RESEARCH PROGRAM ON Forests, Trees and Agroforestry

Scaling of innovative finance for sustainable landscapes

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Draft for e-Dialogue

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FTA, CIFOR, TBI and GLF invite you to participate in a moderated e-Dialogue on the major issues being addressed in this document.

The result of the e-Dialogue will be summarized and further discussed with mainstream stakeholders in the field of inclusive finance for landscapes during the GLF Finance event in Luxemburg the 30th of November 2019 (https://events.globallandscapesforum.org/luxembourg-2019/).

The overall aim of this consultative process is to identify further research needs and formulate recommendations that in the medium to long term may lead to upscaling finance for sustainable and inclusive landscapes.

Led by: CIFOR In partnership with: Bioversity International, CATIE, cirad, INBAR, Tropenbos International, World Agroforestry

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Background

FTA has as one of its priorities to contribute to upscaling finance for sustainable landscape. For this purpose it has started with its partners CIFOR and Tropenbos International (TBI), and in collaboration with the Global Landscape Forum, a consultative process on identifying the main constraints and possible solutions to upscaling finance for sustainable landscapes.

As part of this process, a series of interviews was published (http://www.foreststreesagroforestry.org/publications/research-publication/?title=Summary-and-discussion--Inclusive-finance-interviews&id=86115366) and their outcome was discussed in a digital summit in which MIROVA, EcoTrust and FAO participated (https://www.youtube.com/watch?v=cfjqJ79xuOI). In addition, a literature study was performed on the existing documented experiences in finance for sustainable landscapes. These have now been incorporated into this draft document that is being made available for consultation to a wider public.

In this this document, FTA, CIFOR and Tropenbos International explore the barriers for finance to reach rural smallholders and SMEs as well as to contribute to greater sustainability and climate resilience in rural landscapes in low and middle-income countries. We describe how money flows into landscapes, identify what are the barriers for this finance to reach smallholders, SMEs and communities within those landscapes, and what additional conditions may influence the extent of positive impacts that finance that has flown into the landscape will achieve. We then discuss three innovations that were aimed at transforming conventional finance flows with many undesired environmental and social effects, into finance flows with increasingly better social and environmental impacts. And finally we ask the question of whether these innovations can address the issues that hamper scaling up of finance for sustainable landscapes.

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Executive summary

Agriculture, forestry and other land uses are central to the implementation of the sustainable development goals (SDGs). Smallholders play an important role in this: nearly 60% of food production is produced by smallholders (<20 ha) many of whom are vulnerable to climate change. Small and Medium Enterprises (SMEs) have an important role to play in making smallholder agriculture and forestry economically viable. Smallholders and SMEs are, therefore, essential actors in any strategy that aims at sustainability and climate resilience in landscapes. They need finance to be able to shift towards more sustainable practices. At the same time, less than 3% of climate and conservation finance is assigned to the Agriculture, Forestry and other Land Use (AFOLU) sector and only a small proportion of ODA and climate finance reaches smallholders and SMEs.

In this document we explore the barriers for finance to reach rural smallholders and SMEs as well as to contribute to greater sustainability and climate resilience in rural landscapes. We also look at whether three innovative finance initiatives that evolved to address some of these problems – blended finance, green bonds and crowdfunding - indeed help resolving them effectively. Through a consultative process we aim to increase our understanding, facilitate further dialogue between stakeholders, identify further research needs and formulate recommendations that in the medium to long term may lead to upscaling finance for sustainable and inclusive landscapes.

Landscapes are “place-based systems that result from interactions between people, land, institutions (…) and values” (Minang et al. 2014; p5). These interactions result in mosaics of land uses and ecosystem services that influence the livelihoods of the people and may change over time. **Sustainable and inclusive landscapes are** landscapes in which all stakeholders are engaged in the design and implementation of, and learning from, actions that increase the sustainability of that landscape. Finance flowing into such landscapes currently addresses mainly the needs for prime materials of large vertically integrated companies, including infrastructure for transport and processing plants. A growing proportion of these investments considers its impacts on the landscapes, social or environmental, but in spite of that, the reduction in deforestation and forest degradation rates, as well as in poverty, hunger and equity lag behind. Partially this is due to no or insufficient application of sustainability criteria in investment selection, partially and also to a lack of consideration of smallholder, SME and community initiatives. New ways have been developed to unlock funds towards investments that efficiently and effectively contribute to sustainability and inclusiveness - **innovative finance**. Of these, blended finance is the strategic use of public or philanthropic development capital for the mobilization of additional external private commercial finance for SDG-related investment; green bonds are a form of debt obligation that links the generated funds to climate or environmentally friendly investments; and crowdfunding is the pooling of small amounts of capital from a potentially large number of interested funders.

Two groups of barriers are identified that prevent large scale implementation of finance initiatives for sustainable and inclusive landscapes. The first is that smallholders and SMEs that want to implement sustainable practices encounter problems in accessing finance. On the other hand, the mechanisms or institutions that apply different financial instruments find it difficult to allocate money to smallholders and SMEs due to the relatively large transaction costs linked to addressing their needs. Thus there is a gap between demand and supply of finance for sustainable practices that needs to be bridged. Second, that even those financial flows that do go to SMEs may not achieve the expected contribution to the SDGs and inclusiveness due to factors that influence the sustainability of the practices. We found seven groups of factors that in different combinations may facilitate access by SMEs to financial instruments (the nature of financial instruments, financial literacy, aggregation of recipients, being part of social networks, appropriate policies and regulations, technological innovations

that facilitate physical access and being able to provide an own contribution to the needed funds), and seven factors that could affect positively or negatively the impact on sustainable and inclusive landscapes by the financed practices (organization of operations, smallholder risk management, knowledge and experience in particular land uses, climate, migration, land tenure security, and access to markets and natural resources).

Risk management warrants special consideration. High risk, in particular perceived risk, is a major limitation for investment in tropical landscapes. This can be reduced through different structures where public funds absorb part of the risks, for example, at the SME level by supporting crop diversification or crop insurance. Public funds may also support the investors, by for example providing 1st loss guarantees. Little has been documented on drivers for implementation of adequate risk strategies by SMEs in tropical landscapes, and studies of costs and benefits of such schemes are scarce.

Mobilizing innovative finance for sustainable and inclusive landscapes

Many investors consider that scaling finance for sustainable and inclusive landscapes is a matter of operational scale, risk, rate of return, and achieving a measurable impact. But these cannot be addressed by simply changing the financial system. Addressing these issues does not guarantee that impacts of investments reach people that can contribute most to achieving the SDGs and most need the finance. While blended finance, green bonds and crowdfunding offer more opportunities for sustainable and inclusive investments than the conventional mechanisms and instruments, they can only do so if enabling conditions are met that unlock finance for smallholders and communities, for instance by forming producer organisations providing scale. Conventional overseas development assistance, in coordination with national host governments, could address some of the conditions which go beyond the operational requirements of the investee, such as national policy and regulatory frameworks, strengthening human capital (skills and knowledge), and infrastructure needed for mobile finance. More needs to be invested into truly inclusive processes that help build trust between stakeholders and in forming producer organisations required for successful aggregation that leads to scale, greater cost-effectiveness and reduced risk. Adjusting the nature of financial instruments requires greater interactions between investors and potential investees to understand each other's realities. Adjustments to existing financial instruments can make these financial instruments more appropriate to the needs and conditions of local stakeholders, such as lower interest rates, flexible payback periods, and alternative requirements for proof of ownership.

Blended finance can create opportunities to address issues of aggregation, network strengthening and technological innovations. It also has the potential to address issues that influence achieving the desired impacts. Mixing development finance with commercial finance into specific funds whereby technical assistance at grassroot level is provided by NGOs and CSOs, allows those funds to accompany investments with specific technical assistance that can address local issues. But more evidence is still needed to assess the true value of blended finance in achieving greater sustainability and inclusiveness in tropical landscapes.

Green bonds offer opportunities for sustainable landscape development, since proceeds can be used for a variety of actions, as long as they are qualified as 'green', and the initial investment consist of 'patient capital' that does not have to be paid back until the bonds mature. Without strong local institutions it may be necessary to work through an intermediate organization that has the capacity to issue a bond and manage its proceeds according to internationally established regulations and criteria.

Crowdfunding appears to be better suited to the scale of local operations. However, it requires investors that have either a close affinity to the issue, the location, or the proposed

activities, conditions that are rarely met in tropical landscapes. This requires new approaches. One way would be to link crowdfunding platforms to funds that are prepared to meet financing needs as long as the project complies with agreed sustainability criteria, and raises a minimum percentage of the funding target. Linking multi-stakeholder umbrella organizations in tropical landscapes to such organizations in developed countries with greater capacities to raise funds may be another opportunity. However, while it is an instrument that has enabled SMEs to access finance where they could not obtain it through conventional finance instruments and sources, it may not achieve access to financial services for a broad group of people nor for larger sums of money.

Digitizing financial services (or fintech)[1] has facilitated financial inclusion, not changing the instruments, but changing the communication channels between sources and beneficiaries. This requires appropriate infrastructure, the availability of devices through which services can be accessed, adjustments in regulatory frameworks and the organization of financial entities that use such services. For it to be realized, this innovation calls for the collaboration of a range of national and local, and of public and private actors.

An integrated approach is required to scale up finance for sustainable and inclusive landscapes, including an analysis of the best combinations of financial structures, mechanisms and instruments suitable for local situations, and identifying conditions that if improved, would increase access to finance. Increasing financial inclusion will also require strengthening of enabling conditions that influence the impacts of financed practices. In comparison to conventional finance structures, mechanisms and instruments, blended finance and green bonds offer more opportunities for such an integrated approach, but few cases have been documented where they have been implemented in a landscape context.

This document offers a greater insight in steps that can be taken to increase the amount of finance that is dedicated to sustainable and inclusive landscapes, but more trials and evidence is needed for different local conditions, such as through detailed case studies including examples of innovative forms of financing towards sustainable practices and bringing these to scale. We also highlight the importance of improving financial literacy of SMEs and the need for a greater understanding of the needs for investments in landscapes by financial entities, in order to be able to strengthen interactions between different stakeholder groups and improve legitimacy, transparency and mutual understanding. Secure tenure and risk management stand out as factors perceived to be affecting impacts of financed practices. While often considered to be prerequisites to come to sustainability impacts, their role in achieving finance for inclusiveness and sustainability has been little documented. More cases must shed light on how SME risk management schemes improve long term performance and access to finance, and how different land tenure arrangements affect access to finance and what can be done to make them more acceptable as collateral. In addition, financial institutions could explore more multi-asset investments and contribute to the design of local financial structures and/or appropriate structures for producer organisations that can lower the bar for accessing finance. Finally, research could analyze how local financial flows can be diverted from poor environmentally and socially performing investments to more sustainable and inclusive ones. This document provides guidance for elements that should be covered in the design of different studies, to better address the complexity of mobilizing and scaling up finance for sustainable and inclusive landscapes. It also provides an insight into possible strategies to mobilize finance for such landscapes.

[1] In this case is meant the use of technology across financial services functions.

1. Introduction

The role of forests, trees and agroforestry in addressing the challenges of feeding the world and contributing to other sustainable development goals and the Paris climate agreement has been recognized widely (FAO 2018) and global commitments are made to strengthen this role, committing billions of USD to forests and trees for the implementation of the New York Declaration of Forests, the Aichi targets of the Convention on Biological Diversity, the Bonn Challenge for restauration and to avoid deforestation and forest degradation under the Paris Agreement. However, commitments, for climate finance and conservation, estimated at 20 billion USD since 2010 (Climate Focus 2017), trail far behind the needs to meet the goals of these agreements (Sethi et al. 2017) and food security, for which it is estimated that an additional 255-275 billion USD need to be invested annually from 2021 onward (FAO 2017, WB 2018). In addition, despite that most (~60%) of the food production is produced in farms smaller than 20 ha (Ricciardi et al. 2018), only a small percentage of this money reaches smallholders (MacQueen et al. 2018). At the same time, the industrialization of agriculture and the liberalization of food and agricultural markets contributes to increase the pressure on local people (Van der Ploeg 2010) as well as on the ecosystem services they depend on.

