

MIND THE GAP: OVERCOMING INFORMATION ASYMMETRIES BETWEEN INVESTORS AND LANDSCAPES TO CATALYSE PRIVATE FINANCE FOR FOREST CONSERVATION

This report serves as a background document for the policy brief titled “Mind the Gap: Overcoming Information Asymmetries Between Investors and Landscapes to Catalyse Private Finance for Forest Conservation”. The background report and the policy letter are commissioned by the Forest Unit of the ‘Directie Inclusieve Groene Groei’ of the Dutch Ministry of Foreign Affairs. The policy brief and the background report are part of Radboud Honours Academy’s ‘Project Impact: Climate Change Action’. This report has been written by seven international Master students from Radboud University, supervised by Professor Dirk-Jan Koch.

The goal of this background report is to serve as the foundation for the findings of the policy brief. It will further describe the findings of our research and back up the claims and assumptions made in the policy brief. To streamline this process, this background report will largely follow the structure of the policy brief. An important additional goal of this background report is to further explicitly describe the research process, which will be described in the next chapter under ‘methodology’. Following the methodology, the report will describe the current problems with forest conservation as an investment case and describe our proposed solution.

Methodology

In this chapter, the methodology that has been followed throughout the project will be briefly described. As a starting point, the client asked for a policy advice that is focused on a real-world issue. The nature of the Radboud Honours programme, which is called Project Impact, asked for a solution-based approach. Based on both the wishes of the client and the nature of the programme, a pragmatic approach has been chosen. In this way, not the standard academic requirements are followed but a hybrid method has emerged. This hybrid method combines academic standards and rigorosity with a solution-oriented pragmatic approach to answer the question of the client.

The method consisted of three main anchor points: literature search, interviews, and focus groups. As the foundation, an extensive literature search has been conducted. Due to the novelty and practical nature of the problem, few scientific publications on the specific topic of the policy brief exist. To gain the necessary information, both official scientific publications but also 'grey literature' have been examined. The 'grey literature' are mainly official publications from international organisations such as the OECD or Convergence, or publications from actors within the forest conservation sphere, such as NGOs, financial institutions or consultancy firms. This literature search has been done to fundamentally understand the current landscape of blended finance solutions within forest conservation. Due to the absence of a standardised framework on applying blended finance for forest conservation, real-world applications of forest conservation projects have been studied. The descriptions of these cases have therefore been studied quite intensely to further understand the problems. More precisely, the different approaches to de-risking the investment. For example, blended finance has been used both as a vehicle to cover first losses as well as a source for funding technical assistance at a local level. The literature search has contributed to a deeper understanding of the main problems that currently exist. The majority of the literature search has been conducted during the initial phase of the project between October and December 2020 and the majority of this work has been presented in an inception report presented in December 2020.

Following the literature search, interviews with different stakeholders have been conducted. The client presented us with a preliminary list of experts that we could contact and with this list as a starting point, a total of 16 interviews have been conducted. The interviewees have been selected based on their expertise regarding one of the three main identified topics throughout the policy report, namely finance, policy, and landscape. To diversify geographically, experts from certain regions have been interviewed. In this way, a diverse set of expertise and opinions has found its way into the report. Interviewees have been guaranteed anonymity to allow them to speak out freely. An anonymous overview of the interviewees can be found in Table 1. A brief summary per interviewee can be found in Appendix 2.

Authors:

Arbaaz (*Molecular Mechanisms of Disease*),
Jesmer Engbers (*Comparative Politics*),
Santiago Gallego (*Spatial Planning - Cities, Water & Climate Change*), **Lisa Maria Hilti** (*International Business Communication*),
Kira Hornbostel (*Psychology - Work, Organisation & Health*), **Luka Paul Vethake** (*International Business Communication*), **Tim van der Werf** (*Financial Economics*).

Table 1: Overview interviewees

	Function	Organisation	Field
1	Green Finance Solution	NGO	Landscape
2	Innovative Finance Expert	NGO	Landscape
3	Senior Process Manager	Netherlands Enterprise Agency	Policy
4	Senior Advisor	University	Landscape
5	Country Director	NGO Brazil	Project
6	Business Developer	European Impact Investor	Investor
7	Professor	University	Landscape
8	Senior Investment Officer	European DFI	Investor
9	Environment Partnership Expert	Dutch Bank	Investor
10	International Organisation	International Organisation	Investor
11	Expert Green Finance	International Organisation	Policy
12	Conservation Director	NGO Congo	Project/landscape
13	Conservation Expert	European Government	Policy
14	Landscape Finance Expert	NGO	Landscape
15	Expert Finance	MDB	Policy
16	Investor Relations & Biodiversity	Dutch Impact Investor	Investor

In addition to the interviews, several different conferences have been attended which were organised by Convergence, the FAO, the Dutch Ministry of Foreign Affairs, and the World Bank.

Based on both the literature and the information from interviewees, a draft version of the policy brief emerged. This policy brief relied on all the information gathered in the period from October to March. To further validate the findings of the policy brief, two focus group discussions

were conducted. The goal of these focus groups was to bring representatives of the different stakeholders that have been identified throughout the research together. Before the focus groups convened, all attendees had received a draft version of the policy brief. The two focus groups were organised on April 26 and April 30, 2021. The attendees of the focus group can be found in Appendix 1. Based on the feedback from the focus group, the policy brief was further adjusted. The three main research strategies - literature search, interviews, and focus group - combined to form the 'hybrid methodology' that has been used to conduct this research.

Although these approaches are promising, they require a high level of rational decision making, commitment, and reliability of the donors themselves, which is sometimes hard to maintain. In addition, it puts administrative pressure on the recipient government's limited resources to meet reporting requirements.

CHALLENGES OF FOREST CONSERVATION AND ITS INVESTMENT CASE

The twenty-first-century climate crisis is undeniably the greatest existential threat of our time though it is, arguably, the most consequential problem that our species has ever encountered. In response to this crisis, conservation investment - international investment in companies, funds and organisations which are expected to produce economic returns as well as a positive environmental impact - has progressively increased since the turn of the century (Hamrick, 2017). The renewable energy industry has seen the most robust investment and growth during this period and has been nearly unanimously heralded as proof of concept for sustainable economic growth, albeit to varying degrees (EUEI, n.d). However, this success is, by and large, unrepresentative of the current state of affairs with regard to the levels of conservation investment as a whole: a critical piece to the puzzle lies in halting deforestation and remediating the damage already done. However, only 3% of climate finance is currently invested in projects which 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 quite risky and tend to not see short-term returns, so efforts to stimulate private investment must necessarily remediate these shortcomings (Rode et al., 2019). Similarly, initial stage projects face difficulties in achieving funding. Due to the risk-averse attitude of private investors, initial stage projects rely mostly on seed funding by development banks and governments (Interviewee 1 & 6). In order to mobilise private investment, public money can be used in the form of blended finance.

Blended finance is a specific kind of mixed-financing framework whereby public or philanthropic investors or a combination of the two, supply the initial concessionary capital necessary to offset the first-loss potential as a way to attract private investors. These private investors, who supply the majority of capital for the projects which are funded by blended finance, will then see the first returns on their investment (Rode et al., 2019). In recent years, blended finance has begun to be used in funding sustainable development projects in the forests, informed by the successes seen in its application in the renewable energy industry (Rode et al., 2019; Havemann, 2020). The underlying logic herein is that, like the renewable energy industry, investment for sustainable development in the forests is inherently risky as it is an unproven investment. In this regard, the lack of success stories is a current issue hindering the inflow of private investment into tropical forests conservation. 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.

Blended finance instruments are becoming increasingly popular as a mechanism to mobilise private investments into forests. Most of these investments are in countries with high forest cover such as Brazil, Indonesia, and Malaysia which are also countries with relatively higher greenhouse gas emissions resulting from commodity-driven deforestation (Ceres, 2019). Hence, they are popular geographical locations targeted by various sustainable projects that utilise blended finance for forest conservation. Several of the interviewees highlighted the potential for blended finance in forest conservation. However, some fundamental problems remain. The original goal of blended finance - to make near-bankable projects bankable by the use of concessional funds - does not always seem to be realistic. Since the majority of the forest conservation projects are still in the early phase, the question arises whether blended finance could solve this all. Problems such as fair risk-sharing and lack of bankable projects are closely related to this (Interviewee 4).

So far, blended finance has helped mobilise around \$141 billion in private capital from approximately 3,700 financial commitments intended for sustainable development in developing countries (Convergence. Finance, n.d.). A total of \$3.1 billion worth of financing from 30 blended finance transactions for conservation projects has been identified by the Convergence database. These projects have mostly focused on sustainable agroforestry and reforestation. According to the database, concessional capital is the most recurrent blended finance archetype in conservation finance and conservation-related projects are more likely to benefit from design-stage grants. The most frequently involved private sector investors contributing to conservation finance have been banks and corporates while multilateral development banks (MDBs) and development finance institutions (DFIs) have been the most frequent investors from the public sector.

The Global Environment Facility (GEF), for example, is one such public sector organisation that is currently one of the largest funders for projects addressing various environmental problems. To date, the GEF has funded more than 380 forest-related projects with funds totalling at least \$2.1 billion. This has further helped leverage around \$10 billion for sustainable forestry. Most of these projects are localised in and around Brazil, Guyana, and countries in the Congo Basin. Besides the obvious outcome of improving forests at the landscape level, these projects will also help prevent the release of 128 million metric tonnes of CO₂ equivalent (Global Environment Facility, n.d.). Interestingly, around 50% of the identified blended finance transactions related to ecosystem conservation have been piloted by the private sector. This paradigm shift showcasing a more proactive private sector involvement indicates how blended finance instruments have embraced a more powerful role in climate change mitigation.

