush's small grant program and expanded their partnership through an off-taker agreement for their organic illipe butter as an ingredient in Lush's skincare products (Lush, n.d.).

Forestwise has already mobilised GBP 2.2 million in private investment following grant funding from P4F (Partnerships for Forests, n.d.). This included a GBP 134,000 bridging loan from a variety of undisclosed sources (P4F, 2020) and a USD 50,000 loan from the Reciprocity Fund. Currently, it is seeking debt financing between GBP 1.1 million and 5 million to expand its

² A typical growing season of the illipe nut is 3-5 years, making low-intensity harvesting important to allow natural regeneration.

production and match the demand for its products. With P4F's support, it is expected to attract GBP 1 million of investment from institutional investors such as commercial banks and impact investors. It has already secured USD 450 thousand of this amount in financing from Terratai, though it is not clear whether this is through debt or equity (Carbon Pulse, 2024).

Critical Partnerships

Forestwise has developed crucial partnerships to enhance its business model and market reach. Forestwise first recognised the importance of a strong branding and marketing strategy by investing in a website and pitch deck, and regularly attending cosmetic trade shows to increase visibility around their unique products (Forestwise, n.d.b; Forestwise 2022b). As one of the few sustainable producers in the industry, Forestwise's story resonates with buyers who value their commitment to sustainability. This includes commercial partnerships with major players like Lush, IMCD, and DKSH. These collaborations have enabled Forestwise to export its processed illipe butter to a wide range of international buyers in the cosmetics industry, thereby scaling up its presence in the global market.

In addition to these commercial partnerships, Forestwise has continued its collaboration with P4F for investment and operational scaling. The second round of illipe nut purchases and expanded marketing activities, funded by P4F, were crucial in attracting potential investors and expanding Forestwise's market reach. Moreover, Forestwise's partnership with CSOs such as Riak Bumi, a local CSO in Borneo with strong community ties, highlights its commitment to community engagement and sustainable forest management practices.

These strategic alliances demonstrate Forestwise's adeptness in combining local community engagement with global market access, creating a sustainable business model that benefits both the environment and the local economy.

Lessons Learned

Key Successes and Impacts

The project has been successful in providing alternative income sources to local communities, preserving the rainforest, and promoting environmental sustainability. It has also successfully entered the international market, with significant sales of its illipe butter; in 2021 Forestwise secured more than £1 million (€1.15 million) in nut purchase commitments from international buyers (Palladium, 2021). Other successes include:

- **Revival of Illipe Trees:** Forestwise's efforts have led to the revival of the illipe tree (*Shorea stenoptera*), a species that had diminished in value due to market fluctuations and was listed as "Near Threatened" on the IUCN Red List. The model has motivated communities to replant these trees, recognizing their renewed value as a crop.
- **Economic Empowerment:** The project has revitalized local economies, with around 1,000 people earning incomes three to six times higher than before, and has contributed to environmental conservation by incentivizing the sustainable management of over 219,000 hectares of land. One village witnessed a 145% rise in income during the harvest year. This significant boost in earnings illustrates the tangible economic benefits derived from this initiative.
- **Employment Opportunities:** Forestwise has created employment opportunities, notably for individuals who previously lacked access to secondary or higher education. This aspect of the project thus supports social upliftment as well as local economies.
- **Gender empowerment and diversity:** Approximately, just over 20% of all supplier producers who sign contracts with Forestwise are women. Women play a significant role in the illipe nut value chain (especially as collectors and driers) which moreover is

not at odds with local customary rules. Forestwise has a stated intent to work with P4F to promote the empowerment of women and other marginalised groups further (Partnerships for Forests, 2020).

Innovativeness

Forestwise's business model is highly innovative in its approach to establishing a global market for NTFPs, which has resulted in re-establishing these traditional crops as a significant economic resource for local communities in West Kalimantan. For example, by re-establishing the illipe nut economy, the company has achieved notable successes in:

- **Sustainable Harvesting Practices.** The company's approach to harvesting ensures environmental sustainability. By setting and adhering to sustainable collection rates (leaving behind 20-30% of seeds, often reaching up to 50%), Forestwise ensures the regeneration of the illipe trees (Tocco, 2023). This practice is complemented by a program to plant illipe trees in areas where they have previously been eradicated.
- **Protecting Biodiversity through Economic Incentives.** Forestwise's strategy of purchasing illipe nuts has been a vital tool in biodiversity conservation. By making the tree an income source, the incentive to protect and cultivate it becomes stronger than the incentive to cut it down for timber. This approach has led to protection agreements and forest protection clauses with six villages covering 36,000 hectares of forest.

Through these innovative practices, Forestwise has demonstrated how a business model can align economic benefits with environmental conservation, creating a win-win scenario for local communities and biodiversity. This strategy not only addresses immediate economic needs but also fosters long-term sustainability and ecological balance.

Scalability and Applicability

The model's scalability is evident from its rapid growth in the areas from where it sources its produce. In 2019, a year after its founding, Forestwise already worked with 21 villages covering 140,000ha. Now, Forestwise covers 33 villages and over 219,000 hectares, with the potential to replicate in other forested regions. Forestwise plans to expand to 50 villages and around 1 million hectares in Kalimantan by 2030 (Forestwise, n.d.a).

Currently, Forestwise offtakes less than 10% of the potential illipe nut harvest. There is therefore considerable scope for an increase in production. Forestwise is also exploring new markets in Indonesia and Southeast Asia and plans to establish a facility to refine illipe nut butter in Indonesia to increase competitiveness and profitability. Furthermore, alongside [reNature](#), a partner organisation, Forestwise is exploring new product lines of sustainable rubber and rice combined with agroforestry (Renature, 2023). This high demand, and potentially diverse range of robust revenue streams demonstrate its the business model's applicability across a range of landscapes and scales.

Recommendations for Future Bankable NbS

This case study highlights several key considerations for future bankable NbS, namely:

1. Involvement of local communities and collaborations with local civil society organisations.
2. Identify existing NTFPs that hold cultural significance to local communities and with potential as an alternative source of income.
3. Emphasise the economic benefits of forest conservation to local communities and ensure fair benefit-sharing to facilitate long-term collaboration.
4. Prioritise business development activities to expand commercial partnerships and market reach.

Organic rice conversion in the Philippines: A case study on Family Farms Inc

Project Overview

[Family Farms Inc. \(FFI\)](#) is a private corporation involved in the production of high-quality, certified organic black rice on the island of Negros in the Philippines. FFI is a social enterprise which principally seeks to address the lack of rice self-sufficiency in the Philippines while also improving the economic position of rice farmers in the country (C4D Partners, 2023).

How does the business model help to address threats to nature?

By focusing on organic, smallholder rice production, FFI addresses key environmental issues with conventional rice production that may use a combination of inorganic fertilizers, pesticides and herbicides. Specifically, these have adverse effects on biodiversity both on farms and in surrounding areas, particularly microbial and insect biodiversity (Barros-Rodríguez et al., 2021; OECD, 2020; Yunus et al., 2022).

Organic farming can also deliver environmental benefits such as reduced CO₂ and N₂O emissions when compared with the production or use of inorganic fertilisers. Organic farming can also mean a greater focus on soil quality and health through regenerative agriculture practices. This can reduce soil erosion, further promote biodiversity and improve water quality and retention both on the farm and in the surrounding area. FFI engages with farm clusters and provides capacity-building services, creating a robust and potentially long-lasting approach that benefits nature.

Key Stakeholders

FFI engages with three key stakeholder groups to ensure the success of its business model. Firstly, the company engages closely with other organic farming organisations. It has engaged with the International Federation of Organic Agriculture Movement (IFOAM) and IFOAM Asia since 2005 in various forms. It has also engaged with the League of Organic Producers of cities, municipalities, and provinces based in Mindanao, Philippines. Secondly, FFI has partnered with farming communities through clusters and associations to provide the necessary supplier base and improve the likelihood of project success. Lastly, FFI maintains strong engagement with provincial governments, an important element for aiding project or business success.

Business Model and Activities

What is the business model?

FFI is a small to medium-sized enterprise (SME) whose core business model is the marketing of various varieties of pigmented organic rice. Being certified organic under the Philippines Government's [National Organic Agriculture Program](#), FFI can set a higher value on their rice products. Certification of FFI's supplier clusters is done annually, with FFI inspecting and documenting farm production processes from land preparation to harvest.

These products are sold to metropolitan areas in the Philippines or are exported. This in turn allows FFI to provide price premiums to their supplier farmers. Supplier farmers are exclusively smallholder rice farm clusters or associations. FFI also provides capacity-building services to farmers. Beyond farmers, FFI engages and partners with a variety of stakeholders to improve the resilience of its business and further its economic and impact objectives. Supplier farmers can also purchase rice from FFI that is not yet certified at the milling cost (lower than market price).

FFI's Main Objectives

FFI's main aim is to bring value to smallholder Filipino rice farmers and thus improve their livelihoods through converting to organic practices (see key successes and impacts below). It also wants to provide Filipinos with affordable and nutritious food. This is against a backdrop

of dwindling self-sufficiency of rice production in the Philippines, an issue recognised by the Philippines Government.³ So far, however, the investment has already led to considerable yield increases for FFI's farmers as well as greater subsequent purchases paid by FFI.

The original investment made by [Capital 4 Development](#) (C4D) Partners in 2017 enabled FFI to acquire a state-of-the-art processing facility for rice milling and sorting. Such facilities ensure the high quality of the rice products produced and thus enhance their value-add. FFI plans to replicate and scale this business model to 10 additional processing facilities on Negros. This will subsequently increase the supplier base and market for organic rice in the region and beyond. This expansion greatly enhances FFI's impact by bringing a wider range of farmers into nature-positive organic rice production. This could then provide a positive case study for other regions of the Philippines where there is potential for organic rice farming.

Investment Structure

Investment Process

The investment from C4D Partners was a PHP 10 million (approximately USD 200,000) equity investment. This supported FFI's capital expenditures (CAPEX), mainly for the acquisition of the new processing facility. PEF provided a further PHP 14 million as the other key funder.

First, FFI demonstrated that the business model can be both profitable and sustainable to alleviate C4D's concerns about a lack of commercial track record. C4D was also encouraged by the strong stakeholder engagement and network that FFI had built. Investment followed a nine-month due diligence process. This included C4D carrying out field visits and reviewing business plans. C4D provided investment in the form of a convertible loan to equity. This investment structure complied with foreign ownership laws while seeking more equity from local investors. The structure also allowed flexibility based on the movement of cash flows. Finally, monitoring and evaluation were required by C4D to include quarterly impact reports and annual yield volume and value reports from FFI.

Critical Partnerships

FFI is closely linked to the Negros Island Sustainable Agriculture and Rural Development Foundation (NISARD). C4D Partners was the main impact investor providing 40% of the total equity investment (Grow Asia & IISD, 2022). The remaining 60% came from the Peace and Equity Foundation (PEF), a Philippines-based NGO.

Box 4. Overview of Capital 4 Development Partners Asia Fund

C4D is a private impact investor with a focus on early-stage ventures in emerging markets. The fund's investment criteria target tenors of between USD 300,000 and 4 million, Enterprises or organisations the fund invests in must have at least 12-18 months of operations and a maximum of 250 employees. Lastly, they must demonstrate a direct livelihood impact on an underserved population.

Lessons Learned

Key Successes and Impacts

As of 2021, FFI had seen a 30% increase in sales in consecutive years from 2019-2021, with sales totalling PHP 44 million (USD 840,000) in 2021. Yields also increased, reaching 4-6 tons per farmer on average. The average rice yield per farmer in the Philippines is approximately 4

³ For example, it aims to achieve 100 percent self-sufficiency by 2027 through the Department of Agriculture's Masagana Rice Program (MRP) 2023-2028.

tonnes per farmer,⁴ suggesting FFI suppliers are attaining similar if not better yields than the national average. In figures, purchases paid to farmers since 2017 at the time of the investment increased from 60% up to 160% until 2021 (from around PhP 9 million in 2017 to PhP 24 million in 2021). The 306 farmers engaged as suppliers represented an 85% increase compared to 2019. For context, FFI started the company with only 35 organic farmer-suppliers. Finally, FFI employs around 34 employees from local communities in their business.

Innovativeness

The most innovative aspect of the investment is C4D's use of convertible loans to equity. This patient capital structure recognises that sustainable commodity production sees variable yields, and therefore variable cash flow, from year to year. Convertible loans allow flexibility on repayments and interest based on this variability, crucial for many businesses with a nature-positive focus. Moreover, continuous capacity building is an integral part of FFI's business model. This recognises the fact that working closely with suppliers to build their own business capabilities will only strengthen the resilience and impact of the company.

Scalability and Replicability

The successes demonstrated by FFI show that this business model could be expanded to other provinces of the Philippines and countries in Southeast Asia. In the Philippines specifically, for example, the recently established [Balanced Fertilisation Strategy](#) seeks to encourage a wider range of fertiliser use besides inorganic fertilisers in the Philippines. This business model could also find success in countries with stronger regulation of organic certification schemes and lower competition from imported rice. Many of the project's learnings (such as capacity building and training) could also be applied to other commodities and business models.

Recommendations for Future Bankable NbS

This case study highlights several key considerations for future bankable NbS, namely:

1. Prioritise extensive and open stakeholder partnerships and networks.
2. Embed capacity building and training into processes, whether for commodity producers or other stakeholder types.
3. Emphasise future potential impact over immediate results to potential investors.
4. Demonstrate impact and financial returns clearly to overcome any concerns about lack of track record.

⁴ The national average rice yield per hectare was 4.11 tonnes in 2022. The average farm size in the Philippines is approximately 0.9 hectares.

4. NbS project summaries

Below we provide summaries of six early-stage bankable NbS projects, for which we developed full project design documents (PDDs). The projects are at various stages of development - from ideation and early-stage startups to growth-phase initiatives - and are focused on sustainable land use and coastal management sectors across Indonesia, Malaysia, and the Philippines.

Half of these high-potential projects were initiated and directly managed by WWF, and the other half are private-sector initiatives actively receiving close advisory support and guidance from WWF. Collectively, they represent opportunities to drive positive environmental and social impact while achieving commercial viability through sustainable business models in priority landscapes and seascapes in Southeast Asia. More detailed documentation is available to those interested in further exploring investment and financing possibilities with these initiatives. We have not provided detailed financial information for most projects in this document due to confidentiality requirements. Any financial information we do provide should be considered as indicative only and not relied upon for decision-making purposes."