Thus, in order to achieve the international commitments to a sustainable and climate resilient world, there is a need to i) increase finance that contributes to a sustainable AFOLU sector, and ii) ensure that more of that finance benefits those people that need it most: the rural smallholder. Innovative finance mechanisms are therefore necessary to attract more sustainable investments by the private sector, motivating them to divest from those investments that contribute to degradation of the natural resources.

The Forest, Trees and Agroforestry (FTA) program of the CGIAR aims to contribute to reduce poverty, ensuring food and nutrition security for all, addressing climate change, protecting natural resources and ecosystem services, and achieving sustainable production and consumption by enhancing the role of forests, trees and agroforestry systems in addressing these challenges. FTA considers the landscape the spatial unit appropriate to study the role of forests, trees and agroforestry in addressing the above challenges, recognizing that sustainability of landscapes depends on seeking a balance between different land uses that achieves maximum synergies and minimizes trade-offs. Studying how to increase investments into the land uses in such landscapes, and improving their social and environmental impacts, is one of the priorities of the FTA program.

In this paper we explore the barriers for finance to reach rural smallholders and SMEs as well as to contribute to greater sustainability and climate resilience in rural landscapes in low and middle-income countries. We describe how money flows into landscapes, identify what are the barriers for this finance to reach smallholders, SMEs and communities within those landscapes, and what additional conditions may influence the extent of positive impacts that finance that has flown into the landscape will achieve. We then discuss three innovations that were aimed at transforming conventional finance flows with many undesired environmental and social effects, into finance flows with increasingly better social and environmental impacts. We ask the question of whether these innovations can address the issues that hamper scaling up of finance for sustainable landscapes. This document is part of a consultative process, through which we aim to increase our understanding, facilitate further dialogue between stakeholders, identify further research needs and formulate recommendations that in the medium to long term may lead to upscaling finance for sustainable and inclusive landscapes.

2. Finance for sustainable and inclusive landscapes

Before analyzing how different finance structures, mechanisms and instruments contribute to sustainable and inclusive landscapes (SIL) we need to define sustainable and inclusive landscapes (2.1) as well as some of the financial concepts used further on in this paper (2.2) before describing financial flows and actors involved (2.3)

2.1 Sustainable and inclusive landscapes

Landscapes are "place-based systems that result from interactions between people, land, institutions (…) and values" (Minang et al. 2014; p5). These interactions result in mosaics of land uses and ecosystem services that influence the livelihoods of the people and may change over time. Many investments in landscapes focus on one single aspect of the landscape, for example forest protection or oil palm production, often causing unforeseen effects on the other landscape elements, in particular the smallholder farmers. Seeking initiatives that consider the objectives and interactions of different stakeholders in the landscapes, several organizations propose integrated landscape approaches as an effective means to come towards more sustainable and more resilient landscapes (Minang et al. 2014, Sayer et al. 2013).

We propose here to define sustainable inclusive landscapes (SIL) as landscapes in which all stakeholders are engaged in the design and implementation of, and learning from, actions that increase the sustainability of the landscape.

Sustainability

We consider that any investments in a landscape contributes to sustainability in the landscape, if it contributes to approaching one or more of the 17 Sustainable development Goals (SDG) of the UN 2030 Agenda (https://sustainabledevelopment.un.org/?menu=1300), while at the same time carefully considering possible synergies and tradeoffs between these goals as well as how they contribute to landscape priorities. For example, one land use upstream might negatively affect the land use of many smallholders downstream. In such case, the negative effects need to be explicitly identified, and we would expect that measures are taken to reduce the negative effects to a degree satisfactory to all parties involved and to the extent that sustainability of the landscape is ensured.

Inclusiveness is implicit to Agenda 2030. For example in SDGs 1-3: no poverty, no hunger and good health for all. Also SDG 5 on gender equality and SDG 8 on decent work and economic growth refer to inclusiveness, while SDG 10 is all about reducing inequalities within and between countries. Still, less than 10% of for example international climate finance is estimated to reach smallholder farmers and SMEs (Soanes et al. 2017), where the capacity to adapt to climate change is usually smallest. While guidelines exist for international finance that stress the benefits of involving local people and small and medium enterprises (SME) in land use investments, many of these SME do not have access to the finance they need (Savenije et al. 2017). Therefore, we want to stress the importance of inclusiveness, independent of which SDGs are being addressed by landscape related investments.

The World Business Council for Sustainable Development (WBCSD, 2011) refers to inclusive business models as models in which low-income communities or individuals participate in one or more stages of the value chain and which are good for both these communities or individuals and the businesses. UNDP (2010) and Chamberlain and Anseeuw (2017) stress that these relations should also be equitable and lead to sustainable practices. In this context we describe different forms of equitable participation following Vermeulen and Cotula (2010) according to the degree to which ownership of the resources is distributed; the degree to

which local stakeholders participate in decision-making processes relevant for the economic activities; all relevant stakeholders share in the benefits and risks of the economic activities assessed. This implies that we consider that for example a plantation company that sources smallholders may very well contribute to inclusive growth in the landscape, but could still improve its inclusiveness if such sourcing implies economic dependence of the smallholders, endangering both ownership of the resources, equitable decision-making and driving transfer of risks to those smallholders.

2.2 Innovative finance

When we talk about innovative finance for SIL, we look at relatively new[2] ways to unlock funds that efficiently and effectively contribute to sustainability and inclusiveness of landscapes. We will refer to the "ways to make money flow" as financial instruments (see Box 1), or assets that can be traded[3] and that give rise to financial liabilities of one entity and financial assets or equity of another. Examples are loans, grants, equity investments and bonds. Sales revenue, savings or remittances also generate financial flows, often are the basis for the capacity to invest, and may affect both inclusivity and sustainability in a landscape, but are not considered to be financial instruments. Financial mechanisms are the legal and institutional arrangements that regulate and enable the use of financial instruments. These mechanisms, for example the Green Climate Fund, can apply different combinations of instruments, such as loans, grants, and guarantees. In addition, finance for specific investments can come from different sources. Specific combinations of financial sources we call structures. Blended finance, for example, is a structure that combines development and commercial funding.

Box 1 Examples of financial instruments[4]

<table>
<tr><th>Primarily for financial returns (and impacts, if by a DFI)</th><th>Primarily but not exclusively for impacts</th></tr>
<tr><td rowspan="2">Debt based instruments:
- Short, medium and long term loans
- Bonds</td><td>Grants</td></tr>
<tr><td>Concessional loans</td></tr>
<tr><td rowspan="2">Result based instruments (payments)
- For products or services
- For ecosystem services</td><td>Input and export subsidies</td></tr>
<tr><td>Tax incentives (or disincentives)</td></tr>
<tr><td>Equity (purchase of a stake of an enterprise)</td><td>Enabling direct investments, for example for
- Restoration
- Green infrastructure
- Market development</td></tr>
<tr><td colspan="2">Risk sharing mechanisms
- Insurance (on production or on investment)
- Guarantees
- Off-take agreements
- Public-private partnerships</td></tr>
</table>

Some financial instruments aim to mitigate risk; examples are insurance, loan guarantees, off-take agreements (Global Canopy Programme 2017). In the context of government/state-owned enterprises projects , tools such as availability payment mechanisms, capital expenditure subsidies, feed-in tariffs or price-control instruments help de-risk projects by decreasing the degree of uncertainty of projects in challenging environments or sectors.

[2] Differ from previous ones and the use of which surged during the past ten years in order to fill the financing gap (=add new funds on top of normal overseas development aid) to meet the SDG and climate goals

[3] https://www.investopedia.com/tecialinstrument.asp

[4] Adapted from Shames et al. 2019

When reducing risks, it is also important to consider for whom risk is being reduced. Finance approaches focus above all on reducing risks of investments. While this relates to the risks run by the investees, and measures that reduce risks of these investees also reduce the risk for investors; not all measures that reduce the risks for investors also reduce the risk for investees. Practices that reduce the risk of crop failure, for example, help both investee and investor. Index based insurance for crop failure may also help both, but may become insurmountably costly due to the increased risks of climate change and may only be feasible in the framework of government backed emergency schemes. Insurance on investments, however, mainly cover the risks of the investors. It is used to make investments that are perceived to be more risky by private investors more attractive to them. It is being developed in different forms, mainly covering first losses by investors, and often backed by government money. Off-take agreements (arrangements between a producer and a buyer to purchase or sell portions of the producer's upcoming goods) are becoming more common in private sector arrangements, where these agreements can be used as collateral in loans, or form part of the loan agreement, where loan installments are paid for in the form of products.

Even today, much of the money invested in agriculture and forestry in developing countries does not adequately address sustainability and inclusiveness. Local conditions, geography and shifting priorities may adversely impact the sustainability agenda. For instance, addressing immediate food needs or a lack of timely access to sustainable technical solutions in remote parts of developing countries may create outcomes that conflict with national or global sustainable development goals. Furthermore, changing local political dynamics (e.g. nationalism and resistance to international standards), new global industrial trends (e.g. biofuels) and weak institutional framework (e.g. lack of oversight and corruption) may also translate into a prioritization of financial returns over the sustainability agenda. Thus, leading to a degradation of the local natural resources.

Although investing in sustainable land use in developing countries has a growth potential, it often has, or is perceived to have, high risk-return profiles and often requires more time to develop (Guarnascheli et al. 2018). In particular in developing countries, risk is increased due to structural problems such as uncertain land tenure rights, currency fluctuations, and political instability as well as lack of coordination between stakeholders (Huppe and Silva 2013). Even impact investors, whose investments are currently worth over 500 billion USD (GIIN 2019), invest only 9% of that into the AFOLU sector (GIIN 2018). Similarly, of all “climate aligned” bonds, only 1% was assigned to this sector in 2017 (Global Canopy Programme). Innovative finance approaches are being piloted for attracting new land use related investments that address sustainability and make finance available for smallholders, SMEs and communities. These approaches focus on reducing risks and increasing the risk adjusted returns (see for example MacQueen et al. 2018).

Financing landscapes or landscape initiatives is conceptually different from the conventional finance of land use activities: typically, landscape finance supports a range of activities within the landscape (Shames et al. 2014), all aiming to achieve sustainable development, making conscious choices on the trade-offs and synergies that arise within the mix of activities, and minimizing production risks by 1) investing in productive activities with different ecological requirements and climate vulnerabilities, and 2) investing based on an analysis of the mosaic of land uses that best reflects both land capacities and societal needs. For most investors, however, this is a new approach about which they have little knowledge or experience and they still prefer to invest in one single asset. It remains to be seen whether recent innovative finance initiatives are able to change that preference and attract finance to truly integrated landscape investments.

2.3 Types of Financial flows and actors

Finance that goes into landscapes can be classified following their sources and main objectives into three different types: development finance, commercial finance, and family finance. Commercial finance distinguishes itself from the other two types, in that it puts more importance to risk, high returns within 2-7 years and long term growth potential. For them, investments should preferably be large scale, with few actors and transparent and simple revenue streams in order to improve cost effectiveness and risk assessment. Development finance does not necessarily seek monetary returns to the investments. Each of these types of finance can reach the local users through one or more financial instruments, although some instruments are more used by governments and philanthropic organizations (Box 1) and others more common to financial institutions and enterprises (non-concessional debt-based instruments, equity, payments). Risk sharing instruments used more commonly in development finance are guarantees, while those more common to the commercial sector finance are insurance and off-take agreements. In theory, these could all be combined to meet the needs of landscape stakeholders to finance initiatives that expand their sustainable practices. However, in practice a number of barriers exist that reduce the finance flows, in particular to smallholders, SMEs and communities, while flows that go into the landscape face conditions, inherent to the recipients of the flows as well as external to them, that reduce their potentially positive impacts.