BUSINESS MODELS FOR FOREST CONSERVATION & THEIR BOTTLENECKS

There is a fundamental discrepancy at stake when it comes to the use of forests. Forests are subject to what Dinerstein et al. (2012) call “existence value” (p.16), meaning that regardless of whether the forest is being used actively as a good, people benefit from it. This could be in terms of absorbing carbon dioxide or hosting and maintaining biodiversity, which is vital for food supply chains. However, in our current market system, this existence value does not provide tangible benefits for companies. There are other, more profitable ways to exploit the resources a forest offers. To monetise the economic value of forests, several revenue-generating models exist. These revenue models can be split up into three broad categories: a) ecotourism, b) sustainable commodity production, and c) carbon markets and payments for services revenues (Guarnaschelli et al., 2018). the presence of aid fungibility in our sample of countries, we test the impact of aid

fungibility on aggregate welfare using human development index as a measure of aggregate welfare.

Ecotourism

Our regression results found evidence of aid fungibility in both the individual country case studies as well as the larger sample of countries. We have summarized our results in the table below. Nature conservation has always been approached through the establishment of protected areas (PA) in an attempt to preserve a specific land surface. However, not every protected area is fully exclusive and prohibits economic activities. In fact, there are seven different classifications of PA's and some of them allow for sustainable natural resources management (Cumming et al., 2015). Therefore, forest conservation does not necessarily have to exclude other economic activities like commodity production, payment for ecosystem services, or ecotourism.

Ecotourism could be an attractive revenue stream for investors since PAs do not only provide ecosystem services but also cultural services (Masiero et al., 2019). Cultural services can be defined as 'sensory experiences of the ecosystem that enhance human wellbeing aesthetically and spiritually' (Price, 2014, p. 1). Even though conservation efforts and tourism seem to be conflicting activities, this need not always be the case. According to Boley and Green (2016), a symbiotic relationship can develop between nature conservation and the use of cultural services for ecotourism: a better protection of natural resources increases the competitive advantage of the area which then attracts more tourists and in turn generates revenue for further conservation activities and raises awareness on the value of nature conservation. Under the right leadership, the economic incentives of conserving an area of land for ecotourism can outweigh the benefits that would be incurred by using the land for other consumptive purposes (p. 38).

With respect to forest conservation, Guarnaschelli et al. (2018) estimate that the total revenue that could be generated by using protected forests for recreational services and tourism activities could amount to US\$200 billion (p. 16). Depending on the financial structure of the investment, revenue can be generated from ecotourism through real estate value appreciation, rent from the ecotourism operator, interest payments from debt financing, or equity returns from recreation revenues (p. 18). Generally, ecotourism can deliver quick cashflows which contrasts with the relatively longer rate of return of payments for ecosystem services or sustainable commodity production (p. 32). Within a landscape approach, ecotourism should therefore be combined with other business models to achieve a sustainable revenue stream (Guarnaschelli et al., 2018).

An area that can be identified as a successful example of ecotourism is the Virunga forest in Rwanda, where ecotourism focuses on mountain gorilla viewing (Interviewee 7). International exposure of Rwanda's Parc National des Volcans (PNV) in trade fairs as well as media channels has resulted in a growing number of visiting tourists after the conflict period in the 1990s (Maekawa, Lanjouw, Rutagarama & Sharp, 2013, p. 131), which has generated earnings of over US\$108 million for the government of Rwanda in the period of 1994-2015 (Sabuhoro, Wright, Munanura, Nyakabwa & Nibigira., 2017, p. 4). Moreover, the population of mountain gorillas in the entire Virunga massif that is shared between Rwanda, Uganda, and the Democratic Republic of Congo (DRC), has continually increased over the last four decades (Robbins et al., 2011).

With respect to the economic benefits for the local community, however, the PNV as an ecotourism destination has been less successful. Sabuhoro et al. (2017) argue that the benefits the local community receives under the benefit-sharing scheme of the park are neither adequate nor clearly defined. As a result, the incentive for the local people to conserve the land and forest in the PNV, rather than using it for much-needed resources, is rather low. This illustrates Blanco et al.'s (2020) assessment that sparing land for one specific purpose can deprive local communities of natural resources on which their livelihoods depend, leading to a lack of social support. According to Sabuhoro et al. (2017), promoting partnerships between the private sector and local community with clear policies, as well as developing community-based tourism enterprises, could address these challenges in Rwanda. Thus, the involvement of the local community in ecotourism is crucial in order to achieve a successful outcome (Interviewee 7). An example of where ecotourism has indeed created economic benefits for the local population is in Chile where a survey of the local population adjacent to Pumalín national park indicated that 60% of the interviewees perceived job creation to be enhanced by the tourism activity related to the protected area (Hora, 2018).

Bottlenecks of ecotourism

The attempt to spare land for ecotourism can deprive local communities of the natural resources on which their livelihoods depend which can, in turn, lead to a lack of social support (Blanco et al., 2020; Interviewee 7). Similarly, Andrade and Rhodes (2012) indicate that many conservation projects fail due to a conflict between conservation goals and the interests of local communities. Moreover, they estimate local involvement in decision making within the protected area to be a key element for the success of conservation practices. Therefore, local stakeholders' participation should be considered a priority when setting up a protected area.

It is necessary to conciliate the tensions between the wellbeing and economic development of local communities with forest conservation goals. In this regard, the landscape approach is a framework that integrates different land uses, policies, and stakeholders (Reed et al., 2016). Not doing so makes any endeavour socially, ecologically, economically and politically unsustainable. Denier et al. (2015) define an incremental model to achieve a successful intervention on a multi-stakeholder level, starting with the establishment of a stakeholder platform. Apart from obvious steps, such as identifying relevant stakeholders and knowing their entry points, also understanding the cultural and legal contexts as well as the interconnectedness of landscapes in the past, present and future are vital for a successful start (Denier et al., 2015). Another important step in their framework is reaching shared understanding which is the foundation of setting and working towards targets. Collaborative planning describes the process of clarifying roles and responsibilities of each stakeholder, mapping development scenarios (e.g. by using LUMENS, a statistical land mapping model, or using theory of change) and to agree on priority interventions as well as the objectives and their success indicators (Denier et al., 2015). Effective implementation entails generating quick wins to attract more investors, setting up a communication plan and engaging with partners, for example, research partners that can leverage the project and its visibility, and also doing lobbying to bring more partners on board to maintain leadership of the project. Lastly, monitoring and reporting are essential to ensure high transparency towards stakeholders and investors and to be able to evaluate the project.

These core facets are necessary to ensure a successful outcome of any intervention for a sustainable landscape approach. In their book, Denier et al. (2015) state that this core can be catalysed by three entities: governance, finance and markets. In this paper, we will argue that also information can catalyse this process.

Djenontin et al. (2020) define the landscape as a geographical unit composed not only by its ecological characteristics but also the social, institutional, and cultural dynamics present in the area. Consequently, for the landscape approach to be successful, the national and local institutional setting is of key relevance (Schweizer et al., 2018). In a similar way, ecotourism itself is also dependent on local context. For example, it can only be developed as long as infrastructure and land uses do not require big changes (Kiss, 2004; Stem, Lassoie, Lee & Deshler, 2003; Börner et al., 2014.; Robinson et al., 2014). Additionally, local legal frameworks are also important to facilitate conservation activities, distribute monitoring responsibilities, guarantee clear land tenure, efficient monitoring and enforcement of anti-deforestation policies (Spolar, Matthias, Ryan & Li, 2016; Wearing et al., 2020; Interviewee 4). Ecotourism provides the opportunity to generate revenues. Nonetheless, it has shown to be mostly donor-driven (Interviewee 10) and is not a typical domain for blended finance (Interviewee 11).

Sustainable Commodity Production

Perhaps the most obvious commodity which can become a target for sustainable development investment in forest resources is timber. However, there are also other crops that are suitable for investment to conserve forests, which is why this report considers sustainable commodity production to include both 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). Therefore, it is important that smallholders receive a premium as an incentive to transition to sustainable practices or even outperform legal requirements regarding land clearing in forested areas (Interviewee 5).

According to a Global Timber Forum (2019) report, in Southeast Asia, approximately 6.7 million hectares (9.9% of the total production area) of forest are certified (either Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC)). In Latin America, this is roughly 3.5 million ha (3.8%) and in the Congo Basin, this would be 4.49 million ha (11.4%). Out of the 1.473 million tonnes imported by the European Union, 28.5% are certified timber products (Global Timber Forum, 2019). Generally, wooden products are an attractive export good: according to the Observatory of Economic Complexity (n.d.), the Brazilian wood sector encompasses a trade value of \$3.29 billion. In Indonesia, the sector makes up \$4.76 billion.

Apart from timber products, farms also grow 'nuts, honey, palm heart, plant and animal inputs to the pharmaceutical industry, rattan, bamboo, cork, essential oils, and gum Arabicum'" (Ros-Tonen, 2012, p. 197). According to Butler (2012), sustainable commodity production in terms of non-timber products means the cultivation of perennials, so plants or trees that produce output over a longer span of time and also the use of secondary plants (other plants that do not interfere with the perennials but rather symbiotically enhance their harvest). This cultivation method maintains the fertility of the soil, which prevents deforestation as obtaining more land becomes unnecessary because farmers have a stable income source for a longer period of time (Butler, 2012). Furthermore, expenses for pesticides are lowered because sustainable land use is generally characterised by growing

polyculture species of plants and trees together; so the risk of losing entire crop fields is lower.

Bottlenecks of sustainable commodity production

The underlying idea is that by growing commodities in the rainforest, the farmers will develop a certain need for protection in order to continue their business-as-usual (Ros-Tonen, 2012). However, it has been theorised that through urban-rural migration, these farmers have little to no regard for traditional cultivation methods and ignore sustainable land use, given the prospects of the quick financial success of monocultural farms (Butler, 2012). Furthermore, there is a lack of (financial and mobility) infrastructure in the plantation regions which makes it hard to build sustainable supply chains for local farmers and also hinders the issuing of credits to local sustainable farms (Butler, 2012; Newton, Agrawal & Wollenberg, 2013; Interviewees 4 & 11). Additionally, smallholders lack financial incentives to transition to sustainable practices as they do not perceive a premium price for the sustainable quality of their products (Interviewees 16 and 2). The transition is even less likely as long as local policies favour and subsidise unsustainable practices (Interviewees 7, 14 & 15)

Another issue is the fact that political power structures impede the issuing of fertile land to sustainable farmers. In Brazil, roughly 10% of the populations own 90% of the fertile land (Butler, 2012). Apart from that, the low visibility and voice of small sustainable farms also pose a problem for decision-making processes in supply chains and stakeholder awareness (Delabre, Alexander & Rodrigues, 2019). In a similar manner, local legal frameworks can have a big influence on securing land tenure, which is an important condition for long-term investments (Interviewees 4, 7 & 15).