PT Channa Lestari Senentang

Overview of the project

- **Implementer(s):** WWF-Indonesia and PT Channa Lestari Senentang (PT CLS)
- **Sectors:** Sustainable aquaculture and fisheries, freshwater and terrestrial conservation and restoration
- **Location:** Sintang Regency, West Kalimantan, Indonesia
- **Funding and TA support required:** USD 968,000
- **Financial instrument:** Debt, grant
- **Business stage:** Early stage (Concept Development / Startup)

Landscape context

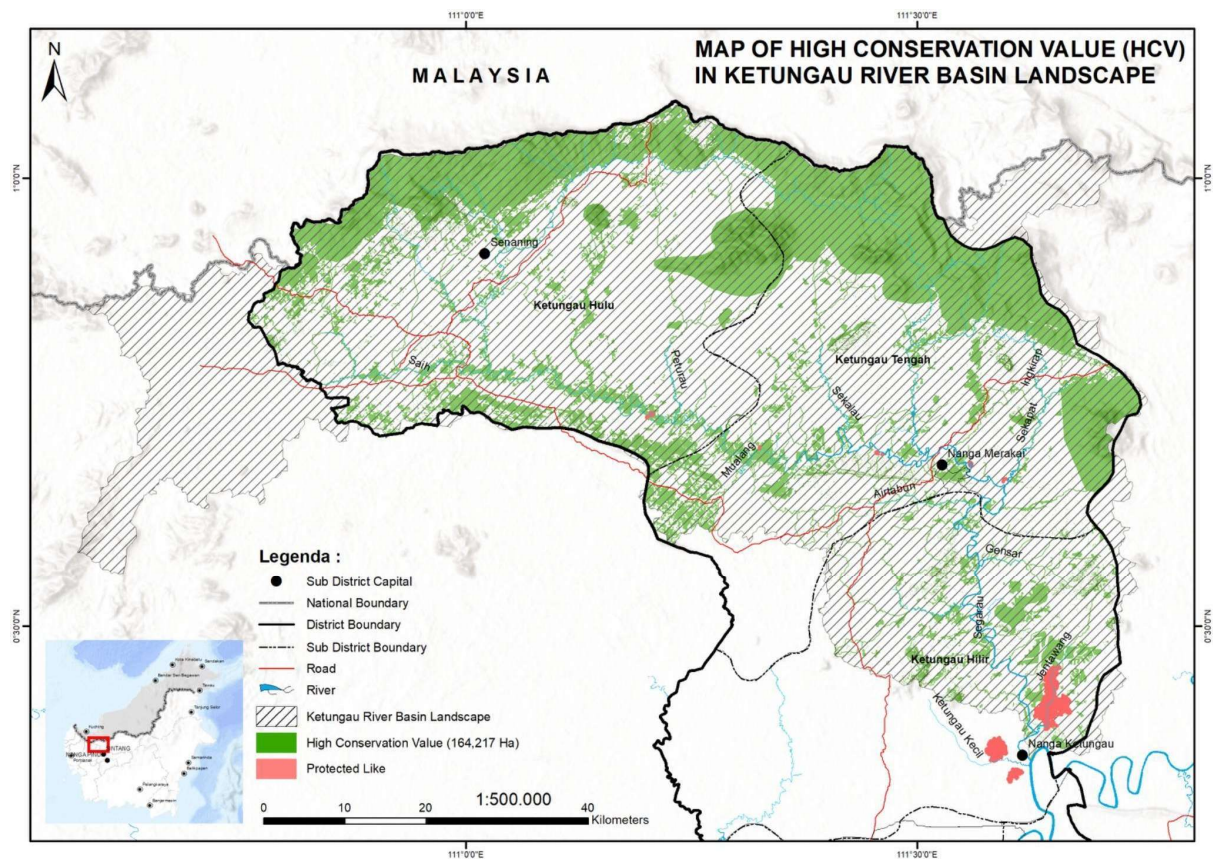


Figure 2. Map of High Conservation Value (HCV) area in the Ketungau river basin, Sintang District.

The project forms a part of WWF-Indonesia's wider Arabela Landscape Programme.⁵ The Arabela Landscape is located in the heart of Borneo and is a priority landscape for WWF-Indonesia's conservation activities. It is home to one of the largest populations of critically endangered⁶ orangutans (*Pongo pygmaeus*) in Borneo outside of the island's protected area system. More widely, Borneo contains six percent of the world's plant and animal species, including 6000 endemic plant species (Keong and Onuma, 2021), 44 endemic

⁵ See <https://www.wwf.id/en/learn/forest-wildlife/kalimantan> for further detail.

⁶ Under [IUCN's Red List Criteria](#), critically endangered taxa are considered at extremely high risk of extinction in the wild.

mammal species and 37 endemic bird species (WWF, 2018). This underlines the importance of conserving Borneo's and Arabela's biodiversity.

Within the Arabela landscape is the Ketungau river basin, the majority of which falls within Sintang Regency, West Kalimantan. The Ketungau river basin provides a range of important ecosystem services to the communities living within it such as freshwater provision and food security. Meanwhile, 59% of Sintang Regency's land area is forest, yet the district experiences some of the highest levels of deforestation in West Kalimantan (CIFOR-ICRAF, 2020). These high levels of deforestation have coincided with decreasing water quality in the freshwater rivers and lakes of Sintang. This has in turn coincided with decreasing levels of fish productivity in Sintang's water courses and bodies. This sets an urgent need to address both conservation and social challenges in the Ketungau river basin.

Project description

The project will partner community-led conservation and restoration activities with the production of a natural health compound extracted from native, locally produced fish in Sintang Regency. This will ultimately contribute to boosting biodiversity across 158,955 ha of HCV land in the Ketungau river basin through sustainable management of the Ketungau's lakes, rivers and connected forests and peatlands, while ensuring sustainable livelihoods and improved social benefits for local stewards of conservation.

PT CLS specialises in the extraction of albumin from the native and locally sourced Snakehead (or Channa) fish family. Albumin is an abundant circulating protein in plasma which is responsible for keeping fluid in blood vessels and transporting other compounds around the blood. It can be used in a range of products and sectors, particularly in the health and pharmaceutical sectors (Rajakumari et al, 2023; Tungadi, 2019; Sarkar et al, 2023). Snakehead fish are a popular source of albumin due to having higher levels than other native species.

PT CLS will source Snakehead fish from local fish farmers who rear them in ponds, with plans to potentially source them from wild stocks in lakes and rivers. Sourcing from local suppliers will create added social impact in the form of increased and more consistent incomes to these fish farmers.

The concept of PT CLS as a business was developed by Alam Kapuas Raya ('Alam Kaya'), a local civil society organisation in Sintang which advocates for the conservation and protection of the district's freshwater resources. The business activities of PT CLS are thus highly linked to the conservation activities of Alam Kaya, with the Chairman of PT CLS being a member of Alam Kaya. This partnership will also extend to WWF-Indonesia and community-led conservation groups. These latter community groups will manage five lakes in the Ketungau River basin as targeted conservation areas. These will be established as Indigenous and Community Conserved Areas (ICCAs).

The project aims to create a virtuous circle for good management of the Ketungau River basin. Conservation and restoration activities will directly benefit PT CLS' revenues by improving fish supply, which will in turn create a greater economic incentive for further conservation and restoration of the river basin. At the same time, this will also address the challenges of decreasing fish productivity and food security in Sintang.

Business model and revenue streams

PT CLS will extract a high-demand health compound, albumin, from native, locally sourced Snakehead fish for sale to the health, pharmaceutical and cosmetic sectors.

Albumin is a compound used in the health, pharmaceutical, cosmetic and food and beverages industries. Human albumin is the most commonly used form of albumin, especially in health uses. However, for many applications, fish albumin represents a cheaper alternative to human albumin. PT CLS will therefore derive the majority of its revenue from the sale of fish

albumin to the health, pharmaceutical and cosmetics industries, ideally through long-term off-take agreements.

The global market size of albumin (not distinguishing between the various types) is approximately USD 6.1 billion (Spherical Insights, 2023). In Indonesia, this market is approximately USD 292 million.⁷ The market for fish albumin is still in the early stages of development, although it is likely to be growing considering that there are other upcoming manufacturers in Indonesia currently producing fish albumin.

PT CLS has signed a Memorandum of Understanding (MoU) with another albumin producer in the district to off-take any fish surplus to PT CLS' production process (as this producer does not have its own supply of Snakehead fish). The MoU will also facilitate knowledge sharing to aid product development in this nascent market. It has also signed an MoU with the Sintang Health Agency as a potential off-taker.

Thus, there is a significant opportunity for PT CLS to bring in strong revenues if it can guarantee off-takers and achieve a minimum level of market share. To achieve this, PT CLS will need to build a brand story and develop a business model to ensure it can meet customer demand.

Other supplementary revenues may be derived from by-products of the albumin extraction process. These include 'pempek' (a type of fishcake), shredded fish, and fish oil products. However, these products are likely to be sold locally or regionally, with albumin acting as the primary revenue stream.

PT CLS will commence sales of its products in late-2024. By 2028, it plans to achieve revenues of approximately USD 602,000, derived principally from albumin sales and supplemented by the sale of fish crackers and shredded fish.

Project outcomes

Biodiversity and climate outcomes

The project's conservation outcomes, delivered through Alam Kaya and WWF-Indonesia, will centre around five lakes/ICCAs in the Ketungau river basin. The project targets a minimum 10% increase in forest cover surrounding the ICCAs which will in turn improve the water quality of the lakes through reduced erosion. Both these outcomes will lead to an increase in ecosystem integrity and, therefore, biodiversity. An increase in forest cover will provide additional climate impact through improved carbon sequestration. Furthermore, the project will support the activities of FORDAS,⁸ a multi-stakeholder platform, to integrate the participation of Indigenous Peoples (IPs) and Local Communities (LCs). This will empower these groups as the main conservation practitioners in the Ketungau river basin, leading to better long-term management of the landscape's ecosystems.

Social and economic outcomes

The project will contribute to reversing the current trend of decreasing fish productivity in Sintang, therefore improving food security for local communities. Local communities in Sintang are highly dependent on fish for nutrition and income. Therefore, through the protection of the lake ICCAs, specifically the reduction of pollution and prevention of overfishing, fish numbers should begin to increase. Additionally, the project will improve the incomes and livelihoods of local community members directly involved in PT CLS' business model. This may include local Snakehead fish suppliers who will receive more consistent income for their produce, or community members directly employed by PT CLS.

⁷ Due to a lack of data on the fish albumin, we have assumed a similar market size to bovine serum albumin, another animal-derived alternative to human albumin (Coherent Market Insights, 2021).

⁸ Forum Daerah Aliran Sungai.

Investment and operating structure

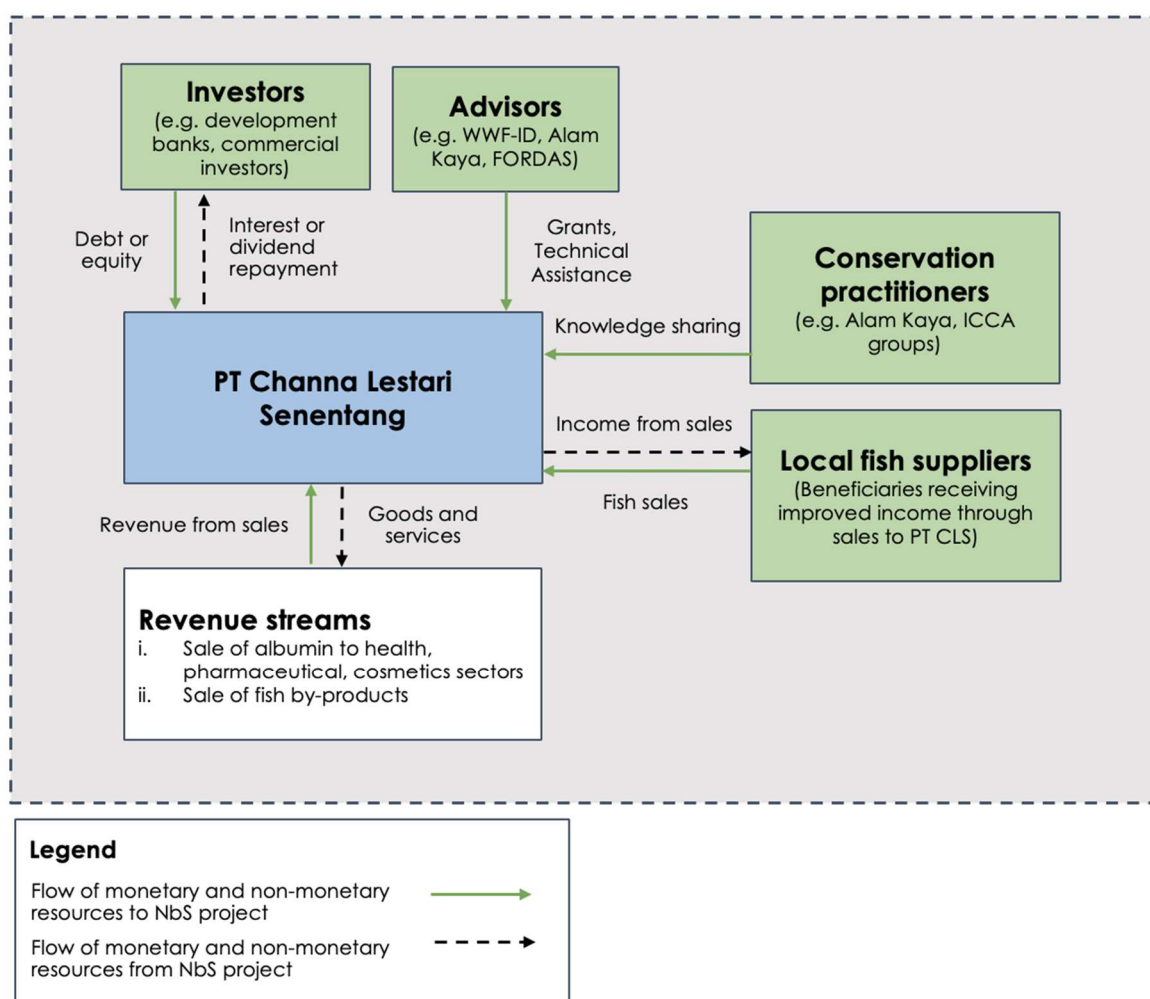


Figure 3. A conceptual investment and operating structure for PT CLS, including the flow of monetary and non-monetary resources to and from the business.

Figure 3 illustrates PT CLS' revenue streams and the key linkages between the business and relevant project stakeholders. These include local fish suppliers, conservation practitioners, advisors and potential investors.

PT CLS will derive its revenue from sales of albumin and, to a lesser extent, from sales of fish by-products from the albumin extraction process. It plans to sell albumin principally to the health, pharmaceutical and cosmetic sectors. The secondary products (fish cakes and fish floss) will be sold in local and regional food markets or the food sector more broadly. To manufacture its products, PT CLS will source its inputs (Snakehead fish) from local suppliers in Sintang. These suppliers become beneficiaries of the project as they receive increased incomes from the sale of fish to PT CLS.