Our main interest is in money to build or expand operations, rather than trade finance or short term borrowing since these are not considered to be the real gap in finance.

The actors involved in finance for sustainable and inclusive landscapes

In financial flows there are basically three groups of actors: the sources that provide finance, project developers and recipients. Often, between source and project developer exists another group of actors: the fund managers (Figure 1). Sometimes, finance flows stop at project developers, who transform finance into specific actions that benefit the final recipients, for example in the form of inputs or technical assistance. Sometimes, flows may be simple and direct, from the source to the recipient. In that case flows are often local or the recipient is a large national or international organization or company, which makes the money flow to local branches within the organization or company. Other times flows maybe complex, involving more than one fund manager and mixing with money from other sources along the way before reaching the recipients.

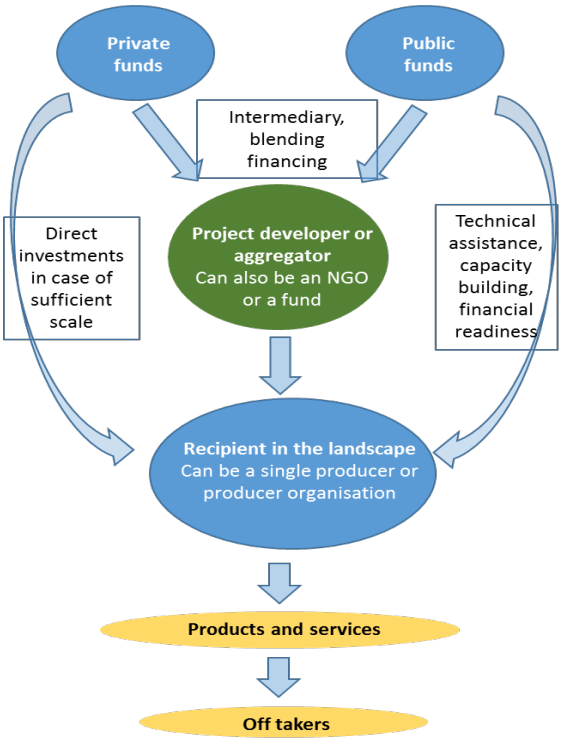

Figure 1. *Main actor groups within finance flows towards landscapes. The blue arrows refer to finance flows; the blue (source and recipient) and green (intermediary) ovals to actor groups and the yellow once to non-financial flows produced by the actors.*

Sources can be public, private, philanthropic or from family and friends, and may differ in objectives, according to the policies of the source. Public and private philanthropic sources may provide both development and commercial money. Private sources predominantly provide flows of money seeking financial returns (Box 1) using debt based and equity based instruments.

Much of the development money, be it from national or international sources, flows into landscapes to project developers in the form of grants or concessional loans and is converted into actions that conserve and/or improve public goods and services, or provide technical assistance. Development money, in particular from national governments, also comes in the form of subsidies on inputs. These latter are motivated by developmental goals, and may be oriented to leverage additional private investments. However, if such subsidies are unconditional, they may have serious negative impacts on the environment, for example by increasing the indiscriminate use of agro-chemicals and use of fossil fuels (FAO 2017).

Commercial money flows into landscapes as payment for goods and services, in the form of debt-based agreements through banks, companies or as equity investments. In many landscapes, the flow of commercial money is many times greater than the flow of development money. Much of that comes from trade, the profit made by selling goods or services. For that reason, multiple initiatives aim to influence sustainability in the landscape through the trade channels, seeking for example zero-deforestation commitments from agro-commodity value chains, or aiming to ban agricultural products from non-sustainable resources. These are important initiatives and through agreements such as government led FLEGT (Forest Law Enforcement, Governance and Trade), VGGT (Voluntary Guidelines of the Responsible Governance of Tenure of Land, Fisheries and Forests) or the private sector RSPO (Roundtable on Sustainable Palm Oil) positive impacts can be achieved in landscapes. In this document, however, we focus on debt- and equity based agreements, which often need to precede FLEGT, VGGT or RSPO agreements in order to achieve the desired sustainable production in the landscape.

To achieve the SDGS, it is accepted that public and development money will not be sufficient, and, even if the share of global private capital going to developing countries is increasing, this is still insufficient. Although there are investment opportunities, their risk profile doesn't match the risk/return appetite of private sector investors. There is usually no shortage of capital to invest from international or local investors. But there a is the lack of bankable projects or projects ready for assessment. In developing countries it is difficult to get information and to assess risks. Even if investors are ready to take risks and lower their expected rate of return to enter a new market, the gap is often still too big. Unfamiliar territories or countries, atypical development stages of the targeted sector, scale or weak regulatory regime are major contributing factors. In such cases, the existence of local financial institutions, local banks, cooperatives, credit unions or other local transparent forms to collect and redistribute finance may have an important role in addressing local finance needs with locally generated money, at the same time contributing to create a credit record for the local stakeholders.

To improve the risk profile of opportunities, or simply to bring them to the private sector market, the role of public and development money is critical. It could contribute to creating the local financial infrastructure necessary to make money flow in a transparent manner. But it could also provide support in the areas of project identification, project preparation, bridging the viability gap and, generally, improving the bankability of the project via de-risking strategies or subsidies. In developing countries large enough to support their own local network of development institutions (e.g. ministries, development banks, dedicated funds and

grants, inter-ministerial entities, local state owned-enterprises), that work can be done with or without assistance of international development partners. As an example, in large developing countries, such as in the Philippines, Indonesia or Brazil, local development banks play a pivotal role in the development, execution and financing of infrastructure projects. In smaller countries, international development agencies partner with local authorities to provide extensive technical assistance but work would not be possible without the convening power and access provided by local authorities.

Public and development money can also be put to work towards improving the risk profile of investment opportunities via “Blended Finance”. Blended Finance is defined as the leveraging of public funds to catalyse private-commercial capital. It blends capital which has a development mandate with capital which does not. It must here be highlighted that a core principle behind Blended Finance should remain ‘Additionality’. This is where the use of public capital results in private sector investments being made in projects, sectors, and/or geographies where they would not have otherwise been made and where they will drive development impact.

Fund managers will play an increasingly larger role in Blended Finance. Typically, fund managers will provide a platform to identify potentially suitable investments and help potential investees to develop proposals, to process investments, to manage their portfolio, to mentor investees, to raise additional funds, to provide advisory services and to manage exists from investees. Although this has the costs for the investors, fund management are a relatively efficient way to delegate business development and asset management to a fully specialized, dedicated team.

In the context of Blended Finance, Fund managers mix the money from different sources, and when these sources provide both development and commercial money for the purpose of an investment into sustainable development this is also called blended finance. In complex flows, this blending may occur at different points along the flow: development banks may for example receive development and commercial money from governments, mix this with commercial private money, invest in international or regional funds which may seek to increase the funds with more commercial or development money and then apply financial instruments, such as loans, for which they obtain first loss guarantees based on public money.

The loan provided by the fund managers of the Tropical Landscape Finance Facility (TLFF) to PT Royal Lestari Utama is the result of such a complex finance flow (see Box 2). In other cases, project developers may mix this same money further with commercial or development money into a project that provides finance and services to the final beneficiaries. An example of such a project developer is Ecotrust in Uganda[5], which received blended finance from a fund manager, while it also receives development money through bilateral agreements. While such money is not strictly blended, since they receive it for different purposes, their application is within the same landscapes, complement each other in addressing the financial needs within the landscapes and have as common goal the sustainable development of those landscapes.

[5] http://ecotrust.or.ug/

Box 2 The tropical landscape financing facility (TLFF)

The TLFF was established by a multi-stakeholder group (UNEP, World Agroforestry Centre (ICRAF), investment manager ADM Capital and BNP Paribas) with a core objective to provide affordable loans to smallholder farmers, improve their livelihoods, rehabilitate degraded lands and provide clean electricity (Guarnaschelli et al., 2018). Its secretariat is supported by ICRAF and UNEP, and supports a lending platform managed by ADM Capital while Paribas arranges for a note program (a bank note program is a medium-term note ("MTN") program that enables an issuing bank to offer debt securities on a regular and/or continuous basis). to channel finance towards the platform. The secretariat also supports a grant program managed by UNOPS. The facility aims to stimulate Indonesia's green growth by mobilizing international capital for long-term financing to projects and companies (sustainable agriculture, forest conservation, renewable energy) with financial, environmental and social returns (ibid.). Smallholder cooperatives are the focus investees in the sustainable agriculture sector (ibid) although large companies may be used as intermediary investees in order to reach a scale attractive for investment.
The TLFF consists of a Lending Platform and a Grant Fund:

- *The TLFF Grant Fund is capitalised by multilateral and bilateral entities and philanthropic donors/foundations, and "it focuses on enhancing capacities on the ground to generate greener livelihood opportunities, strengthen wildlife conservation, protect forest cover, create resilience to climate change and improve the availability of renewable energy for rural communities". The TLFF Grant Fund provides technical assistance and co-funds early-stage development costs, with the United Nations Office for Project Services (UNOPS) serving as a fund trustee. It ensures that funding is leveraged with significant investments through the Tropical Landscapes Finance Facility (tlffindonesia.org, #grantfund; Wright, 2018).*
- *Through the TLFF Lending Platform (a Sustainability/Green Bond or note), the TLFF aims to mobilise international capital at scale to incentivise sustainable agriculture, renewable energy and deforestation-free supply chains in Indonesia through strict lending criteria. With this, it aims to decrease the environmental damage that often accompanies business-as-usual investing and at the same time it aims to improve rural livelihoods. The TLFF Lending Platform involves ADM Capital as the manager of the platform and a driving force bringing in long-term experience in private debt investment and innovative funding models. BNP Paribas arranges long-term commercially-priced, long-tenor debt for individual projects (tlffindonesia.org, #lendingplatform; Wright, 2018).*

As for early 2019, TLFF has only one investee, PT Royal Lestari Utama (RLU[6]), a company that aims to produce sustainable rubber and that is a joint venture of Michelin and PT Barito Pacific. The investment is for three concession areas which cover together 88,000 ha of which less than 50% will be planted with rubber, and the remaining area will be left for conservation, restoration and community programmes (TLFF Indonesia, 2018). This investment was facilitated with a partial guarantee.

Project developers or fund managers may also link to additional actor groups to help facilitate the transactions. In the case of TLFF this was the US government, granting a guarantee for part of the loan to RLU. In other cases, project developers make arrangements with companies or organizations that then commit themselves to buy products and services from the receiver organizations. Such off-take arrangements have for example been made by Root Capital, the Livelihoods Funds and Ecosphere Plus.

[6] https://www.rlu.co.id/

Many private sources and fund managers are recognizing the potential negative impacts their investments may have on the environment and local communities. They have committed themselves to the implementation of responsible investment principles, or safeguards established by the international lending agencies, such as the IFC. These guidelines and principles are above all oriented at not increasing the footprints, or not making them any bigger than absolutely necessary. At the same time, a limited number of investors and fund managers have joined the Global Impact Investor Network (GIIN), proposing to go a step further and seek more integrated investments, where achieving non-financial goals such as biodiversity conservation or inclusiveness, become as important as meeting the financial goals of risk-adjusted rates of returns.

Recipients in the landscape may be companies or local branches of national and international companies. Our main interest, however, are the smallholders, SME, communities and indigenous people, who, within the rural landscapes, are more vulnerable and have less access to finance.