Another problem is that sustainable farms are often small and although they provide a diverse range of products, they are not as economically attractive as bigger farms in terms of output. This leads to a mismatch between smallholder farmers and investors who would rather invest in big projects to avoid the transaction costs that would arise with every new smallholder they approach (Interviewees 2, 3 & 6). On a general level, a challenge for sustainable smallholders is the fact that they cannot meet the consumption needs of a growing world population which, on top of its rapid growth, has experienced a change in consumption culture. The cosmopolitan and globalised society views it as normal to be able to consume tropical products such as mango or brazil nuts (Newton, Agrawal & Wollenberg, 2013). As environmentally-friendly sustainable farms may be, they cannot withstand the demographic pressure. Among other things, a need for a change in food consumption emerges that should be part of the discourse of public, private and individual actors.

Carbon Credits & Payments for Ecosystem Services

Payments for Ecosystem Services

Payments for ecosystem services (PES) consist of reimbursements to private landowners who provide ecosystem services through their land use; where ecosystem services (ES) are defined as the contribution of an ecosystem to human wellbeing. The services can be categorized in terms of the following: Provisioning of materials, regulating processes, cultural, and supporting services (Masiero et al., 2019). Two important conditions are the

principles of additionality and conditionality, meaning that the ES would not be provided without payments rendered and that they are ensured for a long period of time (Wunder et al., 2008). Waage et al. (2018) define three types of markets for ES:

1) Public payment schemes: conducted on a national scale and are commonly structured around a public institution that pays to a private landowner.

2) Formal markets with trading: they can be developed based on a cap or minimum of ES that should be provided, having a regulatory or voluntary nature.

a. Regulatory: based on legislation that specifies the cap to the maximum possible detriment of the ES and also specifies buyers and sellers. The users/producers of the ES can either sell their surplus and in case they cannot comply, they must buy from other individuals who have met the cap.

b. Voluntary: those individuals aiming to reduce their impact.

3) Self-organised private deals: an agreement between two private parties without participation of the government or a regulatory market that takes place in the voluntary market.

These deals mainly occur when the buyer is dependent on the ES that a privately owned land can provide, paying the landowner for a specific management practice that can ensure the provision of the ES.

Bottlenecks of Payments for Ecosystem Services

PES should be an extra income for landowners since they will rarely provide all the income requirements for a household (Interviewees 1 & 7). In the long term, it can work as an incentive for sustainable land use and management. In the majority of cases, PES imply a wealth transfer from wealthier urban groups to rural communities (Wunder et al., 2008). Coincidentally, a determining factor for the viability of a PES agreement is the economic situation of both the provider and the buyer. Most often, providers of ES are rural communities with low income. For them, PES represent a low opportunity cost and the payment for ES is significant compared to their source of income. On the other hand, buyers with a better economic situation are willing to pay more for the ES, especially if they need to meet regulatory compliance (Wang & Wolf, 2019). Waage et al. (2008) identify the pitfalls of PES for the sellers:

a) Fewer job opportunities and opportunity costs: if a PES deal in a specific case implies less management of the land, for example - no harvesting of agroforestry products or agricultural practices. This can decrease the number of job opportunities.

b) Negative overall impact on biodiversity: an ecological assessment must be properly carried out. For example, when aiming to sequester carbon, it is possible for a seller to fall into monoculture based on the higher CO₂ capacity. This is counterproductive for the soil and the biodiversity.

c) Land rights competition: success with the PES could attract private investors to buy land. If tenure rights are not clear and secure, this could affect local communities.

d) Insurance need and cost: PES are vulnerable to external factors out of the control of the seller, for example, wildfires and climate variables. This could lead to a lack of service provision and, consequently, no payment. Ideally, risk should be shared between seller and buyer.

e) Transactions costs: the seller will incur costs when carrying out the assessment of ES, and there is a lack of information regarding potential opportunities for PES for interested buyers. If the landowner has other priorities and economic interests, the PES could not look appealing from an economic perspective.

f) Limited economic value of the ecosystem services: this originates from the non-excludability principle: the ES might not be valuable enough for a potential buyer and the ES might not be exclusively for him.

As external actors and variables needed to promote the PES, we could identify institutional actors and supportive policies, 3rd agencies as certifiers, regulatory institutions, scientific support and market information. Taking the mentioned elements into consideration, brokers of PES deals could play a central role especially for sellers who often lack the assessment capacity to identify potential opportunities for PES.

Carbon Markets

Carbon credits are a form of 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 emission 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 who would like to reduce their environmental impact (Ward & Weaver, 2008).

Besides the binding nature of carbon regulation, markets can be structured in two different ways: (1) emission trading system (ETS) or (2) offset markets. Within an ETS, a central national authority has control over the overall amount of emissions and the distribution of the carbon credits, perhaps better understood as a “polluting right.” This means that private individuals are allowed to produce a specific amount of carbon units and in case they succeed to stay below the limit, they can sell their surplus of “allowed emissions” to companies who could not meet their binding targets. On the other hand, voluntary markets are also called “offset markets” and provide companies with the opportunity to compensate for their emissions out of their own decision. At the international level, almost all the markets correspond to an off-set mechanism, for example at the UN level. The European Union, on the other hand, has a carbon market that is structured as an ETS (Ward & Weaver, 2008).

Bottlenecks of Carbon Markets

Kettner et al. (2018) identify two main barriers that affect the attractiveness of carbon markets as an option for investment:

1) Long time length for return of investments: Carbon markets, PES, and agroforestry products are linked to natural processes such as the natural development of different tree and plant species. Estimations for carbon sequestration and ES indicate that it can take at least five years to generate carbon reduction units (Interviewee 10).

2) Low and volatile market: Low prices correspond directly to the number of carbon credits available. On the other hand, volatility occurs due to a fluctuation in offer and demand and imperfections of the regulatory system (Interviewee 7 & 10).

In the course of our interviews, we have identified a third barrier:

Box 1: A critical view on carbon markets and their real contribution to the global CO₂ reduction

Drufrasne (2020) provides a critical view on the contribution of global carbon markets to overall CO₂ reduction, more specifically the one's product of the Kyoto Protocol, Clean Development Mechanism (CDM), Joint Implementation (JI) and international emission trading (IEM). The markets were set for countries to meet their carbon reduction targets through trading between countries and companies. He stresses the issue is the off-set nature of JI and CDM lacking a cap or limitations to the overall emissions. Moreover, he identifies the issue of double-counting and the intentionally set of low reduction targets in order to generate a surplus of emission reductions that would later be sold. The Paris Agreement aims to set new carbon markets under its article 6.2 and 6.4. Drufrasne (2020) stresses the concerns regarding potential similarities of these markets with the ones from Kyoto protocol and the potential trading of carbon units among states under a bilateral agreement, leaving out any third objective party that could control the environmental quality of the traded units.

3) Equitable benefit sharing: In many cases, the real value of carbon credits is unknown to the local inhabitants, which is why communities often decide to settle down for wells or schools being built. There are also cases in which the government claims the majority of the monetary benefits based on land tenure rights, if not transferred to local communities (Interviewee 14).

The market type has a direct relation with the bottlenecks. The price and volatility originate partly from the lack of control over the number of available credits. Therefore, ETSs can be regulated in order to achieve a stable price and consequently be more appealing to investors. Moreover, offset markets could be combined with ETS in order to bring in carbon reduction units as a way to increase the available credits and control the price (Kettner et al., 2018). One last implication of the difference between ETS and voluntary markets is the environmental quality of the carbon units available in the market.

Within a voluntary market, there is no supranational central organization ensuring a sound certification scheme (Tazawa, 2020). Additional information on the carbon market and its contribution to global CO₂ reduction can be found in Box 1.

Shared bottlenecks

Local context

While each of the aforementioned business models discussed has its own bottlenecks that need to be taken into consideration, certain bottlenecks are inherently shared among all these models. For example, the local context is crucial, which was stressed by interviewees 3, 4, 7 and 14. In this regard, there is almost always a need to develop local capacities before a project can take off, as the capacities already present locally may not be sufficient or well-suited for the project to be implemented. Such capacities include financial, infrastructural, institutional, and informational capacities that are implicated across multiple stakeholders. More specifically, local smallholders may need to be acquainted with best practices and equipment, financial mechanisms and bank accounts, and more before they can be eligible to take part in the project. Meanwhile, investors and intermediary organisations will have to inform themselves about the landscape, available resources, and suitable projects to have a holistic overview before making an investment decision.

The legal framework and existing policies in the region of interest are also factors that determine how suitable the region is for a given project as these may either incentivise and support the project and stakeholders, or neglect and overlook their plans. Policies that subsidise unsustainable practices and promote deforestation will undoubtedly hamper investments. It is also necessary to ensure that the local communities are included and listened to, otherwise, the outcome would be counterproductive and inefficient.

Information asymmetry

Another bottleneck spanning across business models that we identified as being a major barrier in attracting private investments in the literature is the information asymmetry that exists between international investors and local stakeholders. This was also identified by several of our interviewees (4, 6 & 14). This information gap often makes projects become perceived as unbankable by investors, as they lack knowledge on the diversity of local context variables in practice (such as landscape diversity and local institutions). Moreover, investors prefer to have all the necessary information on a portfolio in a standardised manner to further reduce transaction costs. Therefore, it is necessary to approach landscapes as a whole to help overcome this problem. This is especially true for nascent projects that are yet to catch investors' attention.

For the proposal of a solution, all the different bottlenecks identified were taken into account, as well as the current efforts of the Ministry of Foreign Affairs in relation to forest conservation. Therefore, we regard it as a necessary and useful strategy for the Ministry of Foreign Affairs to use available resources in order to help reduce information asymmetry, which is one of the bottlenecks that does not seem to have been specifically targeted yet.