PT CLS will be involved in knowledge sharing activities with conservation practitioners in the area. For example, Alam Kaya can provide knowledge on local fish stocks which will inform PT CLS' business development strategy. Advisors such as WWF-Indonesia will provide technical assistance and oversight, as well as potential grant funding to support project development and increase the likelihood of attracting investment.

Finally, investors such as development banks or private investors (which could include impact investment firms) can provide financial support in the form of debt or equity investment. Repayments with interest or dividend repayments can provide these investors with suitable financial returns following the scale-up of the project's activities.

PT Alam Bukit Tigapuluh

Overview of the project

- **Implementer(s):** PT Alam Bukit Tigapuluh
- **Sector:** Sustainable land use and sustainable agriculture (NTFPs)
- **Location:** Sumatra, Indonesia
- **Funding and TA support required:** USD 44,000
- **Financial instrument:** Grant and debt financing
- **Business stage:** Later Stage (Growth and Establishment)

Landscape context

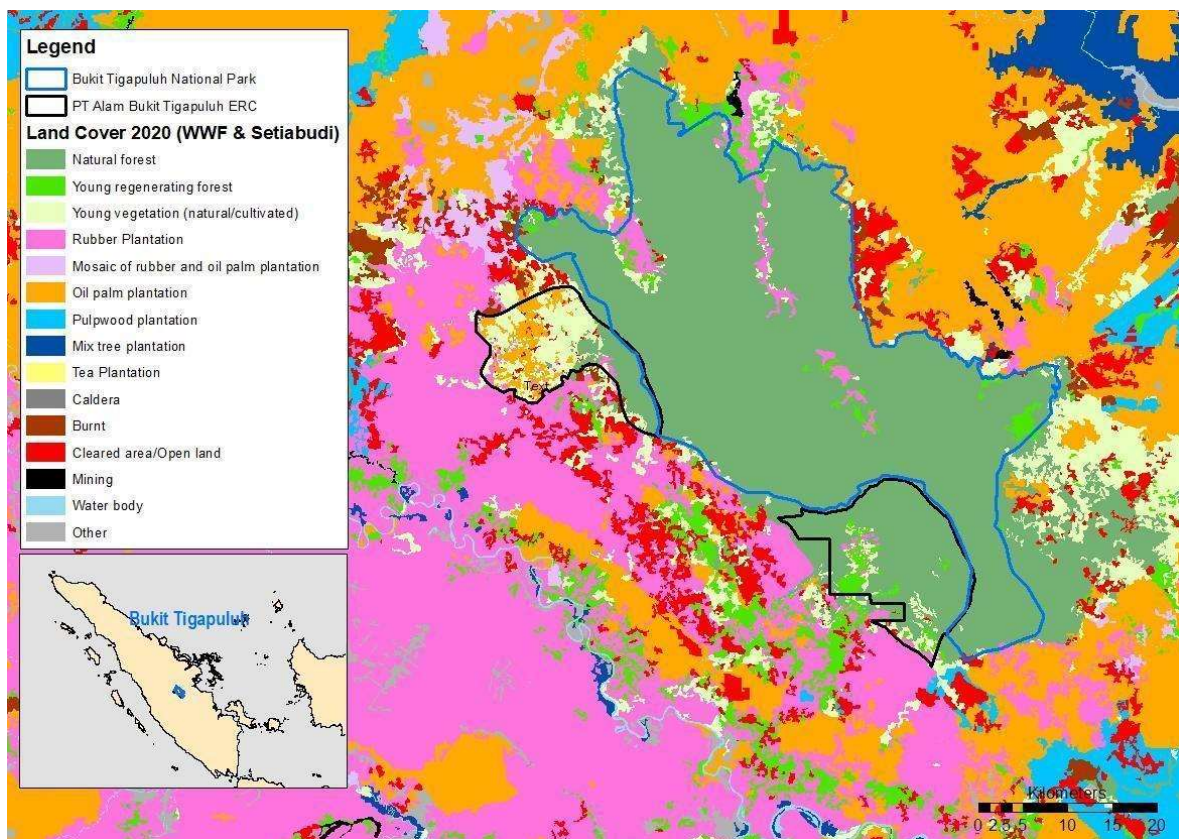


Figure 4. PT ABT's concession blocks 1 and 2 (in black, from right to left) bordering Bukit Tigapuluh National Park (blue) in central Sumatra, Indonesia, shown with 2020 land covers (by Setiabudi and WWF-Indonesia based on visual interpretation of Landsat images at the island level).

PT Alam Bukit Tigapuluh (PT ABT) manages two concession blocks totalling 38,665 hectares, largely surrounded by Bukit Tigapuluh National Park in central Sumatra, Indonesia (see Figure 4). Block 1 spans 22,095 hectares, whilst Block 2 covers 16,570 hectares. A large percentage of the concession blocks, particularly Block 1, is designated as priority conservation areas due to the presence of globally recognized High Conservation Value Areas (HCVA) and High Carbon Stock (HCS) forest. The Government of Indonesia granted PT ABT a 60-year Business License for the Utilization of Forest Products to manage the area as an Ecosystem Restoration Concession (ERC).

The PT ABT concession is also surrounded by commercial plantations, including rubber, palm, and pulpwood. This has led to the compression of biodiversity in the PT ABT concession and Bukit Tigapuluh National Park due to the loss of habitat elsewhere. The concession blocks are rich in biodiversity due to their unique ecosystem type (Sumatran lowland forest) which supports critically endangered species such as Sumatran elephants, tigers and reintroduced orangutans. Additionally, two IPs and LCs of three other ethnic groups reside within the concession blocks.

Key threats to the PT ABT concession include encroachment from commodity-driven deforestation, primarily due to rubber, oil palm, and pulpwood cultivation; forest fires associated with land-clearing activities; poaching of key wildlife species; and human-wildlife conflict, as local farmers contend with elephants and tigers encroaching on their plantations and consuming crops.

Project description

PT ABT was incorporated in 2011 as a subsidiary of PT Panda Lestari, an incorporated entity of WWF-Indonesia (WWF-ID), which owns 51% of its Series A shares. The remaining 49% are owned by co-founder Yayasan Konservasi Ekosistem Hutan Sumatera (KEHUS), an Indonesian charity and offshoot of Frankfurt Zoological Society (FZS) and The Orangutan Project (TOP). In July 2015, it obtained the 60-year license for the Forest Estate.

PT ABT strives to restore the balance of the ecosystem as a habitat for protected species, providing vital components for life, and generating NTFPs. The active forest patrolling efforts and community engagement efforts engaged in by PT ABT have led to decreases in the annual rates of deforestation and enhanced wildlife conservation in the face of commercial commodity plantation expansion.

PT ABT's concession also serves as a source of livelihood for the surrounding communities, namely the Melayu Tuo who reside on the outskirts, the Talang Mamak who reside within the area, and the Suku Anak Dalam who lead a nomadic lifestyle. PT ABT has a strong record of community engagement, hosting monthly mobile clinics and supporting the education of local Indigenous children.

Technical assistance has also been provided to local farmers for the commercialisation of sustainable agroforestry products by PT ABT and partners. PT ABT encourages these farmers to undertake intercropping with NTFP products such as cocoa, coffee, and betel nut to reduce the growth of monoculture palm plantations. PT ABT pays a planting wage of Rp16,000 per NTFP seedling to local farmers to encourage participation.

Business model and revenue streams

PT ABT will generate revenue through two primary revenue streams: the sale of sustainable rubber and the sale of NTFPs (i.e. honey and coffee).

1. The development of a natural rubber business which would generate sustainable income for farmers in and within a 2 km radius of the area, whilst preserving key habitats through low-density agroforestry methods used in conjunction with intercropping practices; and
2. The introduction and scaling of the production of honey and coffee in PT ABT's concessions will introduce alternative sources of income for farmers. Whilst many farmers currently lack the knowledge to undertake these cultivation efforts, through a collaborative process between PT ABT and the farmers, an independently certified cultivation practice could be established. This will increase agricultural sustainability and increase farmer income. Robusta coffee could serve as an exciting commercial opportunity given PT ABT has developed agreements with local farmers, with the farmer groups already planting coffee plants. PT ABT aims to provide further support

to farmers and establish purchasing contracts with buyers to ensure long-term market access.

In addition to these activities, PT ABT has also established a 'Fertilizer Bank' with the local farmer groups. This could prove to be a lucrative opportunity to produce organic fertilisers in the long term. Whilst many of the farmers cannot currently lead these efforts, with the support of the Livestock and Agriculture Departments training could be provided to produce low-cost organic fertilisers using natural waste products from farming (e.g. manure). PT ABT is also considering leveraging the carbon and biodiversity credit markets, which could present an additional source of long-term income for PT ABT. However, they are at an early stage of development.

Project outcomes

Biodiversity and climate outcomes

The primary biodiversity and climate outcome of PT ABT is to protect and restore the degraded areas in its concession blocks. These blocks represent one of the last frontiers of intact ecosystems adjacent to Bukit Tigapuluh National Park, given the widespread deforestation in surrounding areas. PT ABT has set ambitious targets: reducing deforestation by up to 80% and restoring 5,000 hectares of degraded or deforested land by 2026.

Since 2020, PT ABT has implemented rigorous enforcement and monitoring protocols to combat illegal logging and prevent forest fires. The company maintains eight teams of well-trained, well-equipped staff who conduct regular patrols across both concession blocks. These efforts are bolstered by collaboration with local communities and relevant government authorities to enhance the prevention of illegal activities. PT ABT's conservation strategy extends beyond protection to active restoration. In 2021, the company established a comprehensive reforestation plan. This initiative is being implemented in close partnership with local communities, fostering a sense of shared responsibility for the ecosystem's recovery. By engaging local stakeholders, PT ABT aims to create sustainable, long-term solutions that balance conservation goals with community needs.

Through these concerted efforts, PT ABT is working to safeguard this critical habitat, preserve biodiversity, and contribute to climate change mitigation in this ecologically significant region of Sumatra.

Social and economic outcomes

PT ABT aims to develop alternative economic opportunities in close partnership with IPs and LCs in and within its concessions. As described above, this will involve identifying suitable alternative livelihoods for local communities such as sustainable rubber, honey and coffee. The introduction of these alternative commodities will potentially uplift overall economic growth for the communities through new sources of income, while also reducing drivers of deforestation (illegal and legal) within the concession. PT ABT will also provide capacity-building activities to equip farmers with the skills, knowledge and equipment to implement good agricultural practices for the new crops.

Investment and operating structure

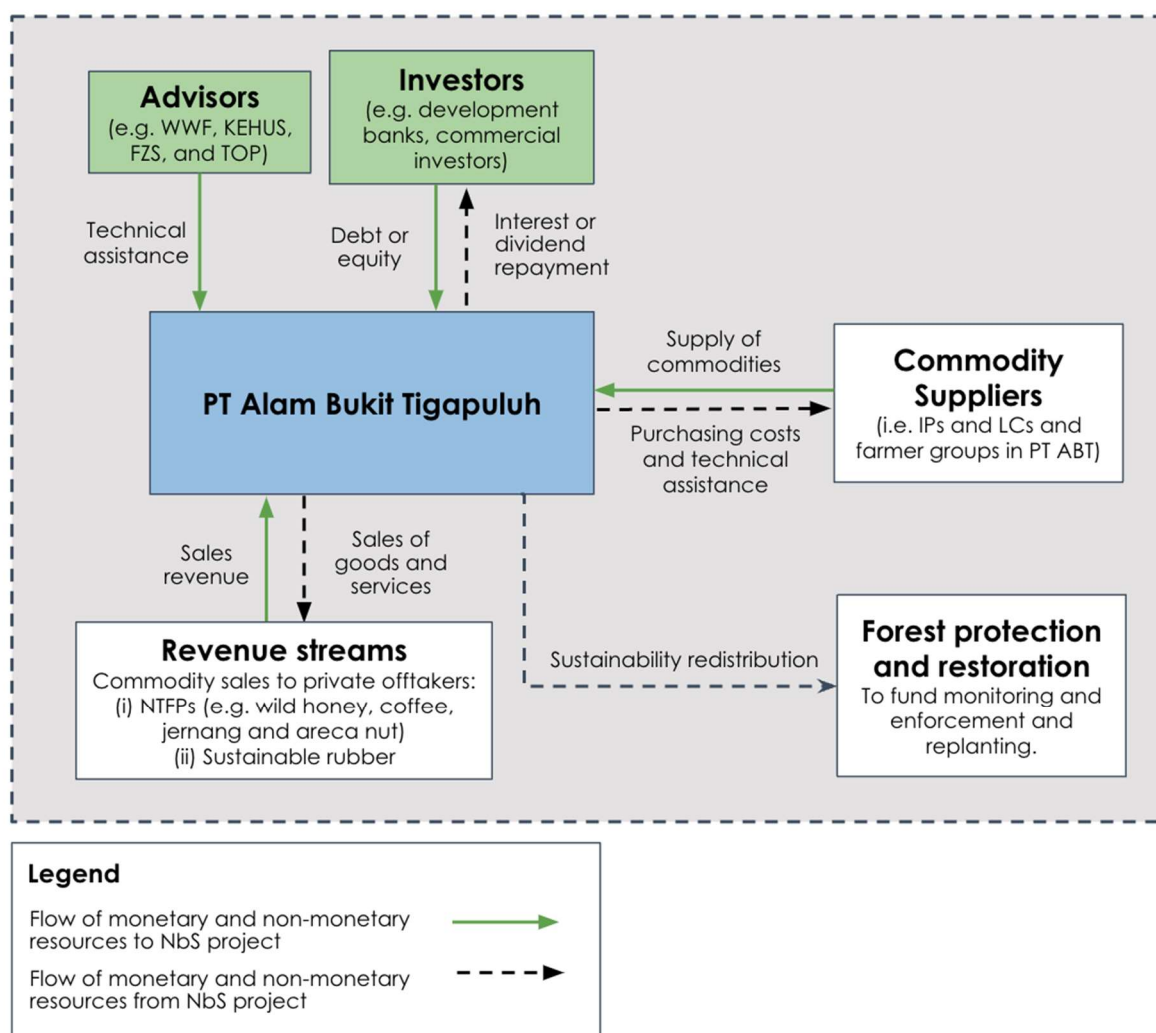


Figure 5. A conceptual investment and operating structure for PT ABT, including the flow of monetary and non-monetary resources to and from the business.

Figure 5 illustrates PT ABT's revenue streams and the key linkages between the business and relevant project stakeholders. These include commodity suppliers, potential investors, and advisors. PT ABT will derive its revenue from the sales of certified sustainable rubber and NTFPs (such as honey and coffee). For its sales of rubber, PT ABT plans to obtain long-term purchasing contracts with rubber buyers with sustainable sourcing policies. For its sales of NTFPs, given the smaller production volume of these commodities, PT ABT aims to sell them in local and regional food markets.

