

# Mind the Gap: Overcoming Information Asymmetries Between Investors and Landscapes to Catalyse Private Finance for Forest Conservation

## Executive Summary

Tropical forest conservation is not a straightforward task wherein the mere creation of protected areas suffices. The number of local stakeholders whose livelihoods depend on the forest and its resources demands a different approach in which different economic activities can be carried out in a sustainable manner. However, various bottlenecks prevent investors from targeting forest conservation projects. Three business models provide the opportunity to make forest conservation profitable, namely sustainable commodity production, carbon credits and ecotourism. Our research revealed that a combined use of sustainable commodity production and the selling of carbon credits is most viable, whereas ecotourism is hardly a viable option for our targeted investors to invest in. For sustainable commodity production and carbon credits, **information asymmetry between the local level and investors is the most salient and pressing bottleneck**. Simply investing public money into the de-risking of mature projects targeted to attract more private investors will not overcome this problem. Information asymmetry is hard to eliminate, as every landscape implies context-specific information on regional and national legal frameworks, local stakeholders - such as smallholders and local communities - and current economic activities. For this reason, a different approach is required.

**Our proposition is to create a database** containing background information on different projects and their managers, aiming **to bridge the gap between investors and projects that seek funding**. Particularly early-stage projects should receive attention on such a platform as there is a need to develop bankable projects. The database should be developed in close collaboration with local stakeholders, allowing for the provision of context-specific information. Furthermore, local stakeholders should be encouraged to develop coalitions that allow

the integration of both sustainable commodity production and carbon credits as investment options within one landscape. This would allow for investments oriented towards the landscape as a whole, small scale projects could be integrated and investors would benefit from diversification and the opportunity of scaling up their investment.

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## Introduction

The twenty-first-century climate crisis is undeniably the greatest existential threat of our time and, arguably, the most consequential problem which our species has ever encountered. Forestry is closely linked with climate change and is both a driver and a solution to the crisis. The current rate of deforestation is estimated to be 10 million hectares per year, resulting in 4.8 gigatons of CO<sub>2</sub> annually (WRI, 2018). The cause of deforestation can often be found in agricultural expansion and infrastructure development among other reasons (Jayathilake et al., 2021).

In response to this crisis, conservation investment - international investment in companies, funds, and organisations that are expected to produce economic returns as well as a positive environmental impact - has progressively increased since the turn of the century (Hamrick, 2017). Forest conservation

differs from forest preservation in that the latter implies protection from human activity. For our policy advice, we are concerned with forest conservation, which we define as follows: *Forest conservation refers to the management and use of forest resources in a sustainable manner. It can range from total protection from human activity (like in the case of preservation) or allow for sustainable activities. Thus, forest conservation maintains, plans, and improves forested areas.*

Oddly, only 3% of climate finance is currently invested in projects that promote sustainable development in forests, though they are estimated to account for nearly 30% of the potential solutions for reaching global sustainability (UNEP, 2019). The most serious barrier to securing the funding required to reach the UN's sustainable development goals (SDGs) for forestry lies in attracting private investment: investments are risky and tend to not see short-term returns, so efforts to stimulate private investment must necessarily remediate these shortcomings (Rode et al., 2019). One way to stimulate private sector investments is by providing public finance which takes the main risk and thus lowers the threshold for private sector finance. This strategy is called blended finance and is currently viewed as the transitional solution to tackle the investment gap in forest conservation. More underlying reasons hindering private investments are further addressed later in the text.

## **Blended Finance**

In our advice, we propose an idea for how the Dutch Ministry of Foreign Affairs could use public resources to attract more investments by private actors, such as impact investors, philanthropic investors or development finance institutions, for tropical forest conservation. Convergence Finance defines blended finance as: *The use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development (Convergence, n.d.).*

In recent years, blended finance has begun to be used in funding sustainable development projects in the forestry industry, informed by the successes seen in its application in the renewable energy industry (Havemann, 2020; Rode et al., 2019). The underlying logic herein is that, like the renewable energy industry, investment for sustainable development in the forests is inherently risky as it is

a yet unproven investment in a transitioning sector. Public sector and philanthropic donors who have a vested interest in sustainable development but do not have the amount of money necessary to fully fund projects on their own can contribute an amount that sufficiently mitigates risk to stimulate investment on the private sector side.