Scale, risk, rate of return and measurable impact are the main landscape investment issues heard in forums that discuss finance for sustainability[7]. Together, they make that even impact investors, whose financial requirements are usually less demanding than those of conventional investors, find few projects of interest. We briefly discuss these issues and their effect on finding bankable projects in Section 3.2 below. Many sources and fund managers resort therefore to investing in large scale plantations with different degrees of smallholder involvement, from employees to partners in out-grower schemes. In such cases, the issues are addressed above all from the investor point of view, where smallholder involvement is seen as a risk management issue. Such schemes, however, may increase the exclusion of those smallholders and communities in the landscape that do not participate. It may become more difficult for them to obtain finance, compete on the market, access local natural resources, and have a voice and vote in landscape level decision making processes. Scaling up finance for sustainable and inclusive landscapes, therefore, needs to pay particular attention to unlocking finance for these smallholders and communities. We discuss this in Section 3.3.

[7] such as Global Impact Investment Network (GIIN), Coalition for Private Investment in Conservation (CPIC), and the Global Landscape Forum session on finance

3. Constraints to finance for sustainable and inclusive landscapes

In our literature search and through interviews[8] we recognized three types of limitations for finance to contribute to sustainable and inclusive landscapes: 1) from the investors point of view there is a lack of bankable projects; 2) SMEs and smallholders find it difficult to access conventional financial services that help them grow; and 3), even with access to finance, smallholders, SMEs, but also many full-sized companies, may find it financially more attractive to apply non-sustainable practices, unless they are forced to do so by law or contractual arrangements and/or other enabling conditions are met. In the following sections we discuss these types of limitations in particular in relation to the flows that arrive into rural landscapes in the tropics. In that discussion, we focus on debt-based instruments, being the more commonly used by smallholders and SMEs. We recognize that the other instruments may be combined with debts in order to make the investments more viable. Some examples of such synergies will also be discussed.

3.1 Limited offer of bankable projects

Bankable projects offer benefits that meet the expectations of the investors or fund managers. These expectations may vary according to the type of investors (see above) but more often than not include expectations in relation to scale, risk and rate of return.

These expectations of the private sector are linked to other investment opportunities that these sources have, and to their need or desire to diversify their investments. However, in a global context of relative abundance of private capital not finding enough bankable projects to invest in, the alternatives available for private investors can be somewhat constrained. Even a fully dedicated fund, with a very specific focus, can struggle to identify and execute more than a couple of investments in any given developing country. Expectations of private investors are also linked to market and policy considerations. For example, investments in tropical land use have seen a hike since the 2008 food crisis, following expectations that the demand, and therefore possibly the price of food, will further increase in the future (Miller et al. 2010). Such price increases raise the probability that investments will achieve the desired rates of return. The expectations of the development money or the public money should however be seen through a different prism. Considering that governments may propose capital or operational subsidies to improve the bankability of local projects, and considering that most developing countries operate under severe fiscal constraints, governments are faced with difficult decisions. Governments must carefully assess which projects to support and which projects will provide the best economic return for their countries.

In general, however, land use investments are expected to have lower rates of return than investments in other sectors (FAO 2017). In many cases, in particular at smaller scales or for innovative agricultural systems that are designed in response to climate change, project proponents find it hard to show what the expected rate of return is, because either they do not have the expertise to do the calculations, or, more often, data on productivity and future prices are not available or not reliable.

Land use investments are also perceived to be more risky (FAO 2017). This may be due to lack of experience of the investors with such investments, but also to the nature of the land use and to the presence or not of certain enabling conditions. Lack of governance, insecure land rights, poor infrastructure, inadequate public services (health, education, agriculture and

[8] http://www.foreststreesagroforestry.org/publications/research-publication/?title=Summary-and-discussion--Inclusive-finance-interviews&id=86115366

forestry extension) are factors that increase the risk of such investments (FAO 2017). These are factors difficult to address by smallholders or communities by themselves. Some investors seek to combine their commercial money with development money to address these issues, where the development money then is primarily directed at reducing the risks of commercial investments.

Other factors that increase risk include the high dependency on increasingly unpredictable weather conditions. Risk sharing financial instruments (Box 1) may help solve this issue, but in addition more attention should be paid to land use systems that reduce the susceptibility of farmers to weather. More diverse systems (Altieri and Nicholls 2017, Verchot et al. 2007), landscape approaches that consider the value of local ecosystem services (Harvey et al. 2014a), and long-term soil improvement practices (Altieri and Nicholls 2017) all may contribute to stabilize the farming systems, although short term crop productivity of the main crops may become slightly less than maximum potential under mono-cropping systems with high input applications. These systems, however, are as yet little known to most conventional investors, and therefore their application has little effect on the investor's perception of the level of risk.

While rate of return expectations and risk perception can at least partially be solved through educating investors more in the characteristics of the land use asset class, and generate more documented information on land uses as business cases, scale of operations needs to be addressed differently. The optimum scale for investments depends on the type and size of the investor, the objectives of the investments and the pathway of the money flows. International banks and financial institutions tend to seek investments worth tens of millions of USD in order to reduce transaction costs. For them it is interesting to work through regional or national financial entities or fund managers, who know the local conditions, have the local networks and are able to aggregate the local demand for finance. Even more so when looking at landscapes. In the relatively sophisticated urban environments of developing countries, and particularly in the finance/banking sector, fluency in English and financial skills is typically higher than in rural environments. In rural environment, it is therefore of paramount importance to be able to rely on local networks to access information, identify opportunities and risks, and simply identify whom to talk to. This can usually be better done through established players or local institutions such as local banks, national development entities or municipal/regional governments. This cannot be done remotely or if you don't have access to resources speaking local languages, being able to navigate local bureaucracies and local communities.

Large companies can also provide scale to these international banks and other financial institutions. Usually, through their scale and their operations, they have built local knowledge, employ nationals and have gained credibility in the local market place. In addition, they usually already have a track record of investments, and most of the time deal with assets that are better understood in the financial world: single crop plantations for example. This doesn't come without risks though, as there can be legacy issues and due diligence and background checks can only go so far in some jurisdictions.

Although inclusiveness may be high in the banner of some of the large banks and other financial institutions, for them to reach out to smallholders and SMEs nearly always will go through intermediaries, who will need to adhere to specific guidelines set by the investors. Scale is often an important consideration for the large banks and other financial institutions as the administrative and transaction costs to assess and execute investment are comparatively higher when looking at smaller transactions. There is minimum level of transaction costs that cannot be compressed, even for small rural transactions. These

transactions are likely to have even higher transactions costs compared to urban, typical transactions of similar small scale. Costs such as transportation, due diligence, and hiring of local resources to access information may end up adding substantial administration costs to the transaction, even before pricing the financial risks in. It may therefore make sense to use intermediaries that have easier local access and are more nimble

In some cases, small agriculture or forestry businesses have been able to achieve scale by aggregating large amounts of smallholders into one association or cooperative. In such cases, however, they may still find it problematic to find formal finance, because they may not be able to meet the risk adjusted rate of returns expected by the banks and financial institutions. The vertically integrated forest company KOMAZA, based in Kenya, is an example of company that set out as an SME aiming to meet the scale, return and risk expectations of commercial investors (Box 3). It took the company more than 10 years to reach the current scale of operations and become interesting for private investments. During that time it was supported initially through grants, than a mix of conditional loans and grants before setting up its smallholder forest finance vehicle that will allow it to capture private money from a variety of sources. To make that evolution, though, it struggled strengthening its business and technical capacities, as well as gaining the trust of both smallholder forest farmers, the processing industry as off-takers of the future wood, and of the potential financiers of the operations.

Box 3 The case of the vertically integrated forest company KOMAZA9

Komaza was founded in 2006. It started as an SME, but is now a vertically integrated forest company that is involved in forest production from tree nurseries, tree cultivation, harvesting and processing to selling to domestic and international customers. The company is based in Kifili, Kenya. Different from other forestry companies in Africa, that produce timber in large plantations, its production is based on thousands *of small woodlots in partnership with as many smallholder farmers. This fits well into the production model in Kenya, where more than 50% of the wood supply comes from such farmers. By aggregating the wood production of these small farmers, Komaza was able to link them to the traditional wood value chain.*

For Komaza there were four big challenges: the first three, to attract the right staff, choose the right farmers *to work with and find the buyers, were straight forward challenges that most businesses have. Staff needs to be motivated; farmers need to be willing to plant and maintain the plantations; and the customers need to be willing to buy at the offered quality-price relation.*

For the company, finding the finance to support operations, however, was another matter. The biggest challenge they had was to find investors that were prepared to take the risk to invest in their operations. That went beyond developing the right business models. It required that investors were familiar with the region and were interested in investing in early stages of the business. Then KOMAZA had to convince them that it was worth investing in this asset class, that it was able to manage the risks and that their model had reduced costs in comparison to traditional tree plantation models.

*KOMAZA built up its model from grant money from social enterprises such as Ahoka, Barr Foundation, and Greater Impact Foundation. With that they were able to achieve a mix of development and commercial money through convertible loans and equity investments, now including Novastar ventures, Mulago, Conservation International and Hooge Raedt Social Venture as stakeholders (*http://www.komaza.com/investors*). Financiers invested in*

[9] T. Howard, 2019. CEO of Komaza. Extracted from interview conceded to authors and published separately as http://www.foreststreesagroforestry.org/news-article/linking-smallholders-to-existing-wood-value-chains-for-sustainable-supply/

Komaza, helping it to build up its assets in trees and a range of different small to medium sized processing facilities. After 11 years of building the enterprise it is now a company with thousands of partners, together worth more than 20 million USD and with expertise across the forest value chain. Much of the work was through personal contacts, building up trust between Komaza and the potential financiers and between Komaza and partners throughout the forest value chain. In addition, it is a people centered company, which helps motivate both farmers and staff to work together in a cost-effective manner, while at the same time operating within a corporate structure that is credible to investors.

Investments are shared with farmers, who provide land and labor, while the company provides technical assistance and the required inputs for tree farming. This helps keeping costs down (in conventional plantations labor costs may be more than half of total costs), while the farmers invest in the plantation without getting into debt, converting their labor into assets (trees). Once trees have reached the appropriate size, the company harvests, transports and sells the trees, sharing the benefits of the sale with the farmers.

Subsistence farmers may find it difficult to obtain documentation that they own their land or other assets, which they would need for example to obtain commercial loans. In order to become partner of KOMAZA, their ownership needs to be recognized by neighbours, chiefs and community leaders. This has the added advantage of lowering the risk of land right conflicts.

Finally, KOMAZA makes sure that the area planted with trees is in addition to the area needed for subsistence farming, in order to make sure that their food provision is not endangered by the wood production. In some cases, farmers also produce food in between the trees during the first years of the plantation.

3.2 Limitations for access to financial services for smallholders, SMEs, communities and indigenous people (Inclusive finance)

Access to financial services has been shown to strengthen capacity for economic growth and resilience to outside shocks (Demirgüç-Kunt et al. 2018). Access may differ according to the geographic area, access to finance being lower in Africa than in other continents (Demirgüç-Kunt et al. 2018). In addition, rural populations, women and poor are more likely to not have access to financial services than men and wealthier people (Demirgüç-Kunt et al. 2018). Drivers for (lack) of access to finance and markets for individuals are not fully known and may differ according to local context. Some general drivers are: not having sufficient money to use financial services, costs of and distance to financial services, banking through a family member, lack of documentation, distrust, and religious concerns (Demirgüç-Kunt et al. 2018). Having a credit record, accumulated wealth or the right connections positively affect access to formal finance (de la Torre et al. 2017). While the formal national financial systems have many barriers to access, they also provide the infrastructure that makes the flow of finance possible. This makes the actors within that system key to improving financial access for smallholders and SMEs.