PT ABT will actively collaborate with IPs and LCs and farmer groups within and around its concessions as by actively sourcing NTFP commodities and sustainable rubber from these groups. PT ABT will also provide technical assistance to farmer groups to ensure the adoption of sustainable agricultural practices.

Finally, investors such as development banks or private investors (which could include impact investment firms) can provide financial support in the form of debt or equity investment. Repayments with interest or dividend repayments can provide these investors with suitable financial returns following the scale-up of the project's activities.

Rajang-Belawai-Paloh Delta Nbs Project

Overview of the project

- **Implementer(s):** WWF and the Belawai Community Participation Committee
- **Sector:** Sustainable land use and sustainable agriculture (NTFPs)
- **Location:** Belawai, Sarawak, Malaysia
- **Funding and TA support:** USD 280,000
- **Financial instrument:** Grant funding
- **Business stage:** Early stage (Concept Development)

Landscape context

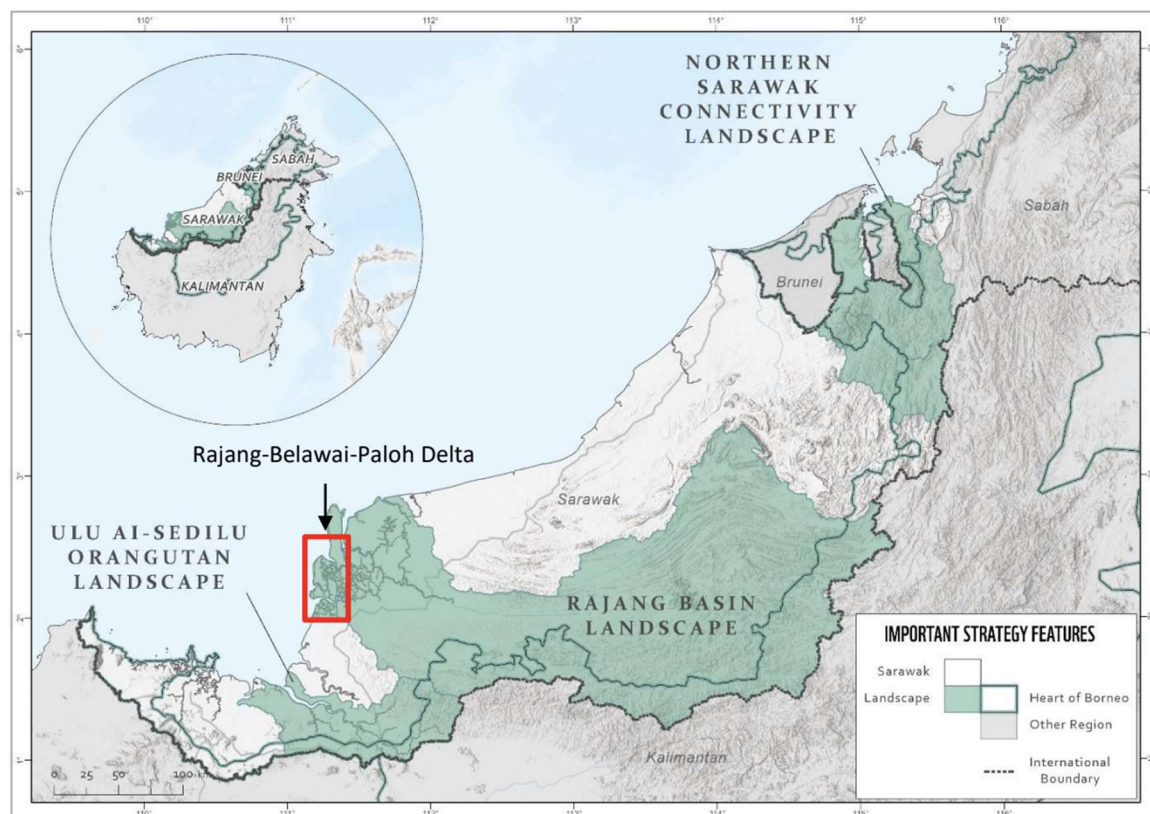


Figure 6. Map of the Rajang-Belawai-Paloh Delta in the Rajang Basin landscape in Sarawak.

The Rajang-Belawai-Paloh delta (see Figure 6) houses the largest mangrove complex in Sarawak, Malaysia and is home to local populations of endangered Irrawaddy dolphins. The delta accounts for approximately half of total mangroves in the state and approximately 11,000 ha are protected in the National Parks and Nature Reserves. There are three clusters of human settlements within the project area, consisting of Melanua villages, Iban longhouses and the Tanjung Manis New Township where major commercial activities are conducted. These local communities are highly dependent on mangrove forests and fisheries for their livelihood. The key threats to the delta include unsustainable mangrove harvesting and infrastructure development, the risk of incidental catch of marine mammals and climate change impacts such as rising sea levels, and inundation from storms.

Project description

The Rajang-Belawai-Paloh Delta project aims to secure the long-term conservation of mangroves in the project area along with local populations of Irrawaddy dolphins. It will encourage local community stewardship and empowerment by co-designing and implementing a sustainable management plan for the project area. This management plan will include sustainable economic activities which improve livelihoods and support the long-term conservation of the mangroves. The project has been active since its inception in 2021 and is now in its next implementation phase. The total coverage area of mangrove forests within the project area is 18,208.7 ha. A total of ten villages with an estimated population of 8,366 are engaged in the project.

A key objective is to support the development of alternative livelihood opportunities for local communities that will increase incomes and reduce overall reliance on mangrove forests for livelihoods. For example, the Melanau ethnic group rely on mangroves as a source of firewood and kindling for the production of smoked fishery products and for food preparation and as a source of timber for the construction industry. The Iban ethnic group rely on the mangroves as a source of income through the harvest and sale of timber to the construction industry.

Business model and revenue streams

WWF is currently at the conceptual stage of developing alternative revenue streams and has identified three priority commercial options that could be explored and established with a positive impact on biodiversity and socio-economic outcomes. These are **(i) a sustainable smoke shrimp (or sesar unjur) business; (ii) ecotourism; and (iii) sustainable aquaculture.** These were identified given the importance of these industries to the Sarawak economy, and were also expressed by local communities as potential alternative economic activities aligned with their livelihood aspirations during a Social Impact Assessment conducted in 2022. Furthermore, WWF intends to facilitate close collaboration with local organisations such as the Community Participatory Committee and the village-led cooperative to ensure that long-term, these organisations are sufficiently equipped and empowered to lead these business activities independently.

It is noteworthy that small-scale cottage industries and artisanal production primarily drive the local economy in Belawai. As such, despite an interest in tapping into the potential of the tourism industry for example, local entrepreneurs face significant barriers that hinder their ability to successfully establish and operate businesses in this sector. These obstacles include limited access to capital, lack of technical business capacity, and minimal exposure to best practices for setting up and running a viable tourism enterprise.

Supporting an enabling environment for bankable NbS in Belawai may be beneficial in addressing these existing gaps and be crucial in the long-term to diversity and strengthen Belawai's sustainable economic landscape.

Project outcomes

Biodiversity and climate outcomes

The primary biodiversity and climate outcome of the project is the habitat conservation and restoration of the mangrove forest in the delta. This will be achieved by reducing unsustainable and illegal mangrove harvesting by enabling community-led conservation and equipping local communities with the skills, technology and expertise to access alternative economic opportunities which will reduce their reliance on mangrove forests. This includes priority activities to empower local communities to independently manage and monitor the mangroves for illegal activities in the project area through the Community Participatory Committee (CPC). These activities that will empower local communities for self-governance have been evidenced as a critical success factor for the long-term governance of and management critical habitats (WWF et al., 2021).

Alternative livelihood opportunities identified will also prioritise commercial activities that have a positive impact on the delta's mangroves. This includes the piloting and scaling up of a new smokehouse technology initiated by WWF and Universiti Malaysia Sarawak (UNIMAS) for the production of smoked shrimp (or *sesar unjur*), a traditional Sarawak delicacy. The technology aims to reduce the volume of mangrove wood used in the traditional smoking process by up to 90%. Introducing this innovative appliance would thus directly address one of the key drivers of deforestation of Belawai's mangrove forests.

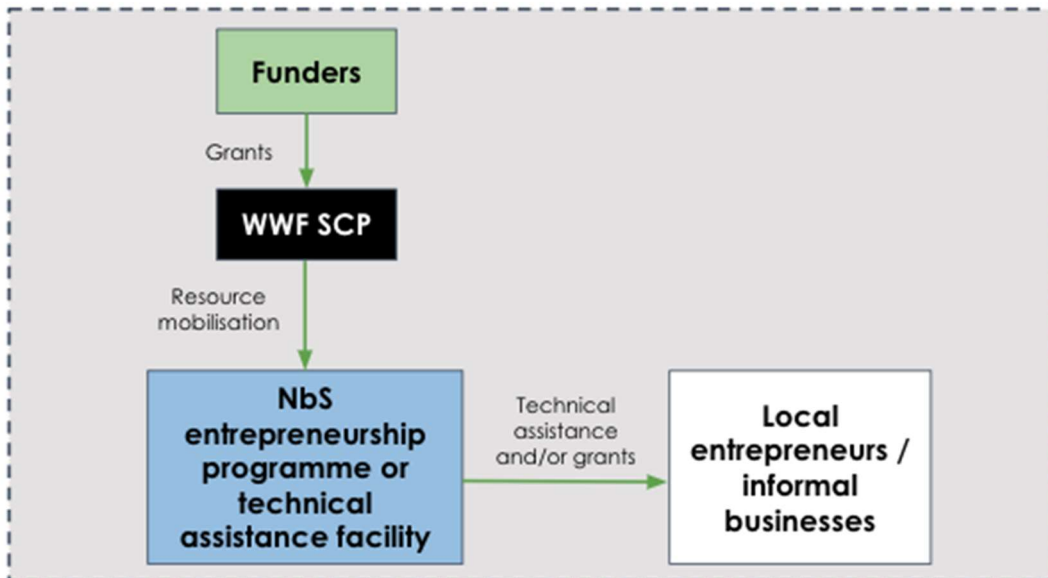
Social and economic outcomes

Critically, the project aims to ensure that the primary biodiversity and climate outcomes described above are designed with the sustainable development aspirations of local communities in mind. The introduction of alternative economic opportunities that are aligned with the aspirations of local communities will not only help to reduce the demand for mangrove wood but also potentially uplift overall economic growth for the communities through new sources of income. Equipping *sesar unjur* producers with a new smokehouse technology that not only reduces the volume of mangrove wood required but also increases the quality of the products to meet international health safety standards and hence increases the products' overall marketability and access to new export markets. As such, this output also has socio-economic benefits for *sesar unjur* producers through a potential increase in overall revenues.

Investment and operating structure

As the project is still at its conceptual stage of developing alternative livelihood opportunities in collaboration with local communities, WWF will require grant funding to fund activities that will facilitate an enabling environment for sustainable alternative livelihoods. As illustrated in Figure 7, these funds could be channelled through an NbS entrepreneurship programme or technical assistance facility. The programme or facility will directly support local entrepreneurs and/or informal businesses with the means to overcome the commercialisation barriers discussed above. In the long-term, this will strengthen the village-led cooperative (or *Koperasi*) and local communities' capacity to independently lead and manage sustainable business activities in sectors such as tourism and aquaculture.

Facilitating an enabling environment for sustainable alternative livelihoods...



...will pave the way for BNS and lead to long-term economic transformation with positive outcomes for people and nature.

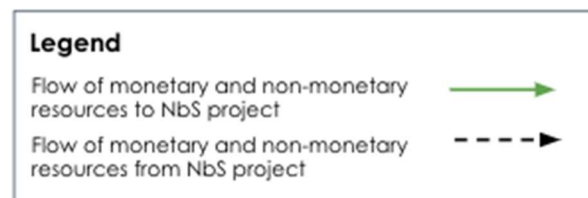
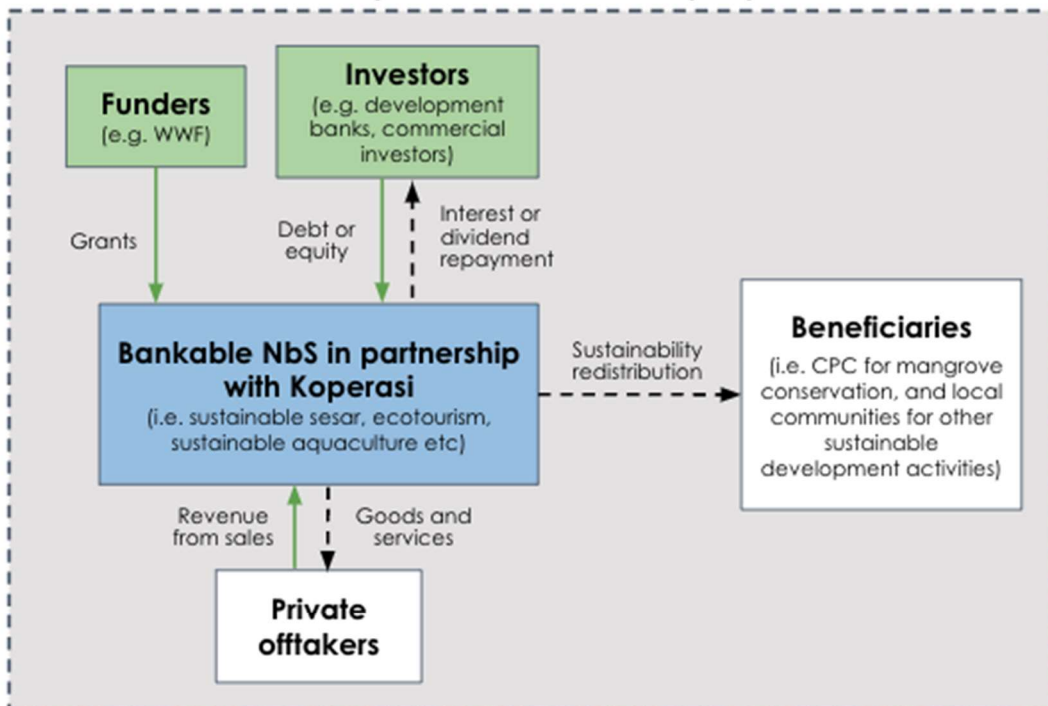


Figure 7. A conceptual investment and operating structure of how an NbS entrepreneurship programme could support the development of bankable NbS in Belawai in the long term.

GelamCure

Overview of the project

- **Implementer(s):** WWF-Malaysia and GelamCure
- **Theme:** Sustainable land use and sustainable agriculture (NTFPs)
- **Location:** Setiu District, Terengganu, Malaysia
- **Funding and TA support required:** USD 439,000
- **Financial instrument:** Debt financing and grant funding
- **Business stage:** Later Stage (Growth and Establishment)

Landscape context



Figure 8. Map of Peninsular Malaysia, including percentage coverage of gelam (*Melaleuca*) by state, with the Setiu Wetlands area highlighted.