The proposed solution

The Ministry is already supporting a variety of funds and enablers that aim to facilitate private sector investments in forest conservation: the Dutch Fund for Climate and Development, the AGR13 Fund, the Green Climate Fund, the Global Environment Facility, the IDH Sustainable Trade Initiative, and Mobilising More 4 Climate. We believe 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 multistakeholder 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, which leaves a significant gap to be bridged between the global and local levels on which investors and smallholders operate.

We are aware that IDH is currently in the beta test phase of a similar data platform, SourceUp, which aims to increase the visibility of sustainable sourcing areas (see Box 2). However, we believe that a data platform that serves as a central information point for future private investors should, ideally, go further.

The Data Platform

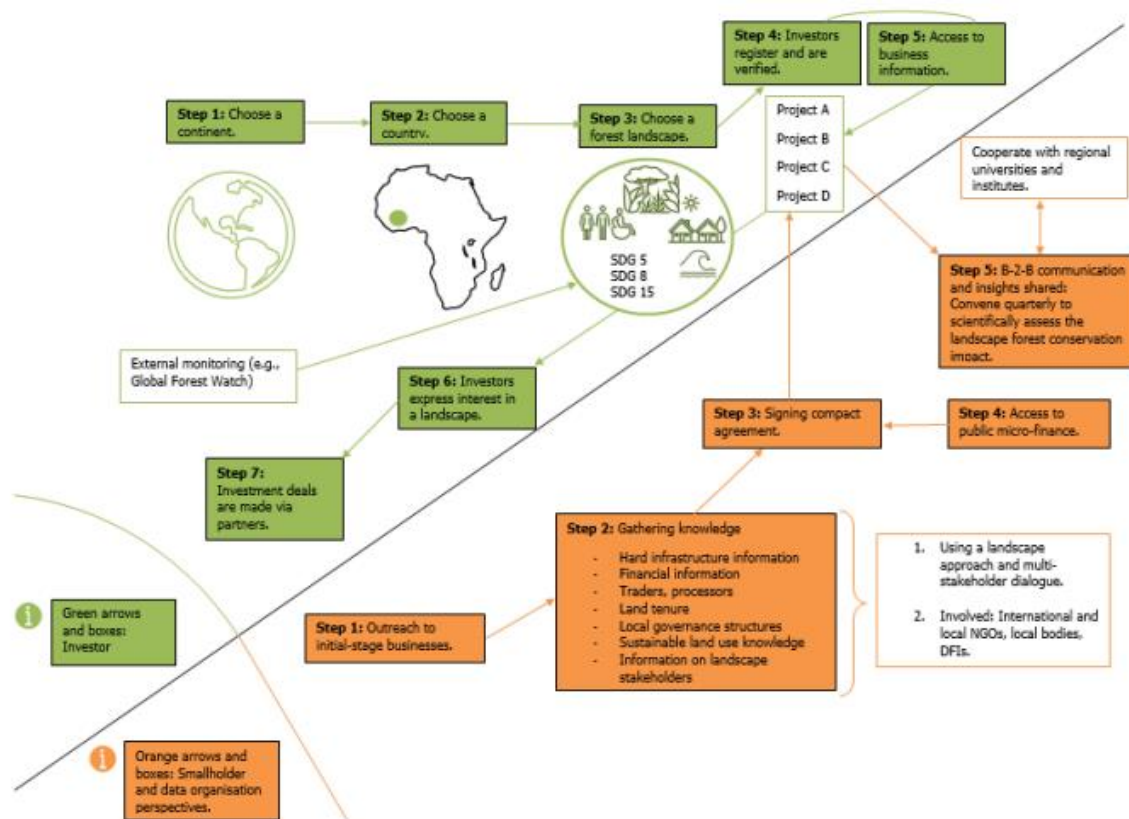
The data platform (see Figure 2 for a preliminary visualisation) should include a multi-source business model to make sure that the landscape-specific opportunities are combined and the risks and revenue streams for investors are distributed. Based on our research, carbon credits seem to complement sustainable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

Box 2: SourceUp

Drufrasne (2020) provides a critical view on the contribution of global carbon markets to overall CO₂ reduction, more specifically the one's product of the Kyoto Protocol, Clean Development Mechanism (CDM), Joint Implementation (JI) and international emission trading (IEM). The markets were set for countries to meet their carbon reduction targets through trading between countries and companies. He stresses the issue is the off-set nature of JI and CDM lacking a cap or limitations to the overall emissions. Moreover, he identifies the issue of double-counting and the intentionally set of low reduction targets in order to generate a surplus of emission reductions that would later be sold. The Paris Agreement aims to set new carbon markets under its article 6.2 and 6.4. Drufrasne (2020) stresses the concerns regarding potential similarities of these markets with the ones from Kyoto protocol and the potential trading of carbon units among states under a bilateral agreement, leaving out any third objective party that could control the environmental quality of the traded units.

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, interested investors can choose between 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.



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 the 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.



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. 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 facilitate knowledge exchange between the businesses in one landscape to propel best practices.



Regarding the information that we identified as attractive for global private sector finance, please consult Table 2. 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.

Table 2: Landscape-relevant Data Points to be Covered by a Centralised Information Platform for investors

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

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.

References

- Andrade, G. S. M., & Rhodes, J. R. (2012). Protected Areas and Local Communities: an Inevitable Partnership toward Successful Conservation Strategies? *Ecology and Society*, 17(4). <http://dx.doi.org/10.5751/ES-05216-170414>
- Blanco, J., Bellón, B., Fabricius, C., Roque, F. O., Pays, O., Laurent, F., ... Renaud, P. C. (2020). Interface processes between protected and unprotected areas: A global review and ways forward. *Global Change Biology*, 26(3), 1138–1154. <https://doi.org/10.1111/gcb.14865>
- Boley, B. B., & Green, G. T. (2016) Ecotourism and natural resource conservation: The ‘potential’ for a sustainable symbiotic relationship. *Journal of Ecotourism*, 15(1), 36-50. DOI: 10.1080/14724049.2015.1094080
- Börner, J., Wunder, S., Wertz-Kanounnikoff, S., Hyman, G., & Nascimento, N. (2014). Forest law enforcement in the Brazilian Amazon: Costs and income effects. *Global Environmental Change*, 29, 294-305. <https://doi.org/10.1016/j.gloenvcha.2014.04.021>
- Butler, R. (2012, 22 July). *Sustainable agricultural development in the tropics*. Mongabay. <https://rainforests.mongabay.com/1002.htm>
- Ceres (2019). *Investor Guide to Deforestation and Climate Change*. <https://www.ceres.org/resources/reports/investor-guide-deforestation-and-climate-change>
- Convergence.Finance. (n.d.). *Blended Finance*. <https://www.convergence.finance/blended-finance>
- Cumming, G. S., Allen, C. R., Ban, N. C., Biggs, D., Biggs, H. C., Cumming, D. H. M., & Schoon, M. (2015). Understanding protected area resilience: a multi-scale, social ecological approach. *Ecological Applications*, 25(2), 299–319. <https://doi.org/10.1890/13-2113.1>
- Delabre, I., Alexander, A., & Rodrigues, C. (2019). Strategies for tropical forest protection and sustainable supply chains: challenges and opportunities for alignment with the UN sustainable development goals. *Sustainability Science*, 15, 1637-1651. <https://doi.org/10.1007/s11625-019-00747-z>
- Denier, L., Scherr, S., Shames, S., Chatterton, P., Hovani, L., & Stam, N. (2015). *The Little Sustainable Landscapes Book*. Oxford. https://globalcanopy.org/wp-content/uploads/2021/01/GCP_LSLB_EN.pdf
- Development Financial Institutions. (2017). *DFI Working Group on Blended Concessional Finance for Private Sector Projects: summary report October*. <https://www.ifc.org/wps/wcm/connect/a8398ed6-55d0-4cc4-95aa>

[bcbabe39f79f/DFI+Blended+Concessional+Finance+for+Private+Sector+Operations_Summary+R....pdf?MOD=AJPERES&CVID=IYCLe0B](#)

- Dinerstein, E., Varma, K., Wikramanayake, E., Powell, G., Lumpkin, S., Naidoo, R., Korchinsky, M., & Joldersma, D. (2013). Enhancing conservation, ecosystem services, and local livelihoods through a wildlife premium mechanism. *Conservation Biology*, 27(1), 14-23. <https://doi.org/10.1111/j.1523-1739.2012.01959.x>
- Djenontin, I. N., Zulu, L. C., & Etongo, D. (2020). Ultimately, What is Forest Landscape Restoration in Practice? Embodiments in Sub-Saharan Africa and Implications for Future Design. *Environmental Management*. <https://doi.org/10.1007/s00267-020-01360-y>
- Drufrasne, G. (2020, 31 July). *Carbon markets 101 – the ultimate guide to global offsetting mechanisms* (Issue brief). <https://carbonmarketwatch.org/publications/carbon-markets-101-the-ultimate-guide-to-global-offsetting-mechanisms/>
- EU Energy Initiative Partnership Dialogue Facility. (n.d.). *About EUEI*. <http://www.euei.pdf.org/en/euei>
- FAO & Global Mechanism of the UNCCD. (2015). *Sustainable financing for forest and landscape restoration: Opportunities, challenges and the way forward*. Discussion paper. Rome
- FMO Entrepreneurial Development Bank. (2020, 29 June). *Blended finance vehicle AGRI3 officially launched*. <https://www.fmo.nl/news-detail/217bf27c-8c43-4253-a650-1b2fa91f721c/blended-finance-vehicle-agri3-officially-launched>
- Forest Carbon Partnership Facility (FCPF). (n.d.). *About the FCPF*. <https://www.forestcarbonpartnership.org/about>
- Global Environment Facility (GEF). (n.d.). *Forests*. <https://www.thegef.org/topics/forests>
- Global Forest Watch. (n.d.). Forest monitoring designed for action. <https://www.globalforestwatch.org/>
- Global Timber Forum (2019). *Unlocking sustainable tropical timber market growth through data*. <https://www.idhsustainabletrade.com/uploaded/2019/11/IDH Unlocking-sust-tropical-timber-market-growth-through-data.pdf>
- Green Climate Fund (GCF). (2019, 26 August). *United Kingdom pledges to double contribution to Green Climate Fund* [press release]. <https://www.greenclimate.fund/news/united-kingdom-pledges-double-contribution-green-climate-fund>
- Green Climate Fund (GCF). (June 2019). Accelerating REDD+ implementation. Green Climate Fund working paper No.2. <https://www.greenclimate.fund/sites/default/files/document/accelerating->