Individuals and SMEs, however, have different needs for finance and may therefore encounter different challenges to obtain it. Besides having a credit record, accumulated wealth and the right connections, also factors such as low understanding of financial concepts, the nature of the financial instruments, the level of aggregation, and the ease of physically accessing financial services in remote locations, are factors that affect the ability of SMEs to raise the funds needed not only to get or stay into business, but also to move from conventional to more sustainable land use practices (Box 4). Access to financial services, however, also requires the skills and experience that one needs to manage one's resources

(earn an income, save, invest wisely), otherwise it will increase the risks associated with debts.

Understanding and reducing these factors that facilitate access to financial services is an important step towards facilitating financial flows for sustainable and inclusive landscapes. In this section we will discuss these factors in more detail.

Box 4 Limitations to access financial services for smallholders and SMEs

From our literature search and interviews we found the following groups of barriers to finance for smallholders and SMEs:

- *Nature of financial instruments*
  - *Ease of implementation (process of application and documentary requirements, such as documented proof of land and forest rights)*
  - *Legitimacy (considers reality of local money flows)*
  - *Transparency (of rules and regulations)*
  - *Coherence of investor objectives with stakeholder objectives*
- *Financial literacy*
  - *Being productive, generate an income, save and spend it wisely*
  - *Understanding of key financial concepts*
  - *Able to make decisions based on financial information*
- *Scale*
  - *Aggregation to be more cost effective and reduce risks*
  - *Produce results/impacts at scale*
- *National policy and regulatory framework*
  - *Enabling conditions for monetary transactions*
- *Physical access*
  - *Distance to financial services*
  - *Ease of access through for example virtual means*
- *Own capital*
- *Ability to ensure sustainability of practices (see section 3.4)*
  - *Organization*
  - *Risk management*
  - *Certification*
  - *Knowledge and experience*
- *In addition, the level of constraint experienced by each of the above may differ according to gender, age and ethnic group*

As we can see in Box 4, a large number of non-financial challenges and opportunities exist that may influence the success of finance in contributing to sustainability and inclusiveness in the landscape. Most of the factors are enabling conditions that together or individually could make investments in sustainable practices more attractive to commercial finance. Some of these, for example the policy and regulatory frameworks, are institutional and are typically addressed by the conventional Overseas Development Assistance (ODA). Although development assistance can come in many shapes and forms, traditional international development institutions will provide concessional loans and grants, whose granting is often, but not always, dependent on regulatory/policy reforms packages. They will also provide pure technical assistance to, for instance, help structure the introduction of private sector in any given sector, draft new regulations or implement structural changes via training. Such

assistance is typically geared towards creating the enabling conditions for further development and investment.

Some factors are linked to each other, such as for example the characteristics of the instruments and the financial literacy of the beneficiaries (for example the perception of the ease of implementation legitimacy and transparency of delivery may depend on understanding of financial concepts); some depend on both the delivering and receiving agents (coherence of objectives) and others are oriented towards strengthening the business case of the recipients (financial literacy, aggregation, access to virtual mechanisms), or their capacity to achieve positive impacts through the proposed investments (organization, risk management, certification, knowledge and experience).

Their relevance will differ according to type of investor, type of receiver and local conditions. Some of the enabling conditions can be met by conventional ODA and national government budgets but would in particular need to consider the specific barriers of smallholders to access financial mechanisms and instruments. Such conditions are for example the national policy and regulatory frameworks, need for strengthening human capital (skills and knowledge), and the infrastructure needed for mobile finance. However, still too little is invested into local processes of awareness and capacity building that allow for realizing truly inclusive processes and strengthen the trust between local stakeholders. These processes are essential for achieving greater stakeholder collaboration, one of the elements required for successful aggregation that leads to scaling, greater cost-effectiveness and (perception of) reduced risk (Huppe and Silva 2013).

Nature of financial mechanisms and their instruments

Bird et al. (2013) identified four principles for successful implementation of finance policies: ease of implementation, legitimacy, transparency and coherence of objectives. Although here we deal with finance mechanisms and instruments instead of policies, these same principles can be used to describe the nature of successful financial instruments, if we consider success as contributing to sustainability and inclusiveness of landscapes while achieving an acceptable rate of return.

Ease of implementation, for example, reflects issues related to the administrative processes necessary to actually come to a transfer of funds through a particular mechanism, such as documentational requirements for access to financial services, but also the cost of internal administrative processes of the financiers. In the case of development money, additional constraints may impact the ease of implementation. Development agencies, international development institutions, are generally risk averse and usually very careful when granting loans, giving grants or funding technical assistance. The use of donor funds and their ability to raise funds on international financial markets are carefully monitored. Decision-making process might be slow and potential investees or beneficiaries are subjected to constraints that can be onerous: extensive environmental and social due diligence, corporate governance issues, monitoring and reporting, etc.

If in Uganda, for example, only 11% of rural adults have the documentation required to obtain loans through the formal systems (SDF Uganda 2018), one may wonder whether either the requirements are very strict, and thus the financial instruments may have to be adjusted, or the rural areas need support in obtaining the required documentation, for example through financial literacy programs. Indeed, in many tropical countries de-facto land ownership may follow different rules than legal landownership, making it difficult for smallholders and communities to obtain legal proof of land ownership, since land is often required as collateral to obtain formal loans from financial institutions. Similarly, SMEs may not be able to show

sufficient assets or reliable income projections to be able to obtain formal loans, and often the transaction costs to obtain the required information are too high (MacQueen et al. 2018).

Legitimacy was interpreted by Simane and Bird (2017) as considering local stakeholders interests and being evidence based. In the context of financial instruments, rather than the policies evaluated by Simane and Bird (2017), we interpret this as mechanisms that have requirements and guidelines that consider the reality of local finance flows. In particular this could relate to the term of the commitments: for example loans that follow the agricultural calendar; patient investments that allow for tree crops to mature before any benefit is perceived by the investors; but also interest rates that consider the real risks and the local management strategies that reduce those risks. This requires that not only the beneficiaries of financial instruments need to become more literate (financial literacy, next sub-section), but also the investors and fund managers need to become "asset" literate: they should understand the financial needs, risks and possibilities of the sector that they invest in. In particular sustainable practices by smallholders, SMEs and communities in tropical landscapes are new forms of investment for many financial institutions and private financiers. For them, it is important to learn more about the needs, opportunities and risks of sustainable tropical land uses in order to be able to develop and provide legitimate financial products that combine financial result with positive impacts and thus increase the placement of financial products in such landscapes[10]. In the long term, collaboration of local stakeholders in the development of such products will result in more successful implementation of the financial products than unilateral development (Savenije et al. 2017).The importance of developing and maintaining a dialogue between local stakeholders and international, global providers of development/commercial finance cannot be overstated. National governments, local authorities and development platforms are critical to help bridging the gap between global goals and local implementation. In larger developing economies, local authorities can rely to some degree on bureaucracies and dedicated resources that are able to escalate requirements and local constraints to the appropriate forums. Although still insufficient, it contributes to bridging the gap between and tailor products more adapted to local constraints.

This is also where international/regional development institutions are playing an important role, particularly in smaller developing countries, as they are able to maintain local offices and interact daily with local stakeholders. In the case of development finance, a number of national development agencies or philanthropic organizations with no local presence are providing donor funds for the larger development institutions to manage through, for example, trust funds. While the donors are setting up goals that are compliant with SDGs, the development institutions are trying to identify local projects that fit the wider goals. Lack of adequate financial products was the driver for the community forest association ACOFOP in Guatemala to create its own fund for community forestry, where community groups can borrow money at lower interest rates, with more flexibility in guarantees and different payment periods than in formal financial institutions (Box 5).

Box 5 The community forest association ACOFOP in el Peten, Guatemala[11]

Founded in 1997 to strengthen the position and user rights of communities in the Peten Mayan Biosphere Reserve, Guatemala. the Association of Forest Communities of the

[10] See for example http://www.foreststreesagroforestry.org/news-article/moving-towards-a-more-integrated-view-on-finance-and-impact/

[11] Extracted from interview with ACOFOP and FORESCOM representatives 2019. https://www.tropenbos.org/news/los+productos+financieros+deben+ajustarse+para+satisfacer+mejor+las+necesidades+de+las+empresas+forestales+comunitarias

Peten (www.acofop.org) comprises *24 associated community organizations. Nine of these manage their forest under concessionary contracts covering more than 400,000 hectares. In 2003, members created a commercial community enterprise (FORESCOM) to provide drying and molding services, technical advice on commercialization as well as financial services. They now generate US$5 million annually, some invested in social benefits such as local health and education services, and in re-investments in protection and control of the forests and prevention and control of forest fires.*

Despite of always paying back loans, the topic of forestry has still not been able to generate enough trust with banks regarding the administrative procedures needed for applying for operational loans, given that they continue to ask for collateral while the organizations work on State land. Also, loans are usually for one year, and the timing of disbursements and demands for repayments are not adapted to natural harvesting cycles. Finally, costs of borrowing are high at 16-24% per year, although ACOFOP has been able to negotiate 12% in some cases. In general, loan negotiations are made more difficult because credit agents are not aware of the specific needs of forestry businesses.

Members of ACOFOP worked together to solve several structural barriers. In 2004, for example, they founded FORESCOM as a commercial company, contracting qualified personnel for the provision of technical support in forest management, business administration and marketing. Together, they have received international funding which allowed them to invest directly in the community enterprises. More recently, FORESCOM with support of ACOFOP, community enterprises and the NGO CATIE, set up a new finance mechanism to provide loans to member organizations at lower interest rates (9%) and with greater flexibility regarding the documentation required. These loans have a payback period of three years, instead of the usual one year from commercial bank loans and they have more flexible documentation and guarantee requirements. For example, community management plans and their annual harvesting authorizations form the basis for the loan applications. The fund is still small, but they seek to increase it during the coming years. ACOFOP and FORESCOM have also assisted their members in seeking partnerships for financing.

These financial innovations have come more from within the local organizations, in response to limited access of their members to private banks and other financial institutions. They felt the need to create their own fund that allows their members to obtain loans more appropriate to their needs.

A second internal innovation is increasing financial literacy. Community enterprises were supported to formalize themselves as not-for-profit organizations or as for-profit organizations, the main difference between these two being in the distribution of benefits. With both, they decided that 30% of net income should be re-invested in forest operations. As a not-for-profit enterprise, the rest is invested in social or productive projects that benefit communities. In the for-profit enterprises, most net income is invested in other projects not necessarily within the community, or is distributed among the community owners of the enterprise.

The complexity of many financial flows does not promote ***transparency***. While internationally criteria were agreed upon for, for example, making climate finance more transparent, they are mainly directed at public finance and at allowing third parties to follow the money from source to beneficiary. The private sector is considerably less capable of meeting such criteria due to the nature of their operations (Pauw et al. 2016). This is one of the issues, too, in evaluating the merits of blended finance structures: there are many options to blend and this can occur in different segments of the financial flows towards landscapes. In addition, once blended, the money can be used for different purposes through different mechanisms and by

different actors. One of the great challenges thereby is to make sure that public money is used to provide public services and goods, rather than to merely support profit making of individual enterprises. For this, transparency of transactions and decisions is necessary throughout the finance value chain.

In Box 4, however, we refer in particular to a different type of transparency, related to the financial transactions to which local stakeholders have access. Local stakeholders often consider a lack of transparency in such transactions, because for them it often is not clear why some can and others cannot access finance. The issue of transparency in financial transactions is by no means restricted to developing countries. More developed economies also face questions relating to the wider topic of transparency in the banking and financial sectors. Transparency in developing countries also suggests a lack of fairness and equal treatment, with a high degree of subjectivity in the decision-making process. With financial instruments relying on more informal networks, risky assets and sparse information in rural environments, the risk of information not freely flowing and being captured by a few is likely to increase.