## **Business Models for Forest Conservation and their Bottlenecks**

This chapter will present the three business models ecotourism, sustainable commodity production and carbon credit trade and their respective bottlenecks, from which our solution will be derived. This section includes an in-depth analysis of sustainable commodity production and carbon credits as these are the two revenue streams that our solution is oriented toward.

Throughout the course of our research, ecotourism revealed itself as an intangible investment case and is, for this reason, excluded from the solution. Nevertheless, it is structurally present throughout the literature and, therefore, will be briefly discussed. The section ends with a summary and we argue that blended finance is an ideal solution to help overcome a recurring bottleneck across the business models, namely information asymmetry.

## **Ecotourism**

There are several reasons why ecotourism was not considered as a stand-alone business model in our policy brief. Ecotourism finance seems to be mainly donor-driven and there is a sustainability issue with scaling-up due to the current low demand and environmental risks (Interviewees 10 & 12). Cash flows can be generated from park entry fees (Tieguhong, 2008; Wilkie & Carpenter, 1999), real estate value appreciation, rent from ecotourism operators, interest payments from debt financing, or equity returns from recreation revenues (Guarnaschelli, 2018). Ecotourism could be seen as an additional revenue stream in areas where contextual unclarity like land tenures have already been resolved (Spolar, Matthias, Ryan & Li, 2016; Wearing et al., 2020), for example, through other REDD+ projects (Wearing et al., 2020) and where

only minor land use as well as infrastructure changes, need to occur (Kiss, 2004; Stem, Lassoie, Lee & Deshler, 2003). Generally, our interviewees did not see the added value of blended finance in ecotourism as a stand-alone business model (Interviewees 1, 12 & 16). Due to the contextual challenges mentioned above, it is not specifically addressed in our solution section.

### **Sustainable Commodity Production**

Sustainable commodity production includes the production of timber and non-timber products. The basic assumption behind sustainable commodity production for forest conservation is that by selling sustainable timber and non-timber forest products that yield a premium market price, farmers, as well as local authorities, are incentivised to conserve the forest in order to keep the business running (Ros-Tonen, 2012).

Smallholders often lack financial incentives and the capacity to transition to sustainable commodity production (Interviewee 17). There is a mismatch between investors who aim for large-scale projects and the fact that most projects on the ground are carried out by smallholders (Interviewees 2, 3 & 6). In addition, the fact that monocultural practices offer short-term financial successes presents a risk that farmers will turn away from sustainable practices (Butler, 2012; Newton, Agrawal & Wollenberg, 2013; Interviewee 2).

Furthermore, issues regarding the financial and hard infrastructure in the producing regions make it difficult to build financially sustainable supply chains for local farmers. For example, impairments in hard infrastructure - roads, energy, and communication - hinder supply chains and reduce market access. Consequently, transaction costs for market exchanges are increased and net returns of agricultural production are lower (Jouanjean, 2013). This is why it is useful and important for investors to readily have information on these factors. Concerning financial infrastructure, this hinders the issuing of credits for local farmers who may, for example, not have bank accounts or credit scores. Moreover, it can be challenging to identify eligible smallholders in the first place (Butler, 2012; Newton, Agrawal & Wollenberg, 2013; Interviewees 4 & 11). Furthermore, the legal framework regarding the guarantee of land tenure and property rights plays a

role in supporting sustainable commodity production. This kind of information is also relevant for investors but not always available to them, which increases their perceived uncertainty of the investment. Coupled with the fact that unsustainable agricultural practices frequently remain subsidised by governments, it can be challenging to attract private investments in this field (Interviewees 4, 7, 14 & 16).

In short, information asymmetry between the investor and the local stakeholders is a major problem. Investors prefer standardised investment portfolios but lack knowledge on the diversity of local context variables in practice, such as landscape diversity and local institutions, and mobilising local knowledge about agricultural practices takes time and effort. The transaction costs to overcome information asymmetry, tailoring the business case to the landscape, are high.