[redd implementation.pdf](#)

Guarnaschelli, S., Limketkai, B., & Vandeputte, P. (2018). *Financing sustainable land use: Unlocking business opportunities in sustainable land use with blended finance*. KOIS Invest. <https://koisinvest.com/wp-content/uploads/2020/04/Financing-sustainable-land-use-report.pdf>

Hamrick, K. (2017, 11 January). State of private investment in conservation 2016. Forest Trends. <https://www.forest-trends.org/publications/state-of-private-investment-inconservation-2016/>

Havemann, T., Negra, C., & Werneck, F. (2020). Blended finance for agriculture: exploring the constraints and possibilities of combining financial instruments for sustainable transitions. *Agriculture and Human Values*, 37, 1281–1292. <https://doi.org/10.1007/s10460-020-10131-8>

Hora, B. (2018). Private Protection Initiatives in Mountain Areas of Southern Chile and Their Perceived Impact on Local Development—The Case of Pumalín Park. *Sustainability*, 10(5), 1-22. <https://doi.org/10.3390/su10051584>

Kettner, C., Kletzan-slamanig, D., Köppl, A., Schinko, T., & Türk, A. (2011). Price volatility in carbon markets – Why it matters and how it can be managed? [working paper]. https://www.researchgate.net/publication/267642278_Price_volatility_in_carbon_markets_-_Why_it_matters_and_how_it_can_be_managed

Kiss, A. (2004). Is community-based ecotourism a good use of biodiversity conservation funds?. *Trends in ecology & evolution*, 19(5), 232-237. <https://doi.org/10.1016/j.tree.2004.03.010>

Maekawa, M., Lanjouw, A., Rutagarama, E., & Sharp, D. (2013). Mountain gorilla tourism generating wealth and peace in post-conflict Rwanda. *Natural Resources Forum*, 37, 127-137

Masiero, M., Pettenella, D., Boscolo, M., Barua, S.K, Animon, I., & Matta, J.R. (2019). *Valuing forest ecosystem services: a training manual for planners and project developers*. Forestry Working Paper No. 11. Rome, FAO. 216 pp. Licence: CC BY NC-SA 3.0 IGO. <http://www.fao.org/3/ca2886en/CA2886EN.pdf>

Newton, P., Agrawal, A., & Wollenberg, L. (2013). Enhancing the sustainability of commodity supply chains in tropical forest and agricultural landscapes. *Global Environmental Change*, 23(6), 1761-1772. <http://dx.doi.org/10.1016/j.gloenvcha.2013.08.004>

Observatory of Economic Complexity (n.d.^a). *Brazil*. <https://oec.world/en/profile/country/bra>

Observatory of Economic Complexity (n.d.^b). *Indonesia*. <https://oec.world/en/profile/country/idn>

OECD. (n.d). *Blended finance: Bridging the sustainable development finance gap*.

- <https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/Blended-Finance-Bridging-SDG-Gap.pdf>
- Price, C. (2014). Regulating and supporting services and disservices: Customary approaches to valuation, and a few surprising case-study results. *New Zealand Journal of Forestry Science*, 44(Suppl 1), 1-10. DOI: 10.1186/1179-5395-44-S1-S5
- Reed, J., Vianen, J. V., Deakin, E. L., Barlow, J., & Sunderland, T. (2016). Integrated landscape approaches to managing social and environmental issues in the tropics: Learning from the past to guide the future. *Global Change Biology*, 22(7), 2540- 2554. <https://doi.org/10.1111/gcb.13284>
- Robbins, M. M., Gray, M., Fawcett, K. A., Nutter, F. B., Uwingeli, P., Mburanumwe, I., ..., & Robbins, A. M. (2011). Extreme conservation leads to recovery of the Virunga mountain gorillas. *PLoS ONE*, 6(6), e19788. doi: 10.1371/journal.pone.0019788
- Robinson, B. E., Holland, M. B., & Naughton-Treves, L. (2014). Does secure land tenure save forests? A meta-analysis of the relationship between land tenure and tropical deforestation. *Global Environmental Change*, 29, 281-293. <https://doi.org/10.1016/j.gloenvcha.2013.05.012>
- Rode, J., Pinzon, A., Stabile, M., Pirker, J., Bauch, S., Iribarrem, A., & Wittmer, H. (2019). Why 'blended finance' could help transitions to sustainable landscapes: Lessons from the Unlocking Forest Finance project. *Ecosystem Services*, 37, 1-10. <https://doi.org/10.1016/j.ecoser.2019.100917>
- Ros-Tonen, M. A. F. (2012). The role of non-timber forest products in sustainable tropical forest management. *Holz als Roh- und Werkstoff*, 58(3), 196-201. <https://doi.org/10.1007/s001070050413>
- Sabuhoro, E., Wright, B., Munanra, I. E., Nyakabwa, I. N., & Nibigira, C. (2017). The potential of ecotourism opportunities to generate support for mountain gorilla conservation among local communities neighboring Volcanoes National Park in Rwanda. *Journal of Ecotourism*. DOI: 10.1080/14724049.2017.1280043
- Schweizer D, Meli P, Brancalion PHS y Guariguata MR. (2018). Oportunidades y desafíos para la gobernanza de la restauración del paisaje forestal en América Latina. Documentos Ocasionales 182. Bogor, Indonesia: CIFOR. <https://doi.org/10.17528/cifor/006787>
- SourceUp. (2021). A new solution for supply chain sustainability & landscapes initiatives. <https://documentcloud.adobe.com/link/track?uri=urn%3Aaaid%3Aascds%3AUS%3A89c08fe0-d274-4ea0-9d76-a0484b12cf1d#pageNum=1>
- Spolar, C., Matthias, S., Ryan, O., & Li, C. (2016, 1 March). The great land rush: Indonesia: saving the earth. *Financial Times*. <https://ig.ft.com/sites/land-rush-investment/indonesia/>
- Stem, C. J., Lassoie, J. P., Lee, D. R., & Deshler, D. J. (2003). How 'eco' is ecotourism? A comparative case study of ecotourism in Costa Rica. *Journal of sustainable tourism*, 11(4), 322-347. <https://doi.org/10.1080/09669580308667210>
- Summerville, M. S. (2013). *Land tenure and REDD+ risks to property rights and opportunities for economic growth*. USAID. <https://www.land-links.org/wp-content/uploads/2016/09/Land-Tenure-and-REDD.pdf>
- Tazawa, M. (2020). An investment premier for reforestation [PDF]. New York: Creo Syndicate.
- UNEP (2019). *Financing sustainable land use*.

<https://wedocs.unep.org/bitstream/handle/20.500.11822/31216/FSLU.pdf?sequence=1&isAllowed=y>

- Waage, S., Bracer, C., & Inbar, M. (2008). *Payment for ecosystem services: Getting started: A primer*. S.I.: Katoomba Group.
- Wang, P., & Wolf, S. A. (2019). A targeted approach to payments for ecosystem services. *Global Ecology and Conservation*, 17, 1-7.
<https://doi.org/10.1016/j.gecco.2019.e00577>
- Ward, M., & Weaver, S.A. (2008). *The Leader's Guide to International Emissions Trading and Carbon Markets*. The Climate Group, London.
- Wearing, S., McDonald, M., Schweinsberg, S., Chatterton, P., & Bainbridge, T. (2020). Exploring tripartite praxis for the REDD+ forest climate change initiative through community based ecotourism. *Journal of Sustainable Tourism*, 28(3), 377-393.
<https://doi.org/10.1080/09669582.2019.1676251>
- World Bank. (2019). *Innovative finance solutions for climate-smart infrastructure: new perspectives on results-based blended finance for cities*.
<https://openknowledge.worldbank.org/bitstream/handle/10986/32192/Innovative-Finance-Solutions-for-Climate-Smart-Infrastructure-New-Perspectives-on-Results-Based-Blended-Finance-for-Cities.pdf>
- Wunder, S., Engel, S., & Pagiola, S. (2008). Taking stock: A comparative analysis of payments for environmental services programs in developed and developing countries. *Ecological Economics*, 65(4), 834-852.
[Doi:10.1016/j.ecolecon.2008.03.010](https://doi.org/10.1016/j.ecolecon.2008.03.010)

Appendix 1 - Focus Group Participants

Focus Group 1 - 26 April 9:00 - 10:15

	Function	Organisation	Field
1	Green Finance Solution	NGO	Landscape
2	Cocoa Expert	NGO Cameroon	Landscape
3	Senior Investment Officer	European DFI	Investor
4	Environment Partnership Expert	Dutch Bank	Investor
5	Expert Green Finance	International Organisation	Policy
6	Conservation Director	NGO Congo	Project/landscape

Focus Group 2 - 30 April 9:00 - 10:15 9.

	Function	Organisation	Field
1	Investor Relations & Biodiversity	Dutch Impact Investor	Investor
2	Innovative Finance Expert	NGO	Landscape
3	Landscape Expert	NGO Indonesia	Landscape
4	Consultant Nature Based Solutions	International Consultant	Investor

Appendix 2 - Interview Summaries

Interviewee #1

The interviewee's organisation is exploring to what extent banks are conscious in their investment regarding climate-related risks. However, it is not sufficient to request investment in sustainable activities, or that enhance climate resilience. It is equally relevant to provide investors with different options. More specifically, bankable projects, which provide a stable cash flow. When investors assess different investment options, their concerns are from an array of dimensions such as financial (the balance sheet of the company, track record, current cash flow, prospects, whether or not there are other investors and existence of equity) but also related to the context such as political stability, land tenure rights in the area and environmental regulations. Additionally, local

context in the form of capacities, local support, and existent communities within a specific landscape are also relevant.