One of the reasons for this is the lack of transparency in setting the rules and regulations for the transactions. While this also has a root in the often low financial literacy rates of the receiving stakeholders, little is done by financial product providers to better explain what rules and regulations are, and why these are as they are. As described about legitimacy, greater involvement of local stakeholders in the development of financial products could increase both understanding and transparency of the resulting products, facilitating their implementation.

The fourth principle for improved implementation of finance policies mentioned by Bird et al. (2013) is that of **coherence with objectives**. While these authors refer to coherence with national objectives, we stress here the need to seek coherence between international, national and local objectives. Too often, sums of money are pledged to meet international objectives, such as for climate action or meeting the Aichi-targets, but too little consideration is given to possible trade-offs between meeting these global objectives and the national or local objectives. International development institutions, which often manage donor funds on behalf of philanthropic organization and national development agencies, constitute however a useful interface between global and local objectives. Because of their local presence and the relative, realistic flexibility embedded in their partnership agreements, the international development institutions can often tailor products and services to the local requirements while complying with the broader SDG objectives set by the donors. These mechanism are however insufficient to address the very large needs and fund managers and private sector operators must also play a role in translating SDGS into locally-relevant products.

This is of particular relevance when looking at for example finance for climate and forests and other land uses. Within SDG 13, on climate action, the signatories agreed to provide 100 billion USD/yr from 2020 onward. We already mentioned that only a small proportion of this global climate finance is assigned to the AFOLU sector while, if properly financed, it may contribute to 20% of the global mitigation potential. In addition, of the money assigned to AFOLU up to 2017, the main part was pledged for mitigation purposes. This is relevant from a global perspective, but locally adaptation is often a higher priority. Where these objectives cannot be reconciled, implementing land used based mitigation projects are falling behind expectations. While agriculture and forestry based mitigation options are sometimes considered to be at no net costs to society (Wetzelaer et al. 2007), in some cases such projects are causing trade-offs with local development (for example where large plantations are established on land that previously was used by other people and for other purposes and

the full social and environmental costs of such change is not being considered) and climate resilience (focusing for example on carbon growth rather than on diversity and water availability). This means that, besides involving local stakeholders in the design and implementation of appropriate financial instruments, their involvement in setting the development objectives of the instruments and of their implementation would also contribute to a more widespread adoption.

Having strong local entities that can provide financial and supporting technical services can address these four criteria. Indeed, in some of the cases we studied, it was the creation of local entities that allowed for financial instruments to be easier to implement (adaptation to local needs), build on locally existing relations of trust, and by responding to local civil organizations these were considered as legitimate (e.g. FORESCOM in Guatemala, Ecotrust in Uganda, KOMAZA in Kenya; interestingly all three originally set up for technical assistance).

In many countries, local financial entities exist. Think of micro-finance institutions, cooperatives, agricultural banks or credit unions. In developing countries, however, they either do not exist everywhere, are too small to reach a broad public, are not perceived to be reliable, and/or apply similar documentary requirements to obtain a loan as applied within the formal banking system. While this makes them part of the limitations that smallholders and SMEs encounter when seeking finance, they also may offer great opportunities to increase the access: they have the necessary infrastructure to move money, and could be the key actors with whom can be negotiated terms and conditions of access to finance, in particular if this means an additional injection of capital by investors.

Financial literacy

Financial literacy is important, since some of the drivers for not accessing financial services, such as perceived costs, distrust, and lack of documentation, have to do also with lack of financial literacy. Often this has a particular influence on appreciating the benefits of the financial services. Globalization, leading to more complex economies, combined with aggressive consumer marketing and readily available credits, have increased the need for financial literacy, but this has rarely been accompanied by increased attention to this subject in educational programs. In for example the US, a very low savings rate was perceived to be an indicator of the difficulties that in particular young and economically disadvantaged people had to effectively manage their own money and was a reason to set up a national program for financial literacy (Remund 2010). Remund (2010) defines financial literacy as:

> *….. a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions (p284).*

Besides its significant potential for improving SME performance (Siekei et al. 2013) and willingness to save (Murendo & Mutsonziwa 2017) and thus reducing risks of investments in SME, it also promotes financial behavior (saving, budgeting, wise use of credits) that facilitates access to finance for families and SME (Kefela 2010, Korutaro Nkundabanyanga, et al. 2014). In addition, where it leads to savings and access to insurance and pension, it will contribute to a greater future well-being. Financial literacy is not just related to the understanding of financial concepts. An important aspect is the ability to create your own capital. Usually it is thought of as a combination of being productive, generate an income and spend the money wisely. This may sometimes require policies and regulations that strengthen the participation of smallholders, SMEs and communities in existing value chains and markets.

Notably, financial literacy affects access to financial services and both literacy rates and access is significantly lower for women, youth, in rural areas, among people with a lower income, for people from different geographic and ethnic backgrounds, and for elderly people. Financial literacy rates affect the use of services such as retirement planning, but also a more sophisticated use of investment opportunities (Xu & Zia 2012). However, most studies reviewed by Xu & Zia (2012) were from developed countries, and more evidence on the impact of financial literacy on financial inclusiveness and sustainable landscapes needs to be gathered from developing countries.

In general, however, financial literacy programs that address issues such as money basics, budgeting, saving, borrowing, investing and risk management (Huston 2010), each adjusted to specific groups of beneficiaries, would increase uptake of different financial services and may be necessary to reach the scale of finance necessary to make the change from conventional to sustainable agricultural and forestry practices. Such programs would need to distinguish between the needs for women and men, rural and urban populations, age classes, ethnic groups and income levels.

Social networks to increase financial literacy

Xu & Zia (2012) found that the social networks linked to participants in financial literacy programs often showed an increased uptake of financial concepts and financial services. Being part of social networks may help obtaining financial services if these networks are perceived to be reliable and contributing to transparence and compliance rates (Uzzi 1999, Guiso et al. 2004). Such networks may go beyond the landscape, may include partners along value chains, as well as partners with national economic and political influence. In China, under conditions of weak institutional frameworks, it was found that such social networks, -meeting the right people in social events with business people and representatives of the financial sector-, were replacing the need for fixed assets as collateral for accessing external finance by SME in the manufacturing and mining sectors (Du et al. 2015). In this case, the personnel relations formed through the events helped the process of building trust, not only by knowing each other personally, but also by receiving feedback from third parties about the (financial) behavior of one another. The same authors indicate, however, that if SMEs need to invest in the creation of such networks, this may well affect the financial performance of the SMEs. We think, therefore, that building and strengthening social networks needs to be a process that balances the needs of the SME for both social network and financial performance.

Within specific landscapes, for example, such facilitators (CSOs or multistakeholder platforms for example) could help increase the knowledge on current finance flows, understanding their drivers and their impacts. This would help identify those flows and actors that may be willing to collaborate towards the same objectives and investments. At the same time it will help identify those financial flows and activities that may pose a risk to sustainability of the landscape and threaten the success of your own investment proposals. Such information will help to identify the scope of the social network you locally may want to build.

Scale: Aggregation for sustainable livelihoods and inclusiveness

Scale of investments is a major impediment for formal investments in tropical rural areas. Scale can be achieved by aggregation of many SMEs through an intermediary, such as micro-finance institutions, or by financing larger projects of cooperatives or other forms of institutional collaboration that involve either a large group of smallholders, or combine large companies with smallholders, as for example in outgrower schemes.

A special form of aggregation are so-called subnational pooled finance mechanisms (SPFM). It "a*ggregates the financial needs of members into a pooled financing agency (PFA), which then issues debt and distributes the proceeds from the bond offering to its members"* (Nassiry 2018, p11). Such mechanisms, however, require a high level of creditworthiness which can only be obtained through the involvement of existing transparent government bodies, well-established private enterprises, or over time through good governance structures and processes.

Landscape approaches towards rural development may also provide aggregation (Sayer et al. 2013). Financiers could adopt a portfolio approach to on the one hand address landscape investment priorities and on the other spread their risks, when considering their financial risks and expected outcomes. While promising experiences of landscape approaches have been documented (see for example Box 6), most are process based, focusing on governance issues, without clear measurable outputs in the short and medium term (Sayer et al. 2017). In spite of some landscape oriented investors (New forests in Box 6), many financiers seek clear outputs they can measure and for which they can receive a clear return. Landscape approaches, therefore, often face challenges in terms of sustainable finance (Hart et al. 2015). A difficulty resides in the disparate nature of businesses that can fall under a landscape investment project. Non-financial outputs may come from businesses with short and long cycles, from businesses with recurring or non-recurring revenues or from businesses that are labour intensive or labour-light. Measuring impacts on SDGs, or non-financial outputs, will become therefore difficult if one fiscal year is the reporting period. For pure financial outputs, a portfolio approach relying on fine reporting will require accurate and timely information across a disparate group of businesses. This is a challenge in rural environments in developing countries.

Strategies such as the one of New Forests, that link finance to landscape approaches, may offer new opportunities for the development of sustainable and inclusive landscapes. They allow, for example, to mix commercial investments with development funds, where the latter could be invested in strengthening landscape stakeholder platforms in their ability to support their members to collaboratively prepare investable projects. In such cases, the landscape vision is sought by working through the platform, scale (aggregation) is achieved through the collaboration between platform members, while capacity strengthening provides the pipeline of projects sought by fund managers and investors.

Box 6 Landscape approaches

Both financiers and local stakeholders may apply landscape approaches. For example New Forests, an Australian based investment company, applies their proper Sustainable Landscape Investment approach in their forestry investments in Southeast Asia[12]. It includes six core themes:

- *Appropriate land use and land use planning;*
- *Improving both the biological and economic productivity of our assets;*
- *Ensuring that we support the provision of ecosystem services like carbon storage, clean water, and biodiversity conservation;*
- *Implementing good governance, including openness to new ideas, transparency, and accountability;*

[12] Sustainable Landscape Investment in Southeast Asian forestry, https://newforests.com.au/wp-content/uploads/2018/07/NEW-FORESTS-Sustainable-Landscape-Investment-in-Southeast-Asia.pdf

- *Risk management and emphasising long-term outcomes rather than short-term gains;*
- *Promoting shared prosperity through business practices that support workers and local communities*

These themes guide their investment selection and become also criteria to measure performance of their investments on which they report annually.

Stakeholder based platforms often receive the support of civic society organizations or international conservation NGOs (Sayer et al. 2017). Many of them were created in response to the need to reconcile competitive land use claims within specific geographic areas. Milder et al. (2014) for Africa and Estrada-Carmona et al. (2014) for Latin America surveyed a total of 191 landscape initiatives for which they considered that more than half were able to achieve progress in the combined objectives of improved agriculture, conservation, livelihoods and institutional coordination. Assessment of these achievements, however, has been difficult and was based on perceptions of stakeholders, rather than documented evidence.

More recently, Shames (2019) did a revision on models for financing integrated landscape investments, identifying ten different types of models applying or proposing integrating landscape investments that are "multi-project, multi-sector investment portfolios that aim to achieve multiple landscape objectives, using an array of public, private, civic and blended finance to achieve synergies and impacts at scale"(p3). In their analysis they find that many investment vehicles are adaptations from existing climate finance related vehicles to address the need to go beyond carbon credit investments. Others were supply chain oriented, investing in landscapes in order to improve the sustainability of the supply chain. But only few were what they call "place-based" investments that build on synergies between local development needs and ecological needs for investments.

Scale is also a way to reduce costs of access to financial services, often making it possible to create specialist entities that facilitate access to finance, such as microfinance institutions or, as for example in the case of the community forest organization ACOFOP in Guatemala, business units that provide technical assistance, as well as financial literacy services and non-formal financial services for their members (Box 5) and is a locally generated example of the place-based investment vehicles referred to in Box 6.