### **Carbon Credits**

Carbon markets are a form of Payment for Ecosystem Services (PES) and are mainly institutionalised. Carbon markets are trading systems in which participants can buy or sell carbon units that are derived from non-used emission allowances or through carbon sequestration achieved by different land uses. Based on their binding characteristic, markets can either be voluntary or regulatory. In case of the latter, there is a normative limit to the maximum of allowed carbon emissions or a minimum of carbon reductions that need to be achieved. On the other hand, voluntary markets are the ones available for companies and private individuals willing to reduce their environmental impact (Ward & Weaver, 2008). While carbon markets are mostly familiar territory for developed countries now, designing and establishing one in emerging economies and lesser developed countries is still challenging. In general, the local regulatory framework is weak and factors like emission caps, allocation mechanisms, trading platforms and carbon registries are absent (Yi et al., 2018).

Land use related to conservation and carbon credits generation presents risks as well, such as diminishing job opportunities and directing

benefits away from indigenous people. There is almost always uncertainty regarding the extent to which individual stakeholders benefit from the revenue of trading carbon credits, especially for smallholders who are often left out of the picture. Land tenure plays a crucial role to determine who benefits from the selling of carbon credits, as only those who 'own' the land will benefit. Land tenure can be understood as a bundle of rights, among them the right to access the land as well as the right to carry out management, extract resources, as well as rights determining possibilities of alienation and authority (Summerville, 2013). Taking on a landscape approach could be a necessary step to map out different stakeholders that could be affected (Interviewee 1). Even though carbon credits stand out as a common revenue stream, a project cannot depend solely on the carbon market. The reasons for this are low and volatile prices.

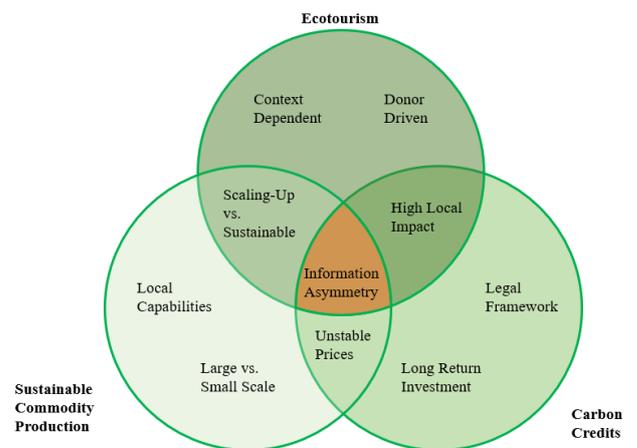
**Box 1: Combining Carbon Credits and Sustainable Commodity Production in the Tambopata-Bahuaja Biodiversity Reserve, Peru**

This project is part of Ecosphere+ by the Althelia Climate Fund and carried out in partnership with the local Peruvian NGO AIDER. The finance provided by the Althelia Climate Fund is used by AIDER to 1) improve the monitoring, management, and research in the protected Tambopata-Bahuaja Reserve and to 2) help local farmers to transition to sustainable cacao production, strengthen the cacao cooperative, and engage the wider local community. By investing in sustainable cacao agroforestry systems, the project creates a protective barrier against further encroaching of the forest. Ecosphere+ markets both the cocoa and the carbon credits obtained from the protected area. The revenue is paid back to AIDER who pays back the loan to the Althelia Climate Fund and further invests in the agricultural transition and the conservation of the forest (Ecosphere+, n.d.). In 2019, 100 tonnes of cocoa were exported by the cooperative and the amount of CO<sub>2</sub> emissions avoided since the project started in 2010 rose to more than 3.7 million tonnes (Althelia Climate Fund, 2020).

Literature, as well as our interviewees, indicated that the aforementioned factors make it difficult to carry out long-term financial planning. The high initial investment and the long-term cash flows further complicate this problem. For these reasons, this

business model is better suited when integrated with another model such as sustainable commodity production (Interviewees 1, 7 & 10; see Box 1 for an example). The problems associated with information asymmetry in this business model are related to data on local policies, framework, and knowledge on (non)existing markets and carbon credit projects in the region. As a result, without information on local projects and their scale, it is hard to attract investors.