The project will take place in the Setiu Wetlands, located in Setiu District, Terengganu state, in the northeast of Peninsular Malaysia. Terengganu is home to nearly 65% of Peninsular Malaysia's remaining gelam forest (*Melaleuca cajuputi*), an increasingly threatened ecosystem unique to Southeast Asia. Terengganu's gelam forests hold significant

conservation and economic value. Baseline studies conducted by WWF-Malaysia have found they support a wide array of fauna and flora, including 11 IUCN-listed endangered mammal species such as the otter civet (*Cynogale bennettii*) and long tailed macaque (*Macaca fascicularis*). Meanwhile, the Setiu Wetlands contain at least two bird species listed by IUCN as vulnerable, the lesser adjutant (*Leptoptilos javanicus*), a migratory species, and black hornbill (*Anthracoceros malayanus*). Gelam forest also provides significant ecosystem services in the form of carbon sequestration and the provision of potential economic livelihoods such as essential oils, honey, and ecotourism.

The Setiu Wetlands encompasses 23,000 ha of High Conservation Value (HCV) habitat, of which 4,353 ha is gelam forest. This makes the wetlands one of the largest areas of gelam forest in Terengganu. However, there are significant threats to this gelam forest. Gelam is generally undervalued as an ecosystem by governments and local communities, with an understanding of its full benefits to climate, nature and communities in its early stages. At the same time, Setiu District has been assigned as the food production hub for Terengganu to help address high levels of unemployment and low levels of income in the District (Lola et al, 2021). This could place further land use change pressure on Setiu's gelam forests.

Project description

The project will develop a business model for the sustainable economic use of the gelam forest. This will be done through the production of essential oils extracted from the gelam leaf. GelamCure, a local community-based organisation in Setiu District, will implement this business model. This will occur alongside advocacy and stakeholder participation activities, particularly with the Terengganu state government. These activities will address the key threats of gelam forest degradation while securing wider long-term support for the conservation of gelam forest in Terengganu and in other regions of Malaysia.

Historically, the gelam forest has not been considered economically valuable enough to prevent conventional land use expansion such as agriculture. The amount of protected gelam forest in Terengganu reflects this, with only 376 ha currently protected (none of which lies within Setiu District). Meanwhile, there are few government policies which explicitly protect or promote gelam forests. However, in 2018, PLANMalaysia⁹ commissioned a Special Area Plan (SAP) for the Setiu Wetlands and proposed a conservation management strategy for 25,674 ha of terrestrial habitat. Moreover, the Terengganu State Parks Management Council (TSPMC) is already gazetting an area of 1596 ha in the Setiu Wetlands State Park which could increase gelam coverage.

Therefore, this project aims to establish GelamCure as a positive case study which demonstrates the clear link between gelam forest conservation and improved economic livelihoods for local communities. This reflects the opportunity to raise gelam conservation up government agendas. WWF-Malaysia, through this project, will also advocate for the alignment of government land management policies with its conservation aims and activities. Lastly, the project will engage with local communities to increase community buy-in of the project and reduce local pressures on native gelam forest.

Business model and revenue streams

GelamCure will practise regenerative, non-destructive harvesting of gelam forest in Setiu Wetlands to produce essential oil, which then can be used as the base for a range of aromatherapeutic and cosmetic products.

Since its inception in 2018, GelamCure has operated as a community-led business which uses a low-input production process to manufacture a range of products. These products have a wide variety of uses and benefits, including aromatherapeutic and cosmetic applications

⁹ PLANMalaysia is the name for Malaysia's Town and Country Planning Department, or Jabatan Perancangan Bandar Dan Desa (JPBD). It is the main agency responsible for providing advisory services to state authorities and agencies in all planning matters related to land use and development.

(Isah et al, 2023; Sharif et al, 2019). Moreover, gelam essential oil has certain health benefits (Al-Abd, 2015) and can even be used in food or household products (Giesen, 2015).

GelamCure's product lines were originally developed by Universiti Sultan Zainal Abidin (UniSZA), a local university in Terengganu. As a project implementing partner (alongside WWF-Malaysia and Terengganu State Department of Agriculture) UniSZA has provided deep technical knowledge of the gelam essential oil production process. This continued partnership has helped GelamCure to strengthen and diversify its business model.

Local community members harvest gelam leaves from native forests, leaving enough time between harvest rotations to allow for the regeneration of leaves. They then extract and distil the essential oils from the leaves, using the oil to create a number of products. These products currently include balms, soaps, massage oils and pure essential oil. Currently, GelamCure sells its products locally and regionally but will seek to expand its sales to national and possibly even international markets. The current global market size for cajeput oil (another term for gelam essential oil) was USD 479 million in 2022 (Polaris Market Research, 2023). This demonstrates a significant market size if GelamCure can access international (and even national) markets.

To date, GelamCure has focused on small-scale business activities targeting local and regional markets. This has brought in modest revenues of approximately USD 2,900 per annum. For GelamCure, its priorities for business development are to build a brand story and to secure certifications for its products to be marketed as health products. This will be highly beneficial to its sales and revenue. However, this will require commercial partnerships to support this process, or resource allocation to become familiar with the relevant regulatory compliance frameworks in Malaysia. A third priority for GelamCure is to identify and secure long-term off-takers for its products. This will guarantee revenue for several years and help build a strong commercial track record.

Scaling up its business model in this way will significantly scale up GelamCure's revenue. In 2025, its revenue is predicted to reach USD 37,000. By 2029 this is predicted to reach USD 113,000.

Project outcomes

Biodiversity and climate outcomes

The project will seek to conserve and restore gelam forest areas in the Setiu Wetlands to the benefit of local communities. Specifically, the project aims to conserve 1,319 ha of gelam forest in Setiu Wetlands. This will be achieved through government and local community engagement to prevent further degradation of native forest. Simultaneously, GelamCure plans to establish a privately owned gelam forest to support its own production. This will be in keeping with sustainable forest management principles which can thus deliver further biodiversity and climate benefits.

The project aims for a further 1,500 ha of gelam forest to be added to the existing protected areas within the Setiu Wetlands State Park. This will secure a long-term, high-integrity area of gelam forest in Setiu. This will be achieved through extensive advocacy and stakeholder engagement activities with the Terengganu state government, which has already expressed interest in collaboration. Underpinning these activities will be the establishment of partnerships with government agencies and local community organisations. This will put in place collaborative participation structures for the effective and holistic conservation management of Setiu's gelam forest.

Social and economic outcomes

GelamCure's business model will provide much-needed income and improve livelihoods for the local communities of Setiu. Those directly involved in the business model will experience improved incomes from the sales of essential oils. In future, if GelamCure can expand its

operations further and meet rising demand, more community members could be introduced to the business as harvesters. A greater number of community members receiving incomes in this way would provide a further incentive for moving away from traditional land use practices which are harmful to gelam forest.

Finally, the project will deliver a general social benefit by conserving and restoring gelam forest in the form of ecosystem services. For example, improved water and climate adaptation benefits may be delivered by gelam forests that will benefit communities in the long-term.

Investment and operating structure

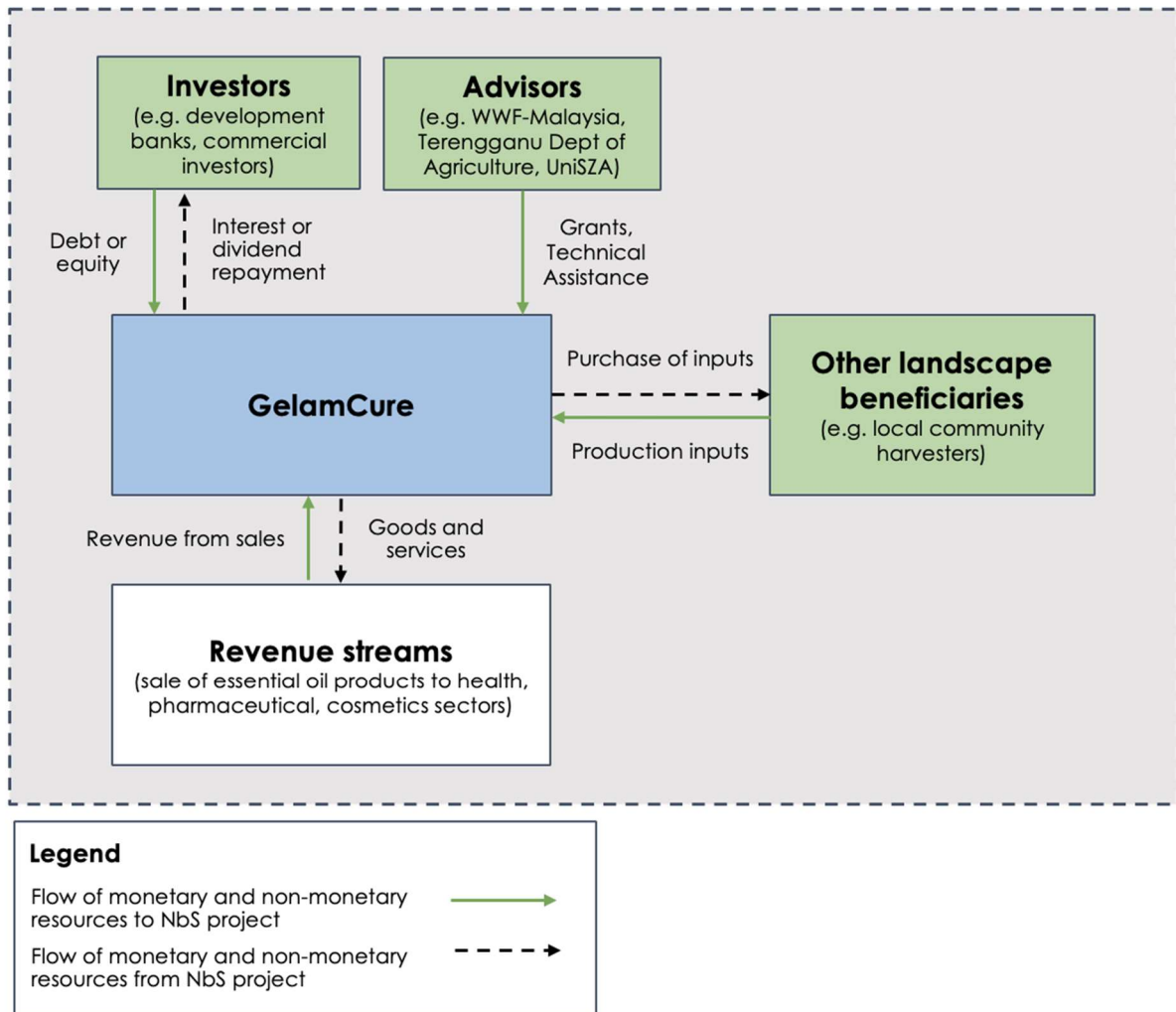


Figure 9. A conceptual investment and operating structure for GelamCure's business model, including the flow of monetary and non-monetary resources to and from the project.

Figure 9 illustrates GelamCure's revenue streams and the key linkages between the business and relevant project stakeholders. These include local communities, advisors and potential investors.

GelamCure will derive its revenue from sales of essential oil products to the health, pharmaceutical and cosmetic sectors and markets. Specifically, these products will include balms, massage oil, soap, pure essential oil, and hydrosol (a drinkable, water-based by-product of the essential oil production process). To manufacture its products, GelamCure will source gelam leaves from native gelam forests, with local community members carrying out harvesting activities. These harvesters become beneficiaries of the project as they receive income from the collection and sale of gelam leaves to GelamCure.

GelamCure will also maintain partnerships with advisors or implementing partners such as WWF-Malaysia, UniSZA and Terengganu Department of Agriculture. These advisors will provide technical assistance and knowledge resources to GelamCure to support business development. WWF-Malaysia may also provide further grant funding to support project development and increase the likelihood of attracting private investment.

Finally, investors such as development banks or private investors (which could include impact investment firms) can provide financial support in the form of debt or equity investment. Repayments with interest or dividend repayments can provide these investors with suitable financial returns following the scale-up of the project's activities.

Dalipi Boutique Resort

Overview of the project

- **Implementer(s):** Dalipi Boutique Resort
- **Sector:** Sustainable coastal and marine management
- **Location:** Sablayan, Occidental Mindoro, the Philippines
- **Funding and TA support required:** USD 765,000 in debt financing for Phase 1 of property development
- **Financial instrument:** Debt and equity
- **Business stage:** Early stage - Startup

Landscape context

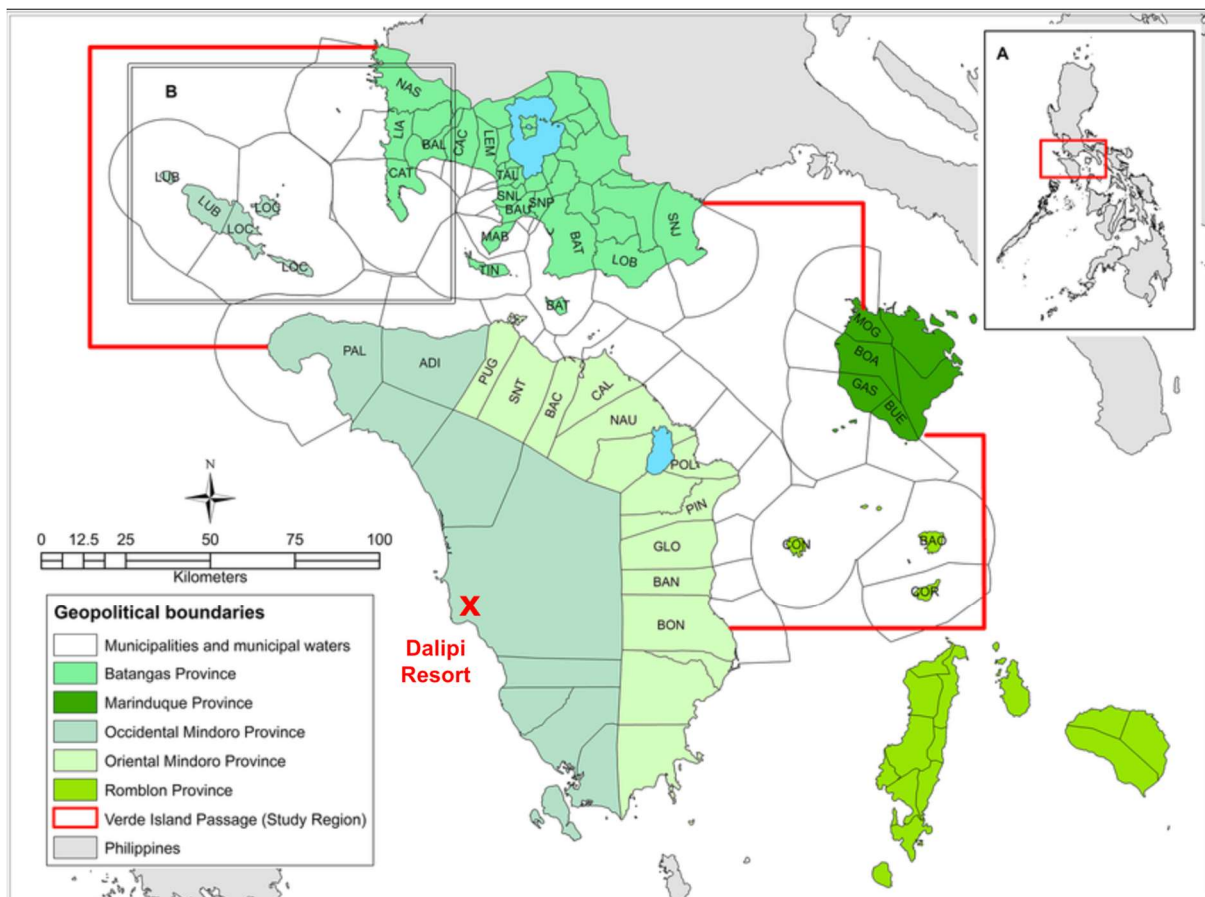


Figure 10. Map of Mindoro island with the Verde Island Passage outlined. Dalipi Boutique Resort (marked by x on the map) is located in Santa Lucia, Sablayan, a municipality in Occidental Mindoro Province (adapted from Horique et al., 2015).