Departing from these concerns, the landscape approach allows us to map out potential threats and opportunities. Once they are identified and solved, the landscape is ready for the realization of projects and future investments. Consequently, the landscape approach can be understood as the first step in the project process. It is followed by the discover and structure project (phases 1 and 2) and finally phases 3, 4, 5. It is important to point out the lack of support for projects during phase 0, 1 and 2. In this regard, development banks come in at stage 3 by providing grants and phase 4 is the moment in which investors consider investing in the project. In this case, it has already proven to be bankable. This sequence denotes a lack of support for projects in their initial stage and a key process that is required to provide investors with investing options. In short, there is a lack of inventive capacity and possibilities to bring projects to a mature phase in which they are ready to receive investment. Additionally, finance could support projects during phases 1 and 2. Blended finance is abundant, but money needs to be proactively directed to phases 1 and 2, in order to develop a pipeline of bankable projects.

Carbon markets are an add-on to projects, in the sense that they do not provide sufficient cash flow. The reason for this is that prices are too low. However, waiting for a regulation of carbon markets that guarantee high prices, it could take 15 years. In this regard, the interviewee's organisation is developing the "science-based target initiative" in which companies whose emissions fall out of the 1,5 degrees objective defined in the Paris agreement, are encouraged to develop a plan to reduce their emissions. Once the costs of such plans are estimated, they could well opt for offsetting their emissions through carbon credits. However, a new and higher price could be set for the offset credits, being it higher than the current price but cheaper than the estimated costs in their emission reduction plan.

One important remark to be done regarding carbon credits, is the time between preparation, investment and plantation of trees up to the selling of the credits, which require to be certified, adding complexity and time requirement. Along this process, farmers or landowners will be deprived of income. Such a gap should be bridged to support carbon sequestration projects. In this regard, Rabobank is setting up a project to support farmers that must wait to perceive any kind of income from their carbon credits.

A potential approach that the think tank will recommend the Ministry is the creation of a socially just climate tax per household but especially also for large corporations. Such a tax would not be sufficient due to the size of the Netherlands and the current funding gap. However, stages 1 and 2 of future bankable projects require funding and it inevitably comes from public money. Therefore, such a tax could be of use to support projects in the initial stage. While acknowledging the need for action and a paradigm shift, the interviewee mentioned that monetising forest access is improbable to be implemented because of the social inequality preceding that.

Interviewee # 2

Bottom-up but multi-stakeholder approaches are useful because they take into consideration the local financial infrastructure. There are hardly any large-scale projects up to date which are 100% sustainable. However, if this will be the case in the future is unlikely because large-scale and sustainable are contradictory in itself. What is needed is money funnelled into local NGOs or funds that are aware of the local circumstances and know how to engage with smallholders. Furthermore, money is needed to cover smallholders in international blended finance projects because the private sector is insured by the funds (e.g., first-loss etc.), but smallholders are not because they do not meet the legal requirements and they are not an entity, for example, an association. Problems that smallholders face on the ground are among others 1) documentation

issues, 2) high interest rates and 3) payback periods are not feasible. Furthermore, the interviewee also stressed the issues with value chains of commodities that are linked to deforestation such as palm oil or coffee. There are many more which can be found in the literature suggested by the interviewee. We might be able to get contacts with private sector investors soon.

Interviewee # 3

In the interview the following points were discussed:

- Finance needs to go green. Transitioning to green finance can be done by a system change; supporting the front runner, strategies on how to invest with a positive impact, and a fundamental paradigm change. The loss of biodiversity is currently within such a system change. Biodiversity, and forest conservation as a sub-topic, is on the agenda within several task force groups who consist of private and public organisations.

The climate niche is not as important as new financial methods. New financial methods are needed to assess investments, the traditional risk and return metrics are enough for forests. Future steps for the government might firstly include companies reporting ideas on how to reduce carbon and secondly, how to mitigate risks.

There seems to be a tension between traditional finance approaches and the landscape approach. The integrated landscape approach is necessary to focus on each ecosystem. On one hand, standardisation cannot be done for forests, on the other hand, standardisation is desired in ordinary finance practices. Collaboration and experimenting are necessary to solve this issue. But also traditional finance needs to cross the bridge, they cannot just wait for the other side to only move. The economy must be transformed to an economy of place. Moreover, separation of ecosystems is not working out for climate-related matters. The transition costs are high for integrated climate financing, but the product might be of better quality and thus higher cash flow streams will be achieved. A landscape approach bundles and integrates investments and the result are reduced risks.

Blended finance is not the only solution to the problem. In regard to financing, ABN AMRO and Triodos are front runners which are inclined to commit to long term investing. In the case of the government, it is needed to put forests higher on the agenda.

For us to make an impact, we need to make sure that we identify who can bring our work further. This means also putting effort in the process of bringing further our research ideas and not only putting effort in the best possible content.

Interviewee # 4

In the interview we have discussed the following points:

Landscape Governance. There is a difference between substance and process. For a successful landscape approach, you need a sound process that will lead to appropriate substantial outcomes. However, firstly you need the technical capabilities within the landscape, to then deliver more effective governance. With substance, I meant the different functions of landscapes, and the goods and services that they provide. You can design a fair and transparent governance process, but you also need to know what a landscape has to 'offer', and what its carrying capacity implies in terms of production, consumption and production. This means that 'just' a multi-stakeholder process is not enough, as you need to know what is 'at stake'.

Role of Policy. There is an important role for policy, most important is to prove that they do not hamper like they sometimes do now. An example of this is a project in Indonesia for palm oil. The company beautifully produced sustainable palm oil, but due to concession regulation in Indonesia, the company was not allowed to set up this idea. This was due to the fact that the government forced concession takers to exploit most of their concessional land, which the sustainable palm oil company didn't want. Well, the policy was well designed as it helped solving the problem of land speculation and land grab. But it is just not ideal for new ideas of integrated or multifunctional production models which are more sustainable than the original monoculture model.

The landscape as a business model. Landscapes could be combined to a business model, but it should not be the starting point. The starting point of a landscape should be the people who live there, the original stakeholders. The goal should be to develop the landscape and its inhabitants and this can't be solely done by creating a business case. This clearly results in conflicts of interest. Not all aspects of a landscape have a direct monetary value. One landscape provides multiple goods and services (food, commodities, carbon sink, tourism, etc.). Usually, a business model is focused on the development of one product only. However sustainable this can be, it may not be good for the landscape in its totality. A business model based on multiple goods and services may be more difficult to organise (and finance), but be more sustainable in the long run, as it responds to multiple demands (production, consumption, protection).

The role of Investors. How can you invest in forests? Only carbon credits? Timber? NTFP? You need a more landscape approach to make it also interesting from an investment profile. Not everything within this approach is scalable or transferable. Investors often have a lack of local capabilities, they do not have enough knowledge of the local perspective and of the local interests. Local players often see investors as a threat. To make it happen, investors also need to develop capabilities, which implies deep knowledge of the landscape.

Blended Finance. The last years blended finance has been on the rise. Blended finance can make a lot of sense and can help in dealing with the problems of the 21st century. However, do public and private finance have to marry all the time? The risk of blended finance structures is that the public money takes away all the risk for private investors. During times of high market distress, like the GFC, we see that private investors are willing to invest in land.

Creating a blueprint. It is not realistic to create a standard blueprint for investing in landscapes. But it's possible to create a blueprint for how to invest in every landscape. In this way, the uniqueness of every landscape is taken into account while creating a kind of standardised framework to ease investments. This could include the following steps:

- 1) Know your area (local population, landscape characteristics, socio-economic indicators, etc.).
- 2) Get actors together (societal dialogue, stakeholder engagement)
- 3) Have a critical look at the framework with all the actors the institutions (rules, laws, policies, markets,)
- 4) Make an economic analysis of the landscape as a whole
- 5) Develop business designs.
- 6) Just do it. Haha, yes indeed, maybe some management plans would help here... ;)

Message to the ministry: Blended Finance is very useful, but not the solution to everything. Are there better ways of achieving the goal than blended finance? Highlight the role of the local interests.

Interviewee #5

Agriculture is both a driver and a solution to deforestation. In this regard, it is important to define deforestation. It should be understood as the change of native vegetation and not only the destruction of forests. Soy is currently not a driver of deforestation. In any case, deforestation occurs because of illegal land grabbing, people selling land with no registry to farmers who clear it. This could be avoided by setting up official conservation or indigenous territories. Another important element to avoid deforestation is the legal framework. In Brazil, for example, landowners are allowed to clear 80% of their land. Therefore, one could consider this legal deforestation. Since national laws cannot be immediately changed, the only way to get landowners to operate even beyond legal requirements is by paying a premium. Similarly, making use of carbon credits is a good idea. However, the trading of the credits should be done by the landowner and not between countries. In this way, it would represent an additional incentive to landowners to operate sustainably. In short, it is important to include local communities and cooperatives to be part of the solution and to perceive their livelihoods enhanced. Otherwise, relying on setting up conservation areas alone is not enough.

To include the local population, technical assistance is also an important aspect. The assistance should be oriented to achieve new agricultural practices and also support farmers to receive loans. In this regard, farmers often lack bank accounts and collaterals, making it not feasible to receive loans from private banks. Additionally, the landscape approach and changes in governance are needed to achieve a long-term solution. These changes must be accompanied by governments and their view for the different regions. Lastly, the transition should be approached with a win-win mindset. In this way, it is possible to scale up the solutions.

Interviewee # 6

The main points we have discussed include the following:

- Blended finance is an important tool for catalysing private finance, but current deployment rate is too slow. Typical investment funds are between 100- 200\$ Million, and such funds need large investment opportunities (5-10 mio). Currently, investment opportunities at this scale are scarce, there are many smaller projects but need to be aggregated/scaled up. So currently biggest opportunity is to focus on creating a highly impactful investible project pipeline.
- Additionally, nature has to be addressed as a whole. In the biodiversity crisis, it became clear that not every carbon has a positive effect on combating climate change. In regard to investing, big companies, like Allianz & L'Oreal are driving the market.
- Financial investors require double-digit returns, typically are shorter time horizon while nature-based solutions require longer tenor 10-15 years at least and more patient capital. Companies like L'Oreal entering the impact investment space can provide more suitable patient capital for these earlier stage investments with an impact first approach. In France, the requirement on climate risk reporting has made banks move faster than their peers in other countries. What is important to grow the market is to move from grant-based NGO approach towards private sector-driven projects, social enterprises, commercial approach etc.
- Revenue streams include Carbon credits, Coffee (Peru), Brazil (beef), Guatemala (pepper, etc.). In the case that revenue streams underperform, carbon can 'subsidise' ie. Help smoothing the J curve. Carbon credits can provide a more stable revenue stream than agro produce however is subject to more volatile market risk (prices have been very low historically) than other revenue

streams. Typically large scale Restoration projects have taken a commodity-based approach (Timber, Bamboo) where carbon can provide an upside but with higher carbon prices pure ecosystem-based restoration will also become more common. Beyond carbon, in the future other revenue streams can be created such as biodiversity payments or watershed payments etc.