**Figure 1: The Bottlenecks of the Business Models**



This chapter introduced ecotourism, sustainable commodity production and carbon credits as business models from which investors can source financial return and concomitantly conserve rainforests (see Figure 1 for an illustration of the bottlenecks). From our literature research and expert interviews, we know that many projects are immature and not visible to global investors. Furthermore, the lack of data to make meaningful investment decisions exacerbates large-scale and standardised climate change adaptation by the private sector. Thus, to leverage private sector finance, an innovative data platform is needed that focuses on providing data for early-stage projects on a landscape level and bridges the information gap experienced between globally operating investors and local individuals. How we envision this project, aided by funding from the Dutch government, will be described in the following section.

## Unlocking Blended Finance by Overcoming Information Asymmetries: A Potential Solution

Several of our interviewees identified a potential for blended finance to attract additional private investments. Blended finance offers a wide range of structuring approaches in which additional private investments are attracted. To decide how blended finance could be deployed most effectively, it is important to assess the maturity of projects. Highlighted by several interviewees, successful forest conservation projects are rare and the business case is immature. Only once projects have proven their potential and have become bankable do private investors notice them and consider investing. The lack of bankable projects has shown to be at the root cause of the low levels of private investment in forest conservation (Morten & Djeneba, 2017; Interviewee 1 & 6). Therefore, we propose that public finance should be used to enhance the maturity of the business case.

The solution is therefore focused on the catalysation of private investments. According to the OECD, "Catalysation encompasses all activities, whether through public or private institutions, that help to create a more conducive environment for private sector investment" (OECD, 2018, p. 56). Specific to our solution, the data platform aims to create a more conducive environment for private sector investments by removing information asymmetry and, as a result, catalysing additional private investments over the long run.

### How Does the Dutch Government Fit In? Current Efforts by the Government and Remaining Gaps

The Ministry is already supporting a variety of funds and organisations that aim to facilitate private sector investments in forest conservation: the *Dutch Fund for Climate and Development*, the *AGRI3 Fund*, the *Green Climate Fund*, the *Global Environment Facility*, the *IDH Sustainable Trade Initiative*, and *Mobilising More 4 Climate*. These initiatives offer valuable services to investors as well as smallholders and local communities in the form of de-risking financial instruments, technical assistance, capacity building, and the convening of multi-stakeholder

dialogues. However, based on our research, a fundamental obstacle that remains when it comes to attracting new players to the field is information asymmetry. More specifically, there is a lack of data available to private investors about potential forest conservation projects, leaving a significant gap between the global and local levels on which investors and smallholders operate, respectively.

We regard it as a necessary and useful strategy for the Ministry of Foreign Affairs to use the additional budget to address information asymmetry, which is an overarching bottleneck that does not seem to have been specifically targeted yet. To make this abstract asymmetry tangible, we propose that the Ministry launches a centralised information platform that provides meaningful data from the ground level all the way up to global investors across business models and geographies.