Physical access through fintech and other technological innovations

Fintech has been defined as "*a new financial industry that applies technology to improve financial activities*" (Schueffel 2017, p45) although others prefer to define it as a "*technologically enabled financial innovation*" (Schindler 2017, p2), thus stressing more the technology part used to innovate financial services. Such financial innovations may include equity crowdfunding, blockchains and online marketplace lending. Automated teller machines, online banking services, and mobile payments were also technology led innovations in the financial industry, but since these incurred several decades ago in developed countries, they are often no longer seen as Fintech and in this paper we refer to them as other technological innovations. In developing countries, their availability may be crucial to increase access to financial services: reducing the costs of financial transactions; increasing income earning capacities, savings, access to formal and informal lending facilities; and allowing for example women to shift from agricultural to business and trade activities (Demirgüç-Kunt et al. 2018).

Technological innovations have shown, therefore, that they can facilitate financial inclusion. On the other hand, this is only possible if reliable country-wide communication networks are

available and access to these networks is affordable for all people. This is still a challenge in some of the developing countries, particularly for women, poorer men, people with less education and other disadvantaged groups (Demirgüç-Kunt et al. 2018).

Digitizing financial services may make most, if not all, of the financial instruments in Figure 1 more accessible to landscape stakeholders, and thus has the potential to increase financial inclusion. Governments may support this by improving the infrastructure needed for access to digital technology and communications. Technological innovations in finance in developing countries has therefore often been seen as a means to speed up development efforts, circumventing often inefficient financing systems, and indeed the use of mobile phones has made an impact on income and its distribution in Kenya and Tanzania (Arner et al. 2015). Digitizing financial services by itself, however, is not enough to achieve financial inclusion. It requires that the services offered are tailored to meet the needs of the local customers (Arner et al. 2015). It also needs to be accompanied by financial literacy programs in order to help people make appropriate use of the services offered. It remains a challenge to adjust the local regulatory systems to ensure that digital finance systems acquire the confidence of all actors involved while at the same time allowing for flexible access to these systems.

Digital financial services have also shown to increase transparency of money transfers in comparison to cash payments (Demirgüç-Kunt et al. 2018). This has made possible the increase in new finance instruments such as crowdfunding and peer to peer lending (Arner et al. 2015). Most of these services, however, have been addressing financial inclusion of individual households, women and youth, addressing the subsistence and operational loan section of the market. Apart from helping to build up credit track records, these services have not been able yet facilitate access of households, farmers or SMEs to more commercial loans that help them expand the scale of their economic activities.

Blockchain, where all transactions are recorded on a public ledger and verified by a majority of participants of the system, has the potential to ensure transparency and overcome problems of trust often felt by rural people dealing with in particular state owned financial institutions (Nassiry 2018, Arner et al. 2015). While Blockchain technology still needs further development, pilots are under way to look at its implications for sustainable development, linking the tracking of the money flow to tracking the product's value chain (Nassiry 2018). While Blockchain shows promise to simplify the complexities of national regulations, international certification schemes and private standards, it also faces a few challenges in ensuring the truth of entered information (Nikolakis et al. 2018). The latter can be addressed by agreements between the participants. For agricultural and forest product and services value chains, this could be reinforced by good governance in the landscape from where the goods and services originate. Blockchain, then, has the potential to both facilitate access to financial instruments and exert a positive influence on the sustainability of the investments made with the money obtained (Figure 1). But both the technology and its applications still require more work to be able to apply it at scale (Roubini and Byrne 2018), ensure reliability of its records (Nassiry 2018) and ensure sustainability outcomes.

Own capital

In general, having access to proper funds or to finance from local sources makes it easier to access additional financial resources. It is often seen as a sign of confidence in a positive result if you put up your own money, or trust, if you are able to raise local finance from other sources than your own. In addition, for potential investors it is a form of risk sharing if they are not the only ones to invest in the initiative. Most investors (or banks) require that the investee contributes at least part of the finance themselves. Also, in crowdfunding, being able to show quickly that one is able to raise an initial amount helps to raise more money.

Initiatives that were able to do so by making use of their own social networks have had more success in completing their target amount, than those that did not.

Particularly in tropical landscapes, raising this own capital is difficult. Partially, because local stakeholders are poor, partially also because their experiences with financial flows are limited and their financial literacy is low. In such cases, raising substantial amounts of money may have to go in stages: starting with financial literacy programs, reflection of local possibilities, building social networks, raise some initial capital and maybe even piloting the proposed changes, before committing themselves to efforts to raise the amounts needed to come to transformational change. This was, for example, the process KOMAZA went through (Box 3). During this process, other barriers to access to financial services may be found that may need to be resolved before being able to access the amounts necessary to expand transformation of agricultural and forest SMEs to more sustainable and inclusive operations.

3.3 Influencing positive impacts on sustainability and inclusiveness of landscapes (finance for sustainability and inclusiveness)

Many investors claim that their investments contribute to sustainable practices, and in some cases also to inclusiveness. While above we have seen that in theory investments have potential for such contributions if the actors that practice sustainable land uses can access the financial instruments offered, in practice there still exist a number of additional factors that influence whether positive impacts on sustainability and inclusiveness in the landscape are achieved or not (Box 7). Both are dynamic and although their drivers go beyond the landscape, land use and landscape governance practices will need to consider their possible impacts on the landscape in order to achieve sustainability.

Box 7 Factors that influence the degree of sustainable results that can be achieved by investments

Internal to the investees	***External to the investees***
• *Organization*	*Governance related* • *Tenure rights* • *Access to markets and resources* • *Migration*
• *Knowledge and experience*	• *Climate*
• *Risk management*	
• *Certification*	

Organization

Organization between stakeholders and SME (for example producers of a particular crop with processors, or practitioners along different segments of the same value chain) has been discussed as a form of aggregation and as a factor to facilitate access to finance (MacQueen et al. 2018). Social capital and local networks have also been reported as one of the factors that influence adoption rates of sustainable practices (Teklewold et al. 2013). Networks can also be used for reflection and the co-creation of new meanings and practices (Moschitz et al. 2015). Such inter-stakeholder organization can be at the level of landscapes, between likeminded people or SMEs, but can also be along the value chains.

Internal organization of SMEs is also an important factor in achieving sustainable and inclusiveness objectives. It helps efficient use of the resources. For example, working with forest concession holders in Peru in their preparation for Forest Stewardship Certification, some of the concession holders indicated that improving their internal organization was one of the biggest benefits they received from the process: production losses after tree harvest decreased by about 10%[13]. This also meant that less trees needed to be cut for each cubic meter of sawn wood produced, improving their sustainability impact. In addition, operational management capability facilitates the adoption of standards (Gonzalez-Benito & Gonzalez-Benito 2008) that require specific measures to reduce impacts and may be required by specific off takers of project developers and fund managers.

Knowledge and experience

Knowledge, skills and experience also are related to market access: knowing where to go, what prices to expect, how to negotiate. Each of these factors will allow SMEs to increase and stabilize their net income. This is also beneficial for their chances to obtain access to financial services and continued investments in their businesses.

Strengthening business administration capacities of SMEs is another essential element of strengthening SMEs and increase their success in obtaining finance for the implementation of their ideas. Business incubators are increasingly used for this purpose, strengthening the capacities of persons that want to start a business in topics such as financial administration, marketing, seeking finance, expanding their networks to strategic partners, etc. The success of such efforts, however, largely depend on the extent to which such services can be tailored to the local context, and the resourcefulness and initiative of the start-ups (Lesakova 2012). The importance of business management related knowledge for SMEs cannot be overstressed. For ACOFOP, for example, it was not until the supporting agencies refocused their services from technical assistance to strengthening local organizational and business management capacities that the organization was able to create their commercial arm FORECOM and grow towards more financial independence (Box 5).

The case of ACOFOP is also an example of the value of experience: in Guatemala, many villagers had been working in the forest collecting forest products. They needed to make adjustments in the way they worked and learn to manage their businesses. Initially, their vision and customs did not coincide with the scholarly ideas of how forests should be managed for a continuous stream of timber products, often resulting in difficulties to address issues of timing, quality and volumes of product delivery (De Pourcq et al. 2009). Being able to recognize these differences in experience and culture may contribute to the effectiveness of the processes of community support.

This case also shows the need to recognize the local learning processes, to recognize that it may be necessary to blend different types of knowledge and that knowledge changes over time, is adapted according to new experiences and therefore learning processes need to be adapted (Prins et al. 2015).

ESG guided investments by private sector players, and investments by development institutions (which must follow strict environmental and social performance standards), are designed to mitigate their inherent impacts and promote sustainability and inclusiveness. The ESG framework is increasingly being used by the international investment community. The development institutions and a number of large private sector players have been assessing investment opportunities and projects through some form of ESG framework for decades.

[13] Espinoza, pers. comm. 2006. Owner of Espinoza sawmill operations in Puerto Maldonado, Peru.

The implementation of the ESG framework for investments in landscapes is however relatively new and little evidence exists of their impact.

Evidently, a goal of these ESG guided investments remains to generate a financial return. While some of the related activities of these investment are more oriented towards not doing any harm and avoid or reduce negative impacts, a number of investments also contribute positively to SDGs objectives. For instance, when looking at Greenfield infrastructure projects in poor or developing countries, some investments are only possible if they follow ESG guidelines, imposed by local governments or international development institutions. Without ESG investments, in some cases there would be nothing. Or there would be something, but built very poorly with severe consequences for the environment. Furthermore, blended finance and development must theoretically be deployed according to the principle of additionality. Again, where private capital would not go, the ESG guided investments (blended finance and development finance comply with ESG) are providing the capital necessary for the projects to be realized.

However, when it comes to the relatively new concept of landscape ('new' from an investment point of view), the ESG guided investments are not necessarily addressing the priorities of the landscape within which the activities take place. Impact investors differ from conventional investors that apply the PRI or ESG criteria in that, in addition to seek a return to their investments, they explicitly seek to achieve positive impacts (Bugg-Levine and Emerson 2011). Achieving such impacts may be sufficiently important to accept lower rates of returns, and venture into less well known sectors, asset classes and innovative finance structures, mechanisms and instruments. Thus, impact investors may be more willing to invest in actions that promote the sustainability and inclusiveness of landscape. These investors reported investments for more than 229 billion USD in 2018 (GIIN 2018).

Most impact investors indicate that they have some investments in the food, agriculture and conservation sectors, but even they invest only 9% of their total investments into these sectors (GIIN 2018). For impact investors, too, these sectors are still little known and perceived to be of relatively high risk, while for example the energy sector investments are higher, results are quicker, easier to measure and less susceptible to governance issues, and therefore more predictable. In particular in developing countries, where governance usually is fragile, investments in agriculture, forestry and other land uses (AFOLU) are considered to be relatively risky. A number of factors make these AFOLU investments in developing countries particularly risky for an investor: poor infrastructure to access markets, lack of adequate storage facilities, inadequate off-take agreements, uncertain land delineation and ownership, lack of integrated landscape and supporting services (for scale), inadequate and changing regulatory environment, staffing issues, lack of access to trade finance and to hedging instruments, perception of land grabs by an outside investor, question over buy-in by the local community, etc.

The importance of risk as criteria in their decision-making is also reflected in the distribution of investments over the stages of business: while most respondents of the GIIN survey indicate that they invest in start-ups (42%), venture stage (65%) and/or growth stages of businesses (81%), only 1% of the invested funds goes to start-ups, 10% to the venture stage, 35% to growth stage, and 53% to mature private or publicly traded companies. Apparently, they prefer both lower risks (further developed businesses) and larger scale (more funds per business, rather than many businesses with little funds each).