Mindoro Island, the 7th largest in the Philippines, has global ecological significance across its terrestrial, freshwater, coastal, and marine ecosystems. Spanning over 1 million hectares, it encompasses diverse landscapes from rainforests and shrublands to grasslands and mangroves (Gatumbato, 2009). This island is part of the Verde Island Passage, known for being the most biodiverse marine habitat in the world.

There are at least 30 Marine Protected Area (MPAs) in the Occidental Mindoro province (the western half of the island) covering a total area of 79,620 hectares (SEA Knowledge Bank,

n.d.). Ten of these MPAs are located in Sablayan, including Receiving MPA, situated closest to Dalipi Boutique Resort. Occidental Mindoro is one of the sites where Integrated Coastal Management (ICM)¹⁰ has been applied, and a management plan for the municipality of Sablayan is planned to be published by the Municipal Environment and Natural Resources Office (MENRO). This will aim to address key risks of coastal degradation in Sablayan, which includes illegal fishing or overfishing in “no-take” zones in MPAs.

Project description

Dalipi Boutique Resort is a planned four-star beach resort in Santa Lucia, Sablayan due to open in 2025. It is one hectare with over 300 meters of beach access. Sablayan has a population of over 90,000 and a fisherfolk population of about 5,200. There are three fisherfolk associations in Santa Lucia as of 2022. The resort will be developed in a phased approach starting from mid-2024. In Phase 1, there will be 10 private villas each with the capacity of either two or four persons. This will be the first luxury villa in the municipality.

The company's vision is to build a sustainable resort with minimal ecological impact and to contribute positively to biodiversity and local communities in the municipality. Dalipi Boutique aims to engage with local communities fairly (through inclusive business practices), minimise its ecological impact (through sustainable business operations), and contribute to the management of MPAs in Sablayan.

Business model and revenue streams

Dalipi Boutique Resort Resort will generate revenue through three primary streams: accommodation, food and beverage (F&B) sales, and amenities and tours. At a projected average occupancy rate of 64%, the revenue generated from accommodations is expected to comprise approximately 70% of the resort's total revenue.

A percentage of the resort's total commercial revenue will be allocated to sustainability initiatives. These include implementing a zero waste policy and funding monitoring and enforcement activities for the management of MPAs in Occidental Mindoro. These initiatives are crucial for minimising the resort's environmental footprint and ensuring the long-term health and viability of the local ecosystem.

To further support environmental conservation, Dalipi Boutique Resort and WWF will collaborate closely with MENRO to develop and implement an MPA Green Fee strategy. This strategy will involve the collection of an additional fee from guests, on top of the nightly accommodation and/or tourism rates. Dalipi Boutique Resort will initially collect these fees on behalf of MENRO, who will oversee the management of the MPA fund, ensuring that the collected fees are used effectively for the conservation and management of the marine protected area. This initiative will not only contribute to the preservation of local marine resources but also engage guests in the resort's sustainability efforts, promoting a sense of environmental responsibility among visitors

Project outcomes

Biodiversity and climate outcomes

One of Dalipi Boutique Resort's primary objectives is to contribute to the local government's management and development of the MPA, including accurate area mapping, zoning, dissemination of information, enforcement of proper usage, monitoring and assessment of biodiversity, and other essential aspects. A well-managed MPA can enhance the health of the oceans by protecting and restoring marine habitats, thereby increasing resilience to

¹⁰ The objective of an ICM is the integration and coordination of various coastal and marine management efforts. This is to address the governance of human activities affecting the sustainable use of goods and services generated by coastal and marine ecosystems.

environmental changes. Effectively administered MPAs also play a crucial role in rebuilding fish stocks and can substantially increase fish size, density, biomass and species richness.

Although Dalipi Boutique Resort occupies only one hectare, its potential financial and/or non-financial contributions to the MPAs of Occidental Mindoro would help achieve a jurisdictional-scale impact that could be replicated in other resorts or tourism sites across the island. By actively participating in the sustainable management of MPAs, Dalipi Boutique Resort can contribute to the preservation of the Philippines' rich coral reef ecosystems, which are not only vital for marine life but also serve as essential sources of food, income, and cultural significance for coastal communities. In summary, these contributions are:

- **Green fee revenue.** The implementation of green fees, or user fees, have been successfully implemented across various MPAs in the Philippines. The collection of green fees by Dalipi Boutique Resort will be an important source of financial revenue to support the management and enforcement of MPAs in Occidental Mindoro.
- **Percentage redistribution of revenue to sustainability initiatives.** Once Dalipi Boutique Resort reaches its target occupancy rate, the resort plans to invest revenue in its sustainability initiatives. A percentage of its revenues will thus be redistributed accordingly. Primarily, this will be used to fund the local government's MPA monitoring and enforcement activities. This would include the purchase of equipment for monitoring and enforcement activities for the MPA such as a patrol boat and nightvision equipment for MPA officials. Dalipi Boutique Resort also intends to support the management review and evaluation activities with the local government. Finally, a portion of its revenues will be redistributed to implement its range of sustainability activities to enhance the resort's energy efficiency and reduce the resort's waste footprint.

Social and economic outcomes

Dalipi Boutique Resort recognises the importance of actively involving and engaging local stakeholders in their sustainable tourism initiatives. By prioritising local employment and sourcing, Dalipi Boutique Resort aims to contribute to the local economy and foster a sense of ownership and investment among community members. There are over 5,000 fisherfolk in Sablayan, who often live in poverty due to high debt, a lack of efficient or profitable supply chains and a lack of access to capital and capacity. The introduction of alternative economic opportunities through the resort could reduce the dependency on fishing for their livelihoods. Dalipi Boutique Resort aims to hire locally as much as possible, and collaborate with local business operators such as scuba diving or snorkelling operators, or tour guides to provide day tours for guests.

Investment and operating structure

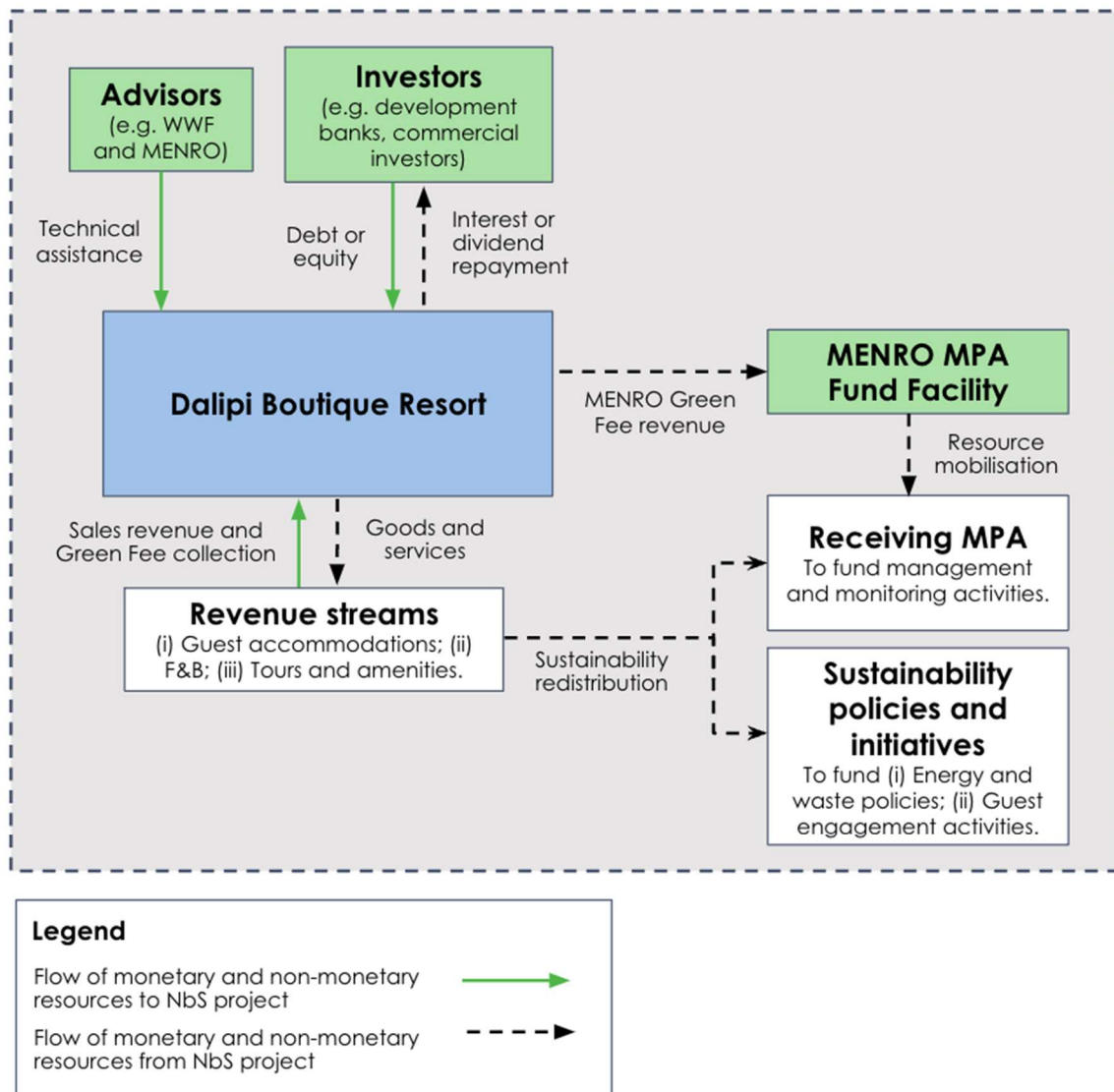


Figure 11. Investment and operating structure of Dalipi Boutique Resort, including the flow of monetary and non-monetary resources to and from the organisation.

Figure 11 illustrates the resort's key revenue streams and how the business intends to mobilise resources for its various sustainability initiatives. The resort is currently in its start-up phase and in the process of obtaining debt or additional equity financing to fund the construction and development of the resort property. Dalipi Resort expects to be fully operational within the second year of opening, and to be profitable by the third year of operations. These estimates are based on a 64% occupancy rate achieved in Year 3, growing up to 72.9% upon Year 5. On Year 6 onwards, Dalipi Boutique Resort is estimating the occupancy rate to reach 74%, and assumes 5% growth for Years 7 to 9.

Mindoro Solar Ice Plants

Overview of the project

- **Implementer(s):** WWF-Philippines / To be determined
- **Theme:** Sustainable fisheries and economic livelihood improvement
- **Location:** Occidental Mindoro, The Philippines
- **Funding and TA support required:** USD 720,000 debt financing; USD 240,000 equity
- **Financial instrument:** Debt, equity
- **Business stage:** Early stage (Concept Development)

Landscape context

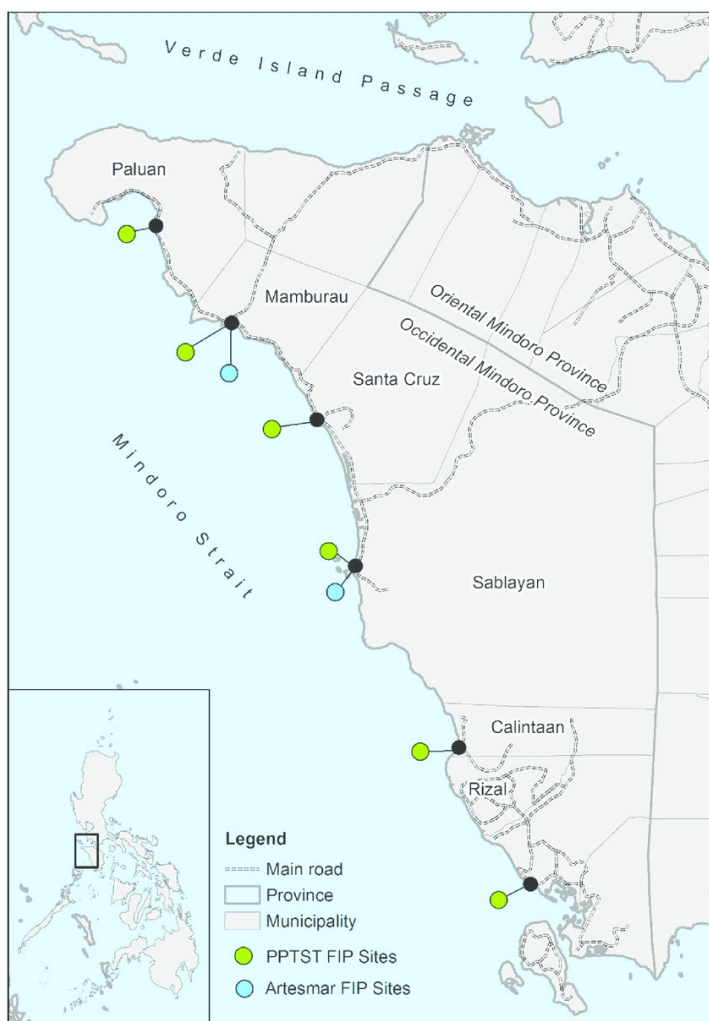


Figure 12. Map of Mindoro Occidental, including the municipalities of Sablayan and Mamburau where the ice plants will be located. Blue, green and black dots can be ignored. Taken from (Tolentino-Zondervan et al., 2016).

Mindoro Strait, west of Occidental Mindoro province, is the location of a highly productive yellowfin tuna fishery which supports approximately 1,860 fisherfolk in the province. Additionally, the Mindoro Strait fishery, handled by Philippine Tuna Handline Partnership (PTHP), is one of only two Marine Stewardship Council (MSC)-certified fisheries in the Philippines (MSC, 2021). However, fisherfolk in this province suffer from low levels of income,

despite the presence of MSC certification in the region.