### Box 2: An Inspiring Example of a Data Platform - SourceUp

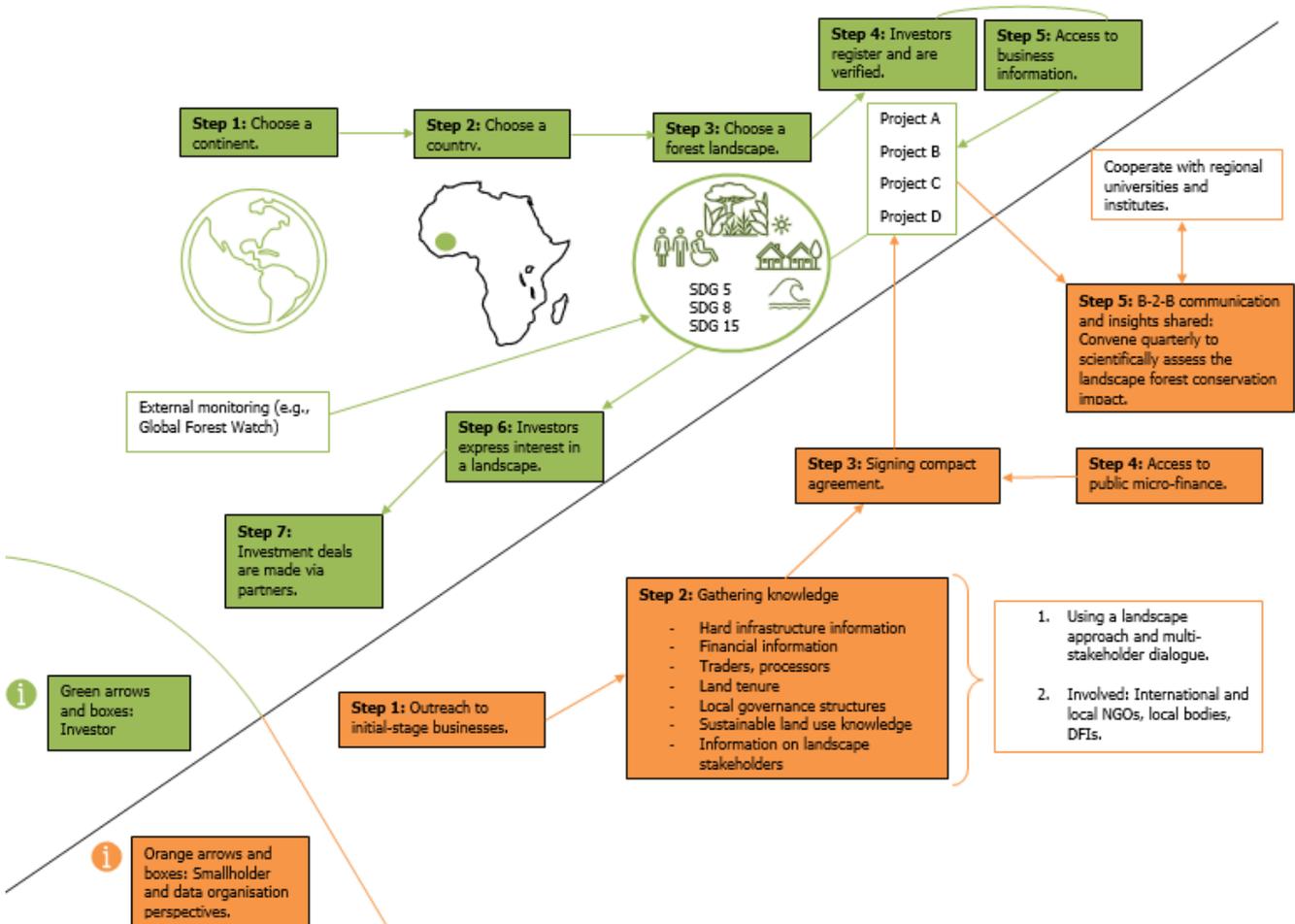
SourceUp aims to connect production areas of sustainable commodities to global markets. Companies in the supply chain for agricultural commodities will be able to use the platform to find production areas that are aligned with their sustainability objectives. SourceUp adopts a landscape approach to ensure the sustainability of the producing regions: local stakeholders from the private, public, and civil society domains decide on their shared responsibilities to achieve certain sustainability impacts for their region based on a long-term agreement, a so-called Compact. The Compacts allow end-buyers to better understand the products in their supply chain and see the regions' progress on their sustainability targets. The impacts of the producing regions can be forest conservation but also improvements in the areas of labour, land tenure, or livelihoods (SourceUp, 2021). Thus, SourceUp focuses exclusively on sustainable commodity production as a business model and is targeted towards one specific type of private investor, namely supply chain companies.

In other words, the Dutch government should finance the data platform. We expect that, by making specific information available to private investors in a standardised way, information asymmetry as a transaction cost can be reduced which should, in turn, boost investments for early-stage forest conservation projects. IDH is currently in the beta test phase of a similar data platform, named SourceUp, which aims to increase the visibility of sustainable sourcing areas (see Box 2). However, we envision that a data platform, serving as a central information point for future private investors, should go further.