- Guatemala used a bottom-up approach which worked quite well. FCPF is a top-down approach and the challenge is to merge this with the bottom-up approach. Brazil is a harder country to invest in due to higher risk (political, currency etc).

- Even though carbon is a good market there are necessary improvements: it needs to be professionalised and further regulated, current work on this is in progress.

- A landscape approach is good to put a price on the forest and find areas of investment. However, a landscape is not an investment opportunity, investors need projects to invest in with clear business models (i.e., revenue streams that can generate return on investments).

- What is needed from the government is deploying money quicker (e.g., for the blended finance model), as the next decade up to 2030 will be a critical period for forests. Reducing deforestation should be a priority while restoration should not blindly focus on tree planting but consider natural regeneration and should take a scientific approach to ensure both carbon and biodiversity outcomes are optimised. COVID showed that forests are not as high on the agendas as they should be. It is crucial that the private sector helps out and commits to their promise, as well as governments have to take action.

Interviewee #7

The business case for forest conservation identified in the inception report takes into account mainly economic values (ie: Profit, investment return). However, other elements could also be considered as part of the benefits of a business model, for example, public image of investors or even as a hedge against inflation, even if it does not provide a high return rate. Regarding the potential of business models for forest conservation, afforestation is a good business opportunity, which has shown to be increasing (referring to deteriorated landscapes in which agriculture is not a possible land use- Commonland foundation, Land Life Company).

Two elements are important for a business model and conservation practices, these are clear land tenure and local community involvement. To achieve clear land tenure, policies play an important role, and they can also help to create a market for possible products derived from forest conservation. Regarding local involvement, it has been shown that when local individuals are excluded and their access to natural resources prohibited, it can decrease local support.

Conservation can be combined with ecotourism, which has shown to be a good support for conservation activities. Good examples of this combination are DRC, Ruanda and Costa Rica. Furthermore, conservation can be combined with other land uses (land sharing) when the land extension is not too big. There can also be a transition area between conservation and the other activities. However, when land extension is vast, it does not mean that strict conservation should not be carried out.

One common element of forest conservation is forest management, and it should be understood as a practice-oriented towards achieving a specific goal (i.e.: carbon sequestration).

Interviewee #8

In the interview we have identified the following main points:

- Position of the DFI. The DFI as an organisation is different from the Ministry of Foreign Affairs or the World Bank and has a different mandate and task. As the Dutch national development bank, the DFI invests in private sector initiatives focused on reaching certain sustainable development goals. SDG number 13, which is directly focused on the goal of forest conservation, is a main goal for the DFI. The World Bank can also invest in public actors, such as governments and local regions.
- Forestry at the DFI. The DFI has a negative emission strategy for their investment portfolio. This requires carbon sequestration, which means that investments are made with aim to decarbonise the air. Therefore, the DFI aims to invest in both reforestation projects (for sequestration) as forest conservation projects (for net zero emission ambition).
- Blended Finance in forestry. Currently, the DFI and the Dutch government interact in blended finance structures. In these structures, the Dutch government provides the public money, and the DFI provides the private investments. Although these blended finance initiatives exist, the current problem in conservation is the business case, how can forests return money? Currently, carbon credits are an important option for forestry projects to generate cash flow, but there is no general framework for carbon credits. The carbon market needs to develop in some kind of formal market in which carbon credits can be traded on an exchange. Supplementary to carbon credits, a form of sustainable commodity production could work, however, this business case is difficult in the tropics, due to high costs (transportation, quality).
- The role of the private sector, the role of the private sector up until today is relatively limited. This is due to the fact that the current risk-return profile in a lot of forestry projects, especially in the tropics, is unfavourable. In Europe, we see some traditional private sector investors, but this is due to a long tradition of relative success and the low risk of their investment in European forestry projects. In forestry projects in the tropics, we see very high risks like political, project and currency risks, which make the already low internal rate of return not worth investing for private investors. These projects are vulnerable and could be abandoned if one mistake is made in this regard. We, therefore, have to make the forest conservation projects financially viable. Blended Finance can be used to take away some risks, but tropical forestry will not create a high IRR. And we should not forget that private investors themselves have to deal with regulation and their fiduciary duty. There should be some form of negative emission portfolio ambition at the private sector to invest in forestry.
- Blending. There are a lot of different ways to implement blended finance, different methods and different instruments exist. The DFI participates mainly in blended finance funds. But the blending isn't only focused on finance, a lot of different aspects can (and should) be blended, like knowledge, to integrate the local stakeholders. What is the most successful blended finance instrument?
- Need for change. The Dutch government has focused on forest conservation so far, based on the motivation that a lot of rainforest is still existing. It's important to understand that the time to deal with forest conservation is limited and action is needed. This also requires another approach; we should ask ourselves the question what the costs of are of investing today compared to the costs of investing within 10 years. Investing now is cheaper than tomorrow. The same counts for our current idea of landscapes. We currently have a high 'intrinsic' value of forestry, but this is not expressed in a monetary value. The public sector has to think about how they can deal with this issue. A carbon tax would help be a good step but is difficult to achieve. People get excited about forestry but no personal involvement. Make a connection between the people and the goals that are actually tangible/visible.
- Advice for the government, the current budget is relatively low. In general, two approaches exist, or to diversify this money and contribute to some more projects. Or to choose to go fully for one project, an example could be a REDD+ project in Suriname, this project has the potential to reduce 5 million tonnes of CO₂ per year. Here they certify emission reductions and sell to big companies. This could be a role model of a viable project financially. Furthermore, the

government needs to focus on awareness creation and to create a longer-term view on the topic of forest conservation.

Interviewee #9

During the interview we have discussed the following main points:

- Banks can be part of the deforestation challenge, but they can also be part of the solution. For the food system transition, there is roughly a founding gap in which banks cannot help out, funds are needed to accelerate investments in these years. The AGR13 fund has the goal to bridge this gap and therefore cover some risk for the bank.
- At this moment, proof of concept is needed to find out best practices. However, the private sector is not the answer when looking for proof of concept, as they are faced with a lot of external forces. These are strict regulation, expectations from shareholders, fiduciary duties and responsibilities to shareholders.
- Moreover, there need to be communications to find out how blended finance is defined. There is a mutual misunderstanding between public and private, but organisations such as Convergence try to dissolve this misunderstanding with a safe ground that is open for information.
- Within the bank, blended finance is a new concept. To achieve more investments, change management and the right leadership is necessary. This shift is for a bank and demands organizational development. To make the change to blended finance and impact finance it is needed to raise those two concepts to awareness. This can be achieved through frequent conversations and open communication from leaders.
- Investing in landscape works well when organisations such as IDH are integrated into the process. The technical assistance from IDH increases the data stream, which is needed for the SDGs. Data, especially technical agroforestry data is needed to simplify transactions. That's why the database of Convergence is very good. From a private investor's perspective, it is needed to ease donor processes and to simplify them.
- The Dutch government has to communicate externally and internally. Blended finance will become a bigger concept in the future and public and private need to build a long-term partnership.

Interviewee #10

A (relatively) successful case study: An example of a project that has generated a positive impact on a large area is carried out by Royal Lestari Utama (RLU) in Jambi Province in Indonesia. The bond for the sustainable rubber plantations that RLU manages was issued by the Tropical Landscape Finance Facility. When it comes to creating a business case such as this one, it is important to directly integrate environmental and social goals in the cash flow model, otherwise, it can be difficult to see the impacts that you want to achieve.

What is the role of public policies? A good example of what they can achieve is the energy transition in Germany. Through stable and guaranteed feed-in tariffs, it succeeded in nudging big private investors in renewable energy. Compared to the stable feed-in tariff set by the German government, the carbon credits are too low sometimes and volatile. Therefore, investors cannot do a long-term projection. Ideally, the carbon market should be regulated and prices should be guaranteed in the long term. Another reason why policies are relevant is that national governments often subsidise unsustainable practices, leaving no legal requirements or pressure

for investors to make a transition to more sustainable practices. Governments, therefore, have a responsibility to formulate a vision about what they wish to achieve in a particular jurisdiction with respect to conservation and job creation, and to involve the economic sector with the right type of incentives, as well as NGOs (i.e., they should adopt a jurisdictional or even state-wide approach). Blended finance: the main problems with carbon and blended finance are the transaction costs and the amount of time it requires to be arranged, considering the involvement of all the different parties. This was also shown in the project in Jambi province. Something that we should keep in mind with respect to the other business models is that sustainable commodity production focuses on a real asset (product) but PES and ecotourism are completely different, and these sectors are mostly donor-driven. It is correct that blended finance tends to reach bigger projects and not smallholders. The reason for this is the financial capacity or banking arrangements of smallholders, who often lack a bank account and credit scores. Financing smallholders will always have to be done via a bigger intermediary, but it could be an option to request this intermediary to finance a minimum number of smallholders.

Multinational companies: Companies tend to invest in standard options, that is in specialised funds - the landscape approach is much more complex and still very far off from their usual practices. They might aim to invest with ESG (environmental, social, governance) factors in mind but the motivation to really achieve an impact in this regard is still rather low. The desire to have a positive public image might be there in some instances, but many times a mindset of "if I cannot monetise it, why do it?" still prevails. If there are regulations, for example - mandatory disclosure on climate-related risks and reporting on KPIs (Key Performance Indicators) in this respect - company practices might change.