To further strengthen the productivity and sustainability of these fisheries, WWF-Philippines has been running comprehensive and wide-ranging sustainable fisheries programmes in Occidental Mindoro since 2011.¹¹ These have sought to empower local fishing communities to lead sustainability initiatives and improve their own management practices to ensure long-term healthy fish stocks, particularly for yellowfin tuna (one of the most economically important fish species in the region). Furthermore, an integral component of improving fisheries management in the region is improving small-scale fisherfolk incomes and livelihoods alongside improved fishing practices.

Project description

The project seeks to improve the incomes and livelihoods of fisherfolk through the introduction of a consistent, affordable supply of ice, used to maintain fish quality post-catch. This will help to increase the amount of MSC-certified tuna in Occidental Mindoro that meets export-grade quality. Fisherfolk currently face high transaction costs in maintaining the quality required for export and therefore choose to sell locally instead. Improving the supply of affordable ice for fisherfolk will thus allow them to consistently access more profitable export markets while also promoting sustainable fisheries management. To deliver this ice supply, three ice plants will be constructed that run on low-cost, low-carbon solar power.

The lack of ice supply in Occidental Mindoro is a significant issue for small-scale fisherfolk. Limited ice supply generally means they are unable to keep their catch fresh to the level required for sale or export. As such, there are high levels of post-harvest loss (PHL) which ultimately reduces their take-home income and moreover increases discarded catch. Improving fisherfolk incomes is crucial for any sustainable fisheries programme, as poverty generally motivates excessive and unsustainable fishing pressures (Teh et al, 2024). However, reducing PHL among fisherfolk and thereby improving their income does not guarantee more sustainable fishing or reduced fishing pressure. This will only occur as part of a comprehensive fisheries management strategy which promotes sustainable practices to conserve fish stocks. This project will thus strengthen WWF's wider strategy of delivering conservation and socio-economic outcomes for Mindoro Strait. It aims to improve fisherfolk incomes to a level sufficient to allow them to pursue more sustainable practices which reduce pressures on wild stocks and thus result in a positive knock-on effect on the marine ecosystems of Mindoro Strait.

Much of the lack of ice supply stems from high electricity prices in Occidental Mindoro, which have experienced regular spikes (Rappler, 2023). Generally, the Philippines has historically had some of the highest electricity prices in Southeast Asia (Ahmed, 2019). These high prices have resulted in prohibitively high operating costs for many ice plants which have subsequently closed down, further limiting supply.

To address this pressing societal challenge, the project ice plants will each run on onsite solar power. This will provide a reliable, low-carbon energy supply which significantly reduces operating costs. The plants will be owned and operated by a private entity yet to be determined, which will prioritise sales to small-scale fishing communities and associations (particularly for yellowfin tuna fishers) in order to maximise social impact. To achieve this, the project and business will be developed and implemented through close engagement with local fishing communities and associations, with the help of WWF-Philippines.

Business model and revenue streams

The project's business model is built around using low-cost, low-carbon solar energy to provide ice, which is in high demand and of high social need in the province.

Revenues will be generated from the sale of ice to small-scale fisherfolk and fishing

¹¹ See <https://sustainabletuna.wwf.org.ph/> for further details on WWF-Philippines' activities in the province.

community associations in Occidental Mindoro. Demand for ice in the province is high and is likely to remain greater than supply even with the construction of the new ice plants. This highlights the high demand for this enterprise's product which should bring in strong revenue. This potential for strong revenue, combined with the low operating costs of the ice plants, make profitability highly likely for the business model.

The project business model is helped by its high political feasibility.

The provincial government of Occidental Mindoro has already expressed support for the project as it will potentially bring in private investment to deliver significant social benefits to local community livelihoods. This has followed active engagement from WWF-Philippines during the project's concept development. It also aligns with national and regional government focus on developing the cold chain sector in the Philippines. The Philippines Development Plan (PDP) 2023-2028¹² states an aim to stimulate private sector investment in postharvest facilities and cold chains in the country.

Operational feasibility can be ensured through the identification of a highly suited private entity to own and operate the ice plants and thus receive investment. Selecting an entity with a strong track record in similar industrial operations and engineering (which also maintains a community focus) will make project success more likely. In addition, the entity could maintain a close relationship with the Mindoro Strait fishery to maximise the environmental and social outcomes of the project.

By 2026, the ice plants are expected to achieve bottom-line profitability (net income after tax) of USD 22,000, which could rise to approximately USD 72,000 by 2035. This gives the project an expected payback period of 2028 for equity financing (with an IRR of 35.9%) and 2029 for debt financing (with an IRR of 21%).

Project outcomes

Biodiversity and climate outcomes

Providing fisherfolk with an improved ice supply can help pave the way for wider sustainable management of Mindoro Strait's fish populations. WWF-Philippines aims to promote sustainable fishing practices that prioritise reduced pressure on fish stocks. By extension, this will deliver conservation outcomes for the wider marine ecosystem of which those stocks are part. To achieve this, however, the incomes and livelihoods of small-scale fisherfolk must be simultaneously improved. This is because low fisher incomes act as a barrier to implementing sustainable fishing practices. Fishing communities suffering from high levels of poverty are, understandably, forced to fish more intensively in order to meet their minimum economic needs. Improving incomes and livelihoods therefore recognises the importance of social advancement and equity to promote marine conservation (Bennett et al, 2021).

At the same time, improving incomes through reduced PHL will not reduce fishing efforts by itself. Unsustainable fishing intensity could even increase due to a greater incentive to fish and maximise income. Crucially, therefore, WWF-Philippines' existing conservation efforts in Mindoro Strait will ensure that increased fisher incomes do not subsequently incentivise further unsustainable fishing efforts. As such, placed in the wider context of WWF-Philippines' conservation activities in the region, this project will play a crucial role in the overall sustainable management strategy of Mindoro Strait's fisheries and the conservation of fish populations.

At the same time, the project's climate outcomes will result in a flagship low-carbon business in Occidental Mindoro which will provide a climate-friendly source of ice to the fishing sector in the province. This can also act as a positive case study for future industrial projects utilising low-carbon technology to meet climate and socio-economic goals. Longer-term, this could

¹² See <https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/> for further details.

decrease the province's overall dependency on fossil fuels.

Social and economic outcomes

The project will introduce a much-needed supply of affordable and consistently available ice to fishers in Occidental Mindoro. This will reduce the extent of PHL in their catch, improve their incomes, and thus their livelihoods. Moreover, the project will endeavour to maintain fair prices for ice sold to fisherfolk, while remaining profitable.

An additional component of the project will aim to integrate collaboration between the ice plant owner and local small-scale fisherfolk and fishing associations, along with relevant government agencies. One community association already being engaged is the Philippines Tuna Handling Association (PTHP), which is the holder of the MSC certification in Occidental Mindoro. This will maintain the focus on social impact for the duration of the project.

Investment and operating structure

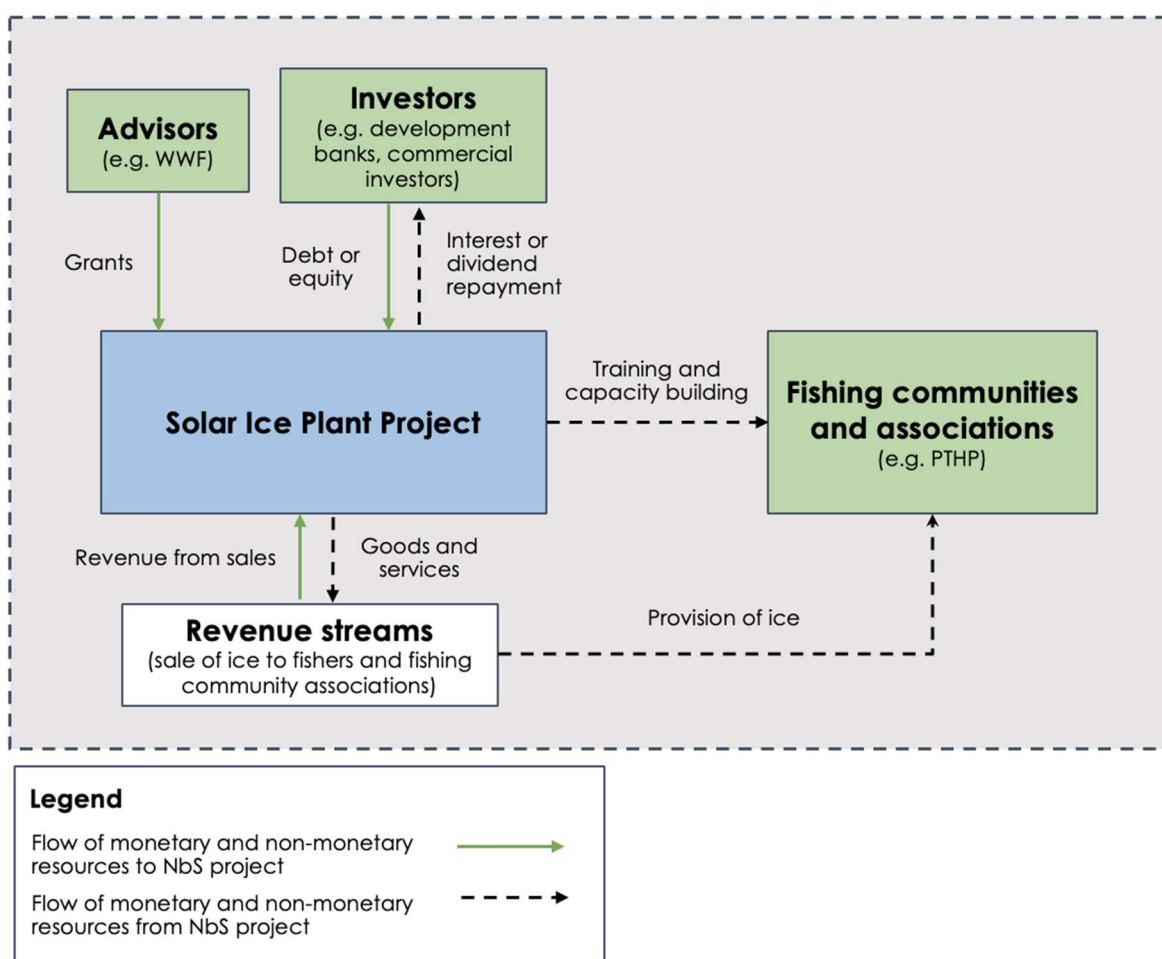


Figure 13. A conceptual investment and operating structure for the Solar Ice Plant project, including the flow of monetary and non-monetary resources to and from the project.

Figure 13 illustrates the project's revenue streams and the key linkages between the business and relevant project stakeholders. These include local fishing communities, advisors and potential investors.

The project will derive its revenue principally from ice sales to local fisherfolk and fishing community associations. This will provide these stakeholders with a much-needed ice supply to increase their sellable catch. The project may also aim to provide further benefits to community members through training and employment opportunities in the use and

management of the ice plants.

WWF-Philippines will act as an advisor for the project, providing oversight on business development and ensuring conservation outcomes are achieved. The project will seek debt and equity financing from a range of investors. This may include government funders, development banks, and commercial or impact investors. Repayments with interest or dividend repayments can provide these investors with suitable financial returns following the scale-up of the project's activities.

5. Recommendations

Drawing from the experience designing six bankable NbS projects, we offer a set of recommendations for those aspiring to create similar initiatives.

Our recommendations encompass both the design and planning phase, as well as the implementation phase for bankable NbS projects. These suggestions aim to enhance the overall quality of bankable NbS projects, maximise their biodiversity and socio-economic impacts, and increase their appeal to investors. Finally, we also include a set of recommendations for financiers of bankable NbS, although it is worth noting that these are focused on reducing barriers for projects to access financing.

Recommendations for the design and planning phase

Emphasise close collaboration with local communities as a critical component of bankable NbS. It is crucial that, during the initial design and planning of a bankable NbS, the project developer takes active steps to engage with local communities. This engagement should employ an inclusive and equitable consultation approach to ensure effective stakeholder participation. IPs and LCs are essential to the governance of habitats serving as ecological corridors or their management of areas of high conservation value and diverse biomes (WWF et al., 2021). To enhance the project's stakeholder participation plan, the project should actively collaborate with and empower rights holders and stakeholders. This will be important to foster sustainable and equitable self-governance for IP and LCs within the project zone.

This can be achieved by facilitating the establishment or strengthening of local institutions or platforms led and independently managed by local communities. This could include co-developing resource and land-use management plans with local communities or facilitating the establishment or strengthening of local platforms led by local communities. For example, WWF-Malaysia has facilitated the Community Participatory Committee in Belawai, which is a community-led platform for the sustainable management of the mangroves in Rajang-Belawai-Paloh. While the committee is still in the early days of implementation, the presence of a committee will be integral to ensuring local communities in the project area are actively involved and consulted with.

Integrate biodiversity and socio-economic outcomes in the design of bankable NbS, as they are inherently interconnected. This principle is closely linked with the recommendation above to foster close collaboration with local communities. Through a participatory approach, projects can identify suitable alternative livelihoods that deliver both biodiversity and socio-economic outcomes, whilst also recognising existing barriers that hinder the establishment and scaling of sustainable businesses. This approach is also crucial in ensuring that projects acknowledge the cultural and religious significance of local practices.

This principle has been central to the development of these six projects, ensuring that commercial activities designed and developed serve climate, biodiversity, and socio-economic goals. These projects have leveraged WWF's ongoing conservation efforts in these landscapes to identify commercial activities that address key drivers of degradation while aligning with the aspirations of local communities.

For example, in the Rajang-Belawai-Paloh project, *sesar unjur* is an important cultural delicacy and source of income for local communities. However, traditional production methods are a key driver of the deforestation of Belawai's mangroves. The development of the new smokehouse technology will allow producers to continue producing the delicacy while simultaneously reducing their impact on the mangroves. Hence, it is an important example of how project interventions can achieve both conservation and socio-economic goals.

Secure implementing partners who can help establish commercial relationships and offtake agreements for traditional products and/or NTFPs. A number of the bankable NbS projects described above take a traditional cottage industry, optimise the commercial model and then scale up via securing offtake agreements at local and international scales. To achieve this an experienced commercial partner with regional or local expertise is needed to bring together the commercial elements with priority landscape conservation activities.

For example, GelamCure, a small-scale community-led enterprise in Malaysia's Setiu Wetlands has been manufacturing a range of products from gelam leaves since 2018. As part of its upcoming commercial growth strategy, GelamCure plans to develop a brand story, explore certifications to market its products in the health sector and identify and secure relationships with long-term commercial buyers. These steps will be key to unlocking business growth and development potential for GelamCure, thus demonstrating the importance of a commercial partner in driving the scalability and bankability of NbS.