## Proposed Solution: Bridging the Information Gap with a Centralised Data Platform for Investors

The data platform (see Figure 2 for a visualisation) should include a multi-source business model to make sure that the landscape-specific opportunities are combined and the risks and revenue streams for investors are distributed. Based on our research, carbon credits seem to complement sustainable commodity production the best (Interviewees 10 & 16; see also Box 1).

**Figure 2: Visualisation of the Data Platform**



Among the most critical characteristics of the platform is its **focus on projects that are in the early stages of their development** since these types of projects do not receive enough attention but are crucial to support (Interviewees 1 & 6). Making available more specific information on such projects and the specific businesses and communities that run them could provide the incentive to invest in early-stage projects. Moreover, **the individual projects within a certain geographic area should be aggregated into a portfolio** due to their small size (Interviewees 2, 3 & 6). This way, the 'landscape' which is often regarded as too vague from an investor point of view becomes more tangible (Interviewees 6 & 14). We acknowledge that a platform like this will most likely not attract institutional investors or commercial banks but rather impact investors, development banks, or philanthropic investors. Nevertheless, according to the interviews and focus group discussions, these are precisely the types of investors who need to be attracted first to develop the forest conservation business case before large players can realistically be expected to step in.

From an investor point of view, we envisage the platform to work as follows. Interested investors can choose in which of the three major forest regions in the world (i.e., South America, Africa, South-East Asia) and in which country they would like to make an investment. Within that particular country, investors need to select a forest landscape portfolio that appeals to them (see Figure 3).

**Figure 3: Selection of Geographic Area and Portfolio**



To distinguish between the different landscapes, macro-level information about the landscape should be made visible. This includes the size of the landscape, the type of business models that are used within the landscape, and which SDGs these projects support in addition to SDG 15. Additionally, **satellite imagery for the landscapes' progress with respect to forest conservation** should be

made available for investors to clearly visualise where improvements are being made and where more urgent action is necessary. Here, the platform would benefit from partnering up with an external agency like Global Forest Watch (Global Forest Watch, n.d.). In order to obtain more information, investors can 'click' on the landscape to obtain the full list of projects that are embedded in this landscape. Based on our research, however, a mere list of projects is most likely not going to attract investors to a landscape and publicly displaying detailed information might be problematic, as it would not benefit smallholders. For this reason, **there needs to be a verification step** (e.g., corporate registration number) before receiving information regarding, for example, land tenure, business plans, or credit scores (see Figure 4).

**Figure 4: Verification Step**



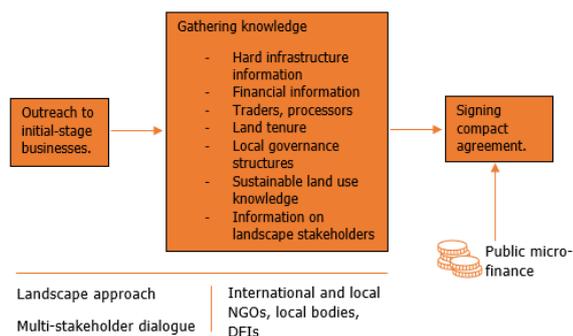
It is important to note that, once investors have obtained more detailed information, they will not be able to select an individual project to invest in. Instead, they can express interest to invest in the landscape as a whole. Thereby, project finance is equitably distributed and investors are not financially dependent on one project, which serves as a de-risking tool. The actual deal for the landscape portfolio investment will not take place on the platform itself due to different standards that investors tend to have regarding deal-making.

Taken together, a platform like this would allow investors to approach the complex realm of forest conservation in a standardised way. Essentially, **the platform would lower the transaction costs for investors** because it 1) provides them with landscape-specific information, 2) bundles opportunities for investment into a portfolio, and 3) the local stakeholders who are involved would already

be aligned. The process of aligning local stakeholders that should make it possible to invest in a landscape portfolio is described in the following section.