Interviewee #11

Green finance is a term that is used to describe a variety of investments - the term conservation finance more accurately captures the financing of intact ecosystems. But in order to attract investors, you need to have clear business cases, and these need to be translated into investment cases. This works well for sustainable agriculture, but it is more difficult for the conservation of intact forests. The capacity of smallholders to build their business case needs to be strengthened and the issue of land tenure should be addressed in order to attract investments. Some smallholders would actually be 'investable' but it is challenging to know who is and who is not. Data collection and analysis systems that include details about the smallholders could potentially be helpful in this regard. Another way in which finance for smallholders can be attracted is through carbon credits: many companies are interested in it and it can serve as a trigger for further investments because it gives the investors some degree of confidence. Governments should collaborate more in this regard and stimulate the buying of carbon credits in the tropics. Ecotourism is also a revenue stream that is often talked about as an investment opportunity for conservation, but it is not a typical domain for blended finance. Here the finance is not invested in nature itself but rather hotels or hunting properties.

In general, governance in tropical landscapes is weak and official development assistance (ODA) in the form of grants could strengthen the rule of law. It's crucial that the private sector comes up with more ambitious targets, for example by having a certain quota of projects in their investment portfolio that will have a high return on nature but a lower financial return. However, unless there are fiscal incentives and disincentives (for example higher taxes on products with high energy intensity) it is difficult to achieve this. Governments can create tools to influence the market but taxes don't necessarily represent a popular topic among politicians. Finally, the interviewee also mentioned that investing in forest restoration is easier than investing in conservation. Until now, however, the tenures of funds for forest restoration are too short. Dedicated funds with longer payback schemes could therefore generate more investments from the private sector.

Interviewee #12

The interviewee has not come across any business case in forest conservation that has been shown to be financially self-sustaining, supporting our previous findings. One of our main takeaways from the interview is: don't underestimate the political and economic situation of the country. In the talk with the interviewee, we gained interesting insights. Corruption disables action being taken and legally, the forests belong to the government [A1] until the land tenure is transferred to local communities. It would be easier if the government would take care of the REDD+ projects and everything else, but the problem is that the motivation to do so is not intrinsic; it comes from international stakeholders (governments, NGOs etc).

Secondly, the interviewee expressed her concern about the palm oil industry that is being rehabilitated. On the one hand, this offers jobs and opportunities to improve the infrastructure of the country from which also REDD+ projects could benefit. On the other hand, this also would lead to intact and untouched forest becoming more reachable, potentially triggering more deforestation. In order for REDD+ projects to work, structural obstacles need to be removed and the economy needs to become corruption-free (especially in the charcoal sector a lot of deals happen under the table with politicians involved) and also there need to be clear regulations for businesses as well as effective law enforcement to honour these regulations.

Furthermore, when discussing revenue streams from carbon credits she was highly concerned that the monetary benefits do not reach the communities in which the project is being carried out. For example, in a project in Madagascar, the national government claimed 27% of all carbon revenues from a forest conservation/restoration carbon project but did not contribute. In a carbon project in DRC, the provincial government receives 65% of all carbon revenues, with the intention (to date, not realized) of funding additional climate mitigation projects. (The concern is that there is limited oversight of how the provincial government will disburse the funds, if they ever do so.) The remaining 35% went to external carbon specialists responsible for the calculations, project design and registration etc. The non-existing knowledge and expertise (relative to conservation and climate mitigation) of politicians and governors in power is also one of the reasons why things stagnate in the DRC at the moment. Apart from that, the interviewee pointed out that there is a huge (negotiation, knowledge) power imbalance between the stakeholders involved in the project. Tension arises when communities have specific needs, so not satisfied with schools or wells being built. Often local communities have no clue what carbon credits are actually worth which begs the question: are we offering what's fair and do we have truly equitable carbon credit REDD+'s? What we need to understand is: it's not only about the ground level not being able or ready to receive aid (whatever form it may take), but there is money behind everything and sometimes concessions for REDD+ projects are being delayed purposefully due to international pressure from, for example, fossil fuel industries.

Rather than taking high risks in LDCs and providing high risk-low return business/investment cases, the MoFA could try to tackle the issues through EU law. By making the European commodity market deforestation-free or come up with well-thought and effective certifying mechanisms could not only help to conserve the forest but would also yield attraction from international corporations and governments in LDCs such as the DRC. However, this intervention would also lead export markets to extinction as there are very few commercial enterprises (forestry, commodity crops) that are certified under standards (like FSC, RSPO) in the DRC. This is because certification generally does not enable companies to get a better price for their products, and certification costs including auditing, ongoing training, etc are very high. Also, in DRC, certified companies may pay higher taxes than their competitors, who may be operating "under the radar" of government.

Another interesting note by the interviewee: forests that are not under immediate threat don't qualify for forest conservation projects (carbon financing): problem: intact forests are not financially worth anything. There are not enough ecotourists in the world to make forest

conservation work. N.B. nobody pays for the ecosystem services that intact forests provide which benefit the whole planet.

Interviewee #13

The interviewee clarified that all of the following information is only applicable to the Central African rainforest. The main drivers of deforestation in Central Africa are geographically dispersed subsistence farmers who cultivate a slash- and burn agriculture. Regarding solutions from the private sector, the interviewee mentioned that for example, the FMO could commit to a joint task force at CAFI as a private sector specialist to identify de-risking tools and other reform programmes. Apart from a facilitator (e.g. institutions that do screenings in the field and identify/sketch potential capacities/legal interventions), incubator (institutions that empower local start-ups and sustainably mobilise cognitive/monetary capital in the region), accelerator (embed already functioning SMEs into sustainable forest initiatives) approach, the interviewee also mentioned that economies at large need to be transformed into corruption- and deforestation-free systems together with private and public sector actors. There are several bottlenecks to be ruled out: business environment, developing financial de-risking instruments, bankable projects etc. Attenuating these issues should be done by a concomitant intervention, thus not focussing on one bottleneck only.

Interviewee #14

PAs are rather inefficient, as the Guatemala example showed. Investing in landscapes is too vague, which is why many projects are on a company level. Good governance is quintessential to forest conservation projects to protect the contract terms. Standards or commitments could help for companies to pursue a more sustainable course or shareholders within the supply chain of big global players demand more sustainability (maybe it would be smarter to tackle shareholders of large businesses then? Companies generally care a great deal about what their shareholders have to say because they basically constitute the company and often have seats in the executive board. So, by designing a policy aimed at them, big players might be reached too...). The welfare of locals is important: unless they do not have an income source, the pressure on forests will not be relieved. The blended finance (BF) funds supported by the Dutch government often require projects with a large size and scale which is too costly for the vast majority and also the projects need to meet a lot of criteria which implies that there are very few local projects because the money needed to even get fund-worthy project often then stems from large companies; thus smaller projects do not stand a chance to get BF funding. This means that at the moment, projects that do get BF are from a small group of companies that virtually possess a market monopoly -> there is need for diversification -> investors need to be locally based, not internationally. The blended finance agenda will need more local vehicles (local currency, PPIC, connected to local agenda and sectors, investing in local policy priorities, additional grants on the ground (i.e., in the field). NDCs (nationally determined contributions) are, for example, to reduce smallholder emissions and development plans to combat land degradation, but they're different from the investment world. An emerging question: is it possible to connect NDCs with the investment world? The land degradation neutrality fund has case studies for portfolio investments. When choosing our case study we should check what really is driving the deforestation in that area (e.g. informal sector (smallholders) vs. private sector (companies)). Something that emerged during the webinar on blended finance: there are several definitions: we should be clear on how we define blended finance, not only forest conservation!

Interviewee #15

Our main takeaways from the interview are as follows. When we talk about 'private sector engagement' in forest conservation, it is important to keep in mind that the private sector consists of a very broad range of stakeholders, from supply chain business to insurances and impact funds, and these actors will not all have the same risk perceptions. Under the results-based finance structure of the FCPF, there are different types of rewards that private actors can obtain: a share of the revenue that is generated by a particular country's emission reduction system; indirect benefits through the improvement of legislations and regulations; and other rewards such as the opportunity to 'brand' their investment as part of their CSR (corporate social responsibility) endeavours. With regard to improving regulations, national policies that target the issue of boundaries can be effective to attract investors, since it is key to clearly define areas of land (e.g., which area is a national park and which area is agroforest?). This also relates to creating trustworthiness of markets, which is deemed to be essential to attract private sector investors. In general, the private sector has been neglected for a while and most activities have been project-based - now the challenge is to 'nest' these under a jurisdictional approach. In addition, the aim of the climate group at the World Bank is to move away from a number of different small funds and to move towards a bigger 'umbrella fund', such as the Climate Emission Reduction Facility. With respect to the supposed negative impact on the livelihoods of local communities, Benefit Sharing Programmes need to be approved by all stakeholders involved before money can be distributed by the World Bank funds. The Benefit Sharing Mechanisms are very important, not only to attract investors but to ensure that local communities receive alternative sources of income when it is no longer possible for them to generate an income by means of their land. All programmes are also subject to a strict due diligence mechanism: if a community is negatively affected, projects will shut down in order to resolve these issues.

Interviewee #16

In general, most investments in forest conservation are allocated to developed regions, which is why this Dutch Impact Investor deliberately takes on more risks and invests in developing regions. They provide technical assistance (especially with regard to microfinance or monitoring of projects), seed finance and senior debt as de-risking tools. For developing regions, blended finance would be most helpful in the early stages, for example in the form of grants and first-loss structures in order to scale up small businesses. It is inevitable for the public sector to bear most of the risks in blended finance since this is the very reason why private actors can be attracted later on. Still, it can be extremely challenging to get commercial investors on board. DFIs clearly have a role to play in blended finance. However, in contrast to the FMO, Germany's KfW is, for example, more development- than commercially oriented. A direction that DFIs could take in blended finance is to offer bank-like products, meaning investment opportunities for 'normal' citizens rather than governments only. Generally speaking, the returns in the sustainable agriculture sector are not very large and when it comes to biodiversity impacts, ecotourism is also an attractive business model to conserve forest areas. In order for agriculture to become 'sustainable', the business needs to undergo numerous considerations to safeguard biodiversity. Moreover, in order to increase the income of smallholders and thereby reduce their need to clear forests, our interviewees saw most potential in supporting the growth of high-margin crops and offering opportunities for alternative incomes.