Recommendations for the implementation phase

Leverage technical partnerships with academic and government stakeholders in the landscape. As demonstrated in these six projects, collaborating with universities and local government agencies is crucial for the successful implementation of bankable NbS. In these projects, universities have provided valuable localised insights and technical support for the research and development of new technologies. For example, GelamCure's product lines were originally developed by Universiti Sultan Zainal Abidin (UniSZA), a local university in Terengganu. As a project implementing partner (alongside WWF-Malaysia and Terengganu State Department of Agriculture) UniSZA has provided deep technical knowledge of the gelam essential oil production process. This continued partnership has been essential to helping GelamCure strengthen and diversify its business model.

Additionally, continued engagement with local government agencies also ensures project interventions are designed in alignment with local development masterplans or resource management plans. In the case of Dalipi Boutique Resort in the Philippines, the resort has taken active steps to engage WWF and the municipality government overseeing the management of MPAs in the municipality. These engagements have shaped one of Dalipi Boutique Resort's primary objectives, to contribute meaningfully to the local government's management and development of MPAs. This objective is being realised through two key mechanisms: collection of tourism green fees and redistribution of its revenues to fund MPA monitoring and enforcement activities. By integrating its business model with local conservation goals, Dalipi Boutique Resort exemplifies how commercial ventures can play a pivotal role in sustainable resource management.

Strengthen the commercial capacity of your teams. The lack of a commercial track record is a key barrier for investors to invest in NbS. Many investors require NbS projects to demonstrate a commercial track record of at least two years, which for newer, more innovative business models can be challenging. More broadly bankable NbS enterprises should review the technical competencies of their team, to address any potential gaps (or intentionally seek investment to fill these gaps) and ensure they have the core skills needed to run a commercial entity successfully. Being upfront on potential risks, accompanied with a detailed mitigation strategy will also help build potential investor trust and confidence.

Recommendations for financiers

Adapt and adjust investment expectations to better fit local realities. Bankable NbS project developers need to strengthen their commercial models, but investors need to meet them halfway. Many of the most potentially impactful bankable NbS, by their nature, are in remote parts of countries, operating in volatile markets and are managed by low-resourced micro or small-sized entities. This risk profile is not typically matched with the returns usually associated with high-risk investment opportunities for investors in other markets. This is because aside from carbon projects, most are focused on products with modest margins, such as agri-

commodities, NTFPs, fisheries products or eco-tourism. Bankable NbS projects may also have longer investment tenure needs that extend beyond the typical financing tenors of up to six years.

Hence, while it is important for bankable NbS project developers to continue to optimise their commercial model to move toward investor expectations, it is also important that investors who are serious about engaging with the high-impact bankable NbS market adjust their risk appetites and commercial expectations accordingly. Within the broader financial landscape, this may require scaling innovative financial instruments that help address these risks and facilitate investment in bankable NbS, for example in sustainable or green bonds and insurance products (UNEP, 2023).

Grant funding and technical assistance remain a vital part of the mix. There is an important role for blended finance in addressing the issues identified above, some of which may not be possible for private investors to address on their own. Providers of concessional finance, such as development banks, need to continue to extend their risk appetite if they want to catalyse investment in high-impact bankable NbS. Equally, the role of public funders in supporting early-stage enterprise growth and investment readiness remains vital, along with the non-revenue generating aspects of impactful bankable NbS projects, such as impact tracking and landscape-level convening and facilitation.

The majority of the six projects underline the need for such finance. Most have a route to bankability, but profits are expected only following initial investment in the business model. In the short-term, they may lack the ability to provide a return on any investment. Grant financing within a blended finance structure, for example, can bridge this gap until they are profitable and can meet return expectations.

6. Conclusion

In conclusion, this study reveals significant opportunities for scaling bankable NbS across various sectors in Southeast Asia, particularly in sustainable agriculture and ecotourism. However, our experience with six NbS projects has uncovered numerous design, implementation, and financial barriers that such initiatives may encounter.

Our research indicates that the highest-impact NbS opportunities in Southeast Asia are likely to be found in remote landscapes, operating within small local economies and managed by resource-constrained micro or small-sized entities. This underscores the crucial importance of fostering close collaboration with IPs and LCs, as well as leveraging existing traditional products or NTFPs for sustainable commercialisation.

The financial landscape analysis contained in this report emphasises the importance of demonstrating commercial viability. Investors typically expect high returns, up to 18% in some cases, and require a two-year commercial track record. These criteria present significant challenges, particularly for innovative business models that may lack access to resources. To address these challenges, we recommend that NbS project developers prioritise engagement with local communities and stakeholders. In the short term, projects should focus on developing detailed business plans and models, potentially with expert support. For the long term, ensuring the team is resourced with the technical expertise required to run a commercial entity is crucial.

It is important to note that the recommendations provided above should be adapted to suit the unique context of each project and location. Project developers should consider these as a starting point, prioritising based on their current requirements and resource capacity. By addressing these key areas, NbS projects can enhance their scalability and bankability while achieving crucial climate, biodiversity, and social outcomes. As the field of NbS continues to evolve, ongoing research and practical experience will be vital in refining approaches and maximising the potential of NbS in Southeast Asia and beyond.

7. Annexes

Annex I. List of financing mechanisms identified in landscape analysis.

Institution	Fund or programme	Type of funder
AMAN, KPA, WALHI	Nusantara Fund	Philanthropic
Kiva	Kiva	Philanthropic
Conservation International	CI Ventures	Philanthropic
Mandai Nature	Mandai Nature Fund	Philanthropic
Star Foundation	Star Social Impact Grant (SSIG)	Philanthropic
The Nature Conservancy	NatureVest	Philanthropic
Indonesian Biodiversity Foundation (Kehati)	Kehati Grants	Philanthropic
Indonesia for Humanity (IKa)	Pundi Hijau	Philanthropic
Nexus for Development	Pioneer Facility	Philanthropic
Grow Asia	GrowVentures	Philanthropic
Grow Asia	GrowHer	Philanthropic
Grow Asia	GrowRight	Philanthropic
Grow Asia	GrowBeyond	Philanthropic
Cross Boundary / Climate Policy Initiative	Fund for Nature	Philanthropic
Convergence	Asia Climate Solutions Design Grant	Philanthropic
The Habitat Foundation	The Habitat Foundation (THF) Grants	Philanthropic
&Green	N/A	Private
Clarmondial	Food Securities Fund	Private
ADM Capital	Asia Climate-Smart Landscape Fund	Private
ADM Capital	Tropical Landscapes Finance Facility (TLFF)	Private
Agronomika Finance Corporation	Farm Establishment Loan or Farm Productivity Loan	Private
Alterfin	N/A	Private
Bank Rakyat Indonesia (BRI)	Kredit Usaha Rakyat (KUR) microenterprise credit program	Private
Capital 4 Development (C4D) Partners	C4D Partners Asia Fund	Private
Akaria Natural Capital	N/A	Private
Impact Investment Exchange (IIX)	Impact Partners, IIX Women's Livelihood Bonds, IIX Growth Fund, IIX Women's Catalyst Fund	Private
Livelihoods Venture	The Livelihoods Carbon Funds	Private
Mirova	Land Degradation Neutrality Fund (LDNF)	Private
PlusPlus	PlusPlus	Private
Rabobank / Rabo Foundation	Rabo Rural Fund	Private

Institution	Fund or programme	Type of funder
responsAbility	Global Micro and SME Finance Fund	Private
Silverstrand	Silverstrand	Private
Komida	Agri-Loan Product	Private
Wavemaker Impact	Wavemaker Impact	Private
Hatch Blue	Hatch Fund	Private
responsAbility	Sustainable Food Asia II, SLP	Private
Restoration Insurance Service Company (RISCO)	Restoration Insurance Service Company (RISCO)	Private
TaniFund	TaniFund Platform	Private
Lestari Capital	Sustainable Commodities Conservation Mechanism (SCCM) and Rimba Collective	Private
Terratai	Terratai	Private
CIMB	Sustainability-Linked Loans (SLLs)	Private
CIMB	AgroFood Facility	Private
Climate Asset Management	Natural Capital Strategy and Nature Based Carbon Strategy	Private
Livelihoods Venture	The Livelihoods Fund for Family Farming	Private
AXA	Impact 3 Climate and Biodiversity Fund	Private
Tembusu Partners	Sustainable Futures Fund	Private
Agri3	Agri3 Fund	Private
ADB on behalf of Australian Department of Foreign Affairs and Trade (DFAT)	Australian Climate Finance Partnership	Public
Common Fund for Commodities	Agricultural Commodity Transformation Fund (ACT Fund)	Public
FMO on behalf of the UK Government International Forests Unit (IFU)	Mobilising Finance for Forests	Public
EDFI Management Company on behalf of the European Union	Agriculture Financing Initiative (AgriFI)	Public
Government of Malaysia	Malaysia Forest Fund	Public
Government of Malaysia	Biodiversity Sukuk	Public
Crude Palm Oil (CPO) Fund	Government of Indonesia	Public
Norwegian Agency for Development Cooperation (Norad)	Norway's International Climate and Forest Initiative (NICFI)	Public
Government of Indonesia	Green Sukuk	Public
UK Government	Investments in Forests and Sustainable Land Use - Phase 2 (IFSLU2)	Public
UK Government Foreign Commonwealth and Development Office (FCDO)	Reversing Environmental Degradation in Africa and Asia (REDAA)	Public
Landbank of the Philippines	Agricultural Guarantee Fund Pool (AGFP)	Public

Institution	Fund or programme	Type of funder
Landbank of the Philippines	Agricultural and Fisheries Financing Program (AFFP)	Public
USAID	Regional Development Mission for Asia (USAID/RDMA) Partnerships for Green Investment	Public
World Bank	Kunming-Montreal Global Biodiversity Framework Fund	Public
Sarona on behalf of the Australian Government Department of Foreign Affairs and Trade (DFAT)	Emerging Markets Impact Investment Fund (EMIIIF)	Public
ADB and GEF	Natural Capital Fund (NCF)	Public
UNEP and IUCN on behalf of International Climate Initiative (IKI)	Global Ecosystem-based Adaptation (EbA) Fund	Public
Dutch Fund for Climate and Development (DFCD)	Land Use Facility	Public
Bank Negara Indonesia	iTEKAD	Public
ADM Capital, IDH and Alune Aqua	Asia Aquaculture Facility (AAF)	Public-Private
Angin	Angin Fund	Public-Private
Agro Bank	Skim Jaminan Kredit Islam Enhancer	Public-Private
New Forests	Tropical Asia Forest Fund (TAFF) II	Public-private
World Bank	Wildlife Conservation Bond	Public-private
Mirova	Nature+ Accelerator Fund	Public-private
Rare Inc	The Meloy Fund for Sustainable Community Fisheries	Public-private
US DFC and Bank Sahabat Sampoerna	US DFC and Bank Sahabat Sampoerna	Public-Private

Annex II. Abbreviations and Glossary

Abbreviations

Abbreviation	Definition
C4D	Capital 4 Development Partners
CAPEX	Capital expenditure
CPC	Community Participatory Committee
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
DFI	Development finance institution
F&B	Food and beverage
FFI	Family Farms Inc.
FMO	Dutch Entrepreneurial Development Bank
FORDAS	Forum Daerah Aliran Sungai
GBF	Global Biodiversity Framework
HCV	High Conservation Value
ICCA	Indigenous and Community Conserved Areas
ICM	Integrated Coastal Management
IFOAM	International Federation of Organic Agriculture Movement
IKI	German International Climate Initiative
IPs and LCs	Indigenous Peoples and Local Communities
IRR	Internal rate of return
IUCN	International Union for Conservation of Nature
MENRO	Municipal Environment and Natural Resources Office, Sablayan
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MSC	Marine Stewardship Council
NbS	Nature-based Solutions
NGO	Non-governmental organisation
NISARD	The Negros Island Sustainable Agriculture and Rural Development Foundation
NOP	National Organic Program

Abbreviation	Definition
NTFP	Non-timber forest product
OECD	Organisation for Economic Co-operation and Development
OPEX	Operating expenditure
P4F	Partnerships for Forests
PDD	Project design document
PDP	The Philippines Development Plan
PEF	Peace and Equity Foundation
PHL	Post-harvest loss
PT CLS	PT Channa Lestari Senentang
PTHP	Philippines Tuna Handling Association
SAP	Special Area Plan
SME	Small to medium-sized enterprise
TA	Technical assistance
TSPMC	Terengganu State Parks Management Council
UNEP	United Nations Environment Programme
UNIMAS	Universiti Malaysia Sarawak
UniSZA	Universiti Sultan Zainal Abidin
WWF	World Wide Fund for Nature

Glossary

Name	Definition
Bankable	A project that is financially viable, meaning that it generates an acceptable risk-return on investment.
Blended finance	Blended finance is the use of catalytic or concessional finance from public or philanthropic sources to increase private sector investment in sustainable development, for example through reducing risk to private investors.
Capital expenditures (CAPEX)	Capital expenditures to buy, maintain, or improve its fixed assets. This includes purchasing new assets or using money to extend the life of an existing asset.
Concessional finance	Concessional finance is a blanket term for any below market rate finance product or mechanism provided by financial institutions, such as DFIs or philanthropic organisations, to high impact projects or companies.
Cottage industry	A small-scale manufacturing business run from an individual or family's home where the labour force is made up of family members or associated individuals.
Ecosystem services	The benefits people obtain from ecosystems. These include provisioning services such as food and water, regulating services such as flood control, cultural services, and supporting services such as nutrient cycling.
Internal Rate of Return (IRR)	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.
Investment criteria	A predefined set of parameters used by investors to assess investment opportunities. These may require minimum levels of expected return, an established commercial track record, or set a boundary on the minimum/maximum level of investment available.
Nature-based Solutions (NbS)	Actions that seek to protect, restore, and sustainably manage land and/or ocean ecosystems while simultaneously addressing societal challenges.
Net present value (NPV)	The NPV 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.
Non-timber forest product (NTFP)	A product of biological origin other than wood derived from forests, other wooded land and trees outside forests. NTFPs refer to all resources/products that can be extracted from forest ecosystems and are used within the household, are marketed, or have social, cultural or religious significance.
Operating expenses (OPEX)	The day-to-day expenses necessary to keep a business running. These costs are short-term and used up in the same period in which they are purchased.
Regenerative Agriculture	An approach to farming that aims to restore degraded soil

Name	Definition
	and land by encouraging topsoil regeneration, improved biodiversity, and reducing the use of water and other inputs.
Stakeholder	Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, positively or negatively.
Technical assistance (TA)	Any service that is provided by external experts to organisations that do not have internal capacity to undertake certain specialised tasks.
Tenor	The length of time remaining before a financial contract expires. Unlike maturity, this is mostly used in relation to bank loans, insurance contracts and derivative contracts.

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