The required information to make a well-informed investment decision is not readily available in the majority of the cases. Therefore, a **knowledge-gathering process** needs to take place first. We envision that local specialists (e.g., IDH) reach out and conduct this operation within the framework of **multi-stakeholder landscape approaches and in close cooperation with local institutions** such as community centres or local banks. Without a landscape approach, projects aggregated in one landscape are not symbiotic and might interfere with each other. At the end of the described process, a **compact agreement** including stakeholders' targets, responsibilities, and benefit-sharing is signed (SourceUp's Compacts (SourceUp, 2021) could be used as a model for this) and the data about individual projects are entered into the database. Upon signing this agreement, the smallholders are also **eligible to receive public funding** from the Dutch government and/or development banks in the form of grants (see Figure 5).

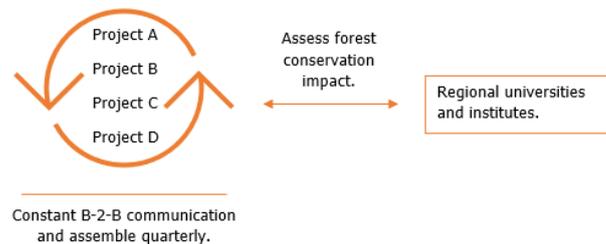
**Figure 5: From Multistakeholder Dialogues to a Compact Agreement**



This is necessary for two reasons. First, smallholders need an **incentive to engage with the process** and to share their data for the platform. Secondly, **private sector investors will be less reluctant to inject finance into these projects** as the main risk has already been taken by the public sector. One can discuss the finance archetypes here, such as first-loss structures. Notably, the platform should facili-

tate **knowledge exchange between the businesses in one landscape** to propel best practices (see Figure 6).

**Figure 6: Knowledge Exchange Between Businesses**



Regarding the **information that we identified as attractive for global private sector finance**, please consult Table 1. Given the fact that this framework involves numerous partnerships with external organisations and facilities, we suggest that the Dutch government **cooperate with other European governments** to make it a concerted effort. Therewith, another niche would be filled, namely, a geographically standardised platform across jurisdictions, instead of fragmented initiatives across countries.

### Future Outlook

Taking a realistic stance, we believe that our proposed solution epitomises acceleration in the forest conservation sector and has the power to shape future approaches aimed to mobilise private investment. We do observe that there are other, more paradigmatic changes necessary to acknowledge the severity and urgency of the subject (Interviewee 1). Nevertheless, the data platform is a fundamental step towards a more collaborative and sustainable approach to forest conservation in the tropics. Now that we have presented our stance, it is time to act.

We are indebted to all interviewees and focus group participants who kindly provided us with valuable information and contributed to this project.

**Table 1: Landscape-relevant Data Points to be Covered by a Centralised Information Platform for Investors**

	Data points
Smallholders	<p><b>(Un)sustainable practices:</b> Information on current practices by stakeholders. To determine whether a transition to sustainable practices would be necessary.</p> <p><b>Traders/processors in product chain:</b> Indicating potential local stakeholders providing logistics and other services necessary within the value chain.</p> <p><b>Potential support of SDGs:</b> Indicating what SDG-related impact an investment could generate for each project and landscape.</p> <p><b>Financial infrastructure:</b> Referring to smallholders' credit records and access to banking systems</p> <p><b>Hard infrastructure:</b> Indicating existent local infrastructure such as transport relevant to the development and scaling up of productive activities.</p>
Local institutions (policies and legal framework)	<p><b>Land tenure and property rights:</b> Information on ownership of land by smallholder and indigenous communities in the area</p> <p><b>Allowed land uses:</b> Information on regional and national legal framework determining possible land uses.</p> <p><b>Subsidy streams:</b> Information on national policies aiming to support specific agricultural practices and industries.</p> <p><b>(Non-)existent national carbon markets:</b> Information on accessible carbon markets to sell generated carbon credits.</p> <p><b>Right to ownership of carbon credits:</b> Information indicating the possibility of local stakeholders to perceive the revenues generated through the selling of carbon credit</p> <p><b>Relevant stakeholders in the landscape:</b> Indicating different NGOs, civil organisations such as cooperative, and local institutions involved at a landscape level.</p> <p><b>Prices and fluctuation:</b> This information applies to both soft commodities and carbon markets.</p>
Monitoring	<p><b>Satellite imagery:</b> Access to satellite information systems that allow for off-site monitoring.</p>

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