Despite global recognition of the importance of (tropical) forests and other land uses for climate change mitigation and adaptation, and despite the vast area of degraded landscapes threatening the implementation of sustainable development goals (SDG) 1 (zero poverty) and

2 (zero hunger), impact investing, aiming to contribute to the implementation of both the Paris Agreement and Agenda 2030, has not made the difference yet in investments for sustainable and inclusive landscapes. So, do innovative finance structures, mechanisms and instruments fail to address the issues that impact investors have in investing in such landscapes? What is needed for investments to be attractive and contribute to sustainability and inclusiveness? How can this be achieved at scale? These are the questions we address in the following section (4).

Risk management strategies

Risk management starts with risk assessment. Risk management will aim at devising mitigating strategies and proactively managing risks during the investment life cycle (from execution to exit). But risks assessment really comes first for investors looking at landscapes in developing countries. The ability to access information, gather data, identify risks and rank them according to their likelihood and expected impact will drive the risk/return profile to the investment opportunity. Once risks are identified, the investors will prepare risk management strategies to mitigate and monitor the risks.

Perceived high risk, is one of the major limitations for investors to invest in tropical landscapes. Reducing the risk for investors is, therefore, one of the drivers behind blended finance structures, where development money is invested in funds with the commitment to carry first losses if these occur; can complement private lending instruments with grants to provide specific technical assistance that enables successful use of the borrowed money; can be used as guarantee for such private lending instruments but also can be used to simply plug a financial gap to make the investment feasible for the private investors.

Risks as perceived by the investors may be higher or lower than those perceived by the investees in the case of landscape investments. Partially, this is the result of lack of experience in the type of investments on the part of the investors. This could be addressed by making investors more “landscape literate”. For multisector financial investment platforms operating in developing countries, a premium is often, not always, given to regional specialists rather than sector specialists to address the need for local knowledge. It may be perceived as more cost effective considering the lack of bankable ready projects.

Part of the reason for differences in risk level perception is also that risk management strategies of investors and investees may be different, since they part from different viewpoints. For climate change adaptation, for example, we found during focal group conversations with farmers in Costa Rica, that they were reluctant to diversify their production because they lacked the experience and skills to produce anything different from cattle. Achieving new experiences and skills was seen as a cost they could not bear, while they considered that the result of that learning process was not necessarily positive. For them, therefore, diversifying their land use was not a good strategy to reduce their risk of climate change. Diversifying cattle breeds and adapting management practices were considered to be better strategies. Other farmers in other context may have different perceptions. In South Africa, for example, farmers perceived price, production and financial risks and responded through crop diversification, precautionary savings and participation in social networks (Kisaka-Lwayo, & Obi 2012). For many poor farmers, however, risk management strategies appear to be insufficient to address the challenges posed by climate change (Harvey et al. 2014b).

Unfortunately, still little is known on how we can influence the drivers for risk management strategies among SMEs and landscape level multistakeholder platforms and how well existing SME risk management strategies can address the concerns of investors.

Risk can be reduced by improved land management practices and local social networks, but for the land manager it can also be reduced through credit enhancement, tailored financing facility and insurance. From an investor's point of view (for instance in the case of a blended finance fund manager or for a small local SME), credit enhancement mechanisms may help increase the creditworthiness and mitigate risks of the project. Products such as first loss guarantees (proposed by a number of institutions or development funds) or simple letter of credit to cover any cash loss or inability to make a loan repayment can improve the risk profile of the project. Institutions such as the IFC, for instance, offers partial credit guarantees, which are an irrevocable promise by IFC to pay principal and/or interest up to a pre-determined amount.

Insurance is also an important tool to de-risk project. Insuring against for example extreme weather conditions has been in place for several decades in developed countries with weather stations throughout the country (Changnong & Changnong 1990) and from the perspective of the farmers becomes increasingly interesting with increasing climate uncertainty (Falco et al. 2014), in particular for farmers with few crops. In tropical countries, however, such schemes are more recent and applied in relatively few countries (World Food Program 2005). Notable examples of such schemes are the indexed-based crop insurance system in Malawi, where farmers obtain loans which are coupled to an insurance. In case of pre-defined extreme weather events that cause crop losses, farmers only pay back part of their loans, while the rest is covered by the insurance company (Linnerooth-Bayer & Mechler 2015). While this mainly reduces the risks of the banks and only indirectly supports the farmers, such schemes could also be developed to improve the cashflow of the farmers after extreme event related crop losses. However, costs may be relatively high for poor farmers and SMEs and should be weighted against the costs of taking preventive measures, such as for example crop diversification in the case of agriculture, or maintaining diverse and vigorous forests in the case of forest and tree plantation management. In fact, most crop insurance systems that are effectively adopted are supported by public subsidies. In developed countries like the USA and Europe it is in fact a form of subsidy. In addition, increased climate risk due to climate change may make it less attractive for insurance companies, or, alternatively, increase the premium of insurance to levels unfeasible for most tropical smallholder farmers. There is also a risk of maladaptation. These elements call for better distinguishing insurance that covers either investments or the additional financial risks linked to a loan for instance.

Certification or other types of frameworks to guide and monitor practices and their impacts

Investors increasingly recognize the need for frameworks to guide and monitor practices of their investees and their impacts.

For example, the Global Impact Investing Network (GIIN), which promotes impact investing and aims to strengthen the position of impact investors globally, builds on the Rockefeller Foundation, Acumen and B-Lab developed IRIS framework for impact assessments. They estimate that as of July 2018, about 41 of self-declared impact investors apply this or a similar framework for impact measurements[14]. For investments in the agriculture, environment, land conservation and water sectors, one of their recommended metrics is products/services that are third party certified, and another one is on land sustainably managed or under sustainable stewardship. Both would be addressed if the investee were to achieve certification for both the land use and value chain. Certification would therefore facilitate access to finance by a group of potential financiers. However, it can also be a set of

[14] https://iris.thegiin.org/about-iris

guidelines for an SME to help it focus on those issues and practices that are important for achieving sustainability. As an example, the Roundtable on Sustainable Palm Oil (RSPO) has developed "*a set of environmental and social criteria which companies must comply with in order to produce Certified Sustainable Palm Oil (CSPO). When they are properly applied, these criteria can help to minimize the negative impact of palm oil cultivation on the environment and communities in palm oil-producing regions*". Interestingly, the RSPO has developed a Smallholder Certification, specially designed to address smallholders needs and constraints. Based on that certification, a number of trading options can be offered to the smallholders, allowing them to generate revenues.

Certification, however, is not easily achieved and requires investments in planning and training that may go beyond the capacity of many SMEs. A number of governments in developing countries are also conducting initiatives to develop local certifications to support competitiveness and sustainability of certain industries. As an example, in the palm oil business, the government of Indonesia has introduced the Indonesian Sustainable Palm Oil (ISPO) certification. Even though somewhat less strict than the RSPO, it is among the Indonesian government's efforts to make palm produced in a more environmentally sustainable manner. More importantly, the ISPO certification is fully funded by the government for smallholders.

However, some investors have realized that they need to fill the gap: New Forest, for example, has identified support to smallholders to improve their management and achieve group certification as a possible response to this issue for their investments in tree crop plantations in Asia[15]. In Latin America, such support has gone to indigenous and local communities but coming mainly from bilateral public financial resources. Processes were lengthy and results have been mixed, with Guatemala's ACOFOP as a good example. Similarly, individual forest owners in Costa Rica were supported by the NGO FUNDECOR to achieve forest certification. Their success lies less in the certification by itself, but more in linking the work to different forms of doing business, including advanced payment schemes for plantation timber and facilitating access to the national payment for environmental services scheme, both addressing the specific financial needs of the forest owners (Louman et al. 2005).

Evidence of the implementation of good practices can be required both by investors and by buyers of products and services. Linking investments, products and services to specific practices, however, may reduce the motivation for practitioners to innovate and adapt to changing local circumstances. This is still a common practice in certification schemes and is due to the ease of measurement of their implementation. In the end, however, it is most important to achieve the desired impacts on the environment and society and practitioners should have the liberty, and be encouraged, to find innovative ways to achieve this. Certification schemes and standards, however, still struggle to find the balance between process and impact measurements.

An emerging, good practice that could be replicated could be taken from the infrastructure and project finance sphere. A number of financial institutions and commercial lenders have now adopted the Equator Principles. It is a risk management framework for determining, assessing and managing environmental and social risk in project finance. It is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. The Equator Principles are based on IFC's performance standards. A

[15] Tollenaar 2018. Pers. Comm.

number of commercial lenders would now ensure that transaction documents are designed in accordance with the Equator Principles.

Tenure right security

Secure resource tenure rights facilitate the use of sustainable practices. This has been shown for among others forest lands (Robinson et al. 2014) and uptake of soil conservation practices (Gebremedhin & Swinton 2003). While tenure right security usually lies within the decision-making domain of national governments, landscape initiatives have been able to improve rights security by stakeholder collaboration. A first step, for example, is to collaborate with financial institutions and convince them that their clients should respect existing legal and customary land rights. The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security have been adopted by the Committee on World Food Security (CFS) in 2012[16] and are used as a reference by some banks like ABN AMRO[17]. Some major companies have made commitments to respect land and forest tenure rights[18], but this has not been sufficient, considering that respect for indigenous rights is still a major issue in many tropical countries (IPMG 2019). It also requires strong governance and the participation of local stakeholders in defining the rights. Their participation in land use planning based on those rights could further strengthen respect for legal and customary rights (Chigbu et al. 2017).

Access to markets and natural resources

Access to markets and natural resources of course first of all depends on whether these exist. Any commercial initiative, therefore, will need to gather information on whether the resource base exists (this may be through inventories in case of forests), that markets exists for the products and services to be produced, and that those markets seek the products and services of a quality and quantity that the initiative proposes to produce.

Once the existence and appropriateness of the resource base and market are confirmed, access entails physical aspects, human aspects (information, skills) as well as social aspects (legal and customary rights, equity). Physical access depends on infrastructure, means of transport, products sold or bought (quantity, individual size, perishability) and need for and forms of storage. While infrastructure is typically a responsibility of the state, transport, products and storage are usually decided upon by the individual businesses, seeking the best combination for their production capacity. SMEs often depend on intermediaries for their access to the markets. These intermediaries may be specialized in transport, in storage, in buying and selling, or any combination of these. If these intermediaries become much bigger than the investees, this may create an imbalance in the trade relations resulting in exploitation of the smaller actors. However, they may also contribute a lot of knowledge and skills that cannot easily be obtained by each individual SME.

Examples exist where SMEs organize themselves and either generate their own skills or contract reliable specialists and thus assume successfully the responsibility over access to the market. The earlier mentioned forest community organization ACOFOP is an example of that. With long term commitment of international cooperation (mainly from the US and Finland) and local and regional NGOs they were able to acquire the skills and organizational strengths to acquire equipment to ensure physical access to both forests and market. Equipment that can be used by their members against a reasonable fee. In addition, they

[16] http://www.fao.org/3/i2801e/i2801e.pdf

[17] See for example the proposal for due diligence procedures by Solidaridad and ABN/AMRO at https://www.abnamro.com/en/images/Documents/040_Sustainable_banking/Publications/VGGT_Land_Rights_working_paper.pdf

[18] https://www.interlakengroup.org/annex/company-commitments

acquired the skills to grade their timber, and provide their members with information on timber and palm-leaf prices, making them a more equal partner in the market.

The case of ACOFOP is an interesting example from the social perspective as well: communities originate mainly from migrants that worked in the forest to collect non-timber forest products or as timber harvesters before the Mayan forest was declared a Biosphere. In order to strengthen their negotiation position to acquire user rights to the forests, the communities organized themselves into the association (1997). Then, in 1998 they were assigned forest management concessions under the condition that their forest use would meet international forest certification standards. Twenty years later, nine out of the original twelve communities maintain their FSC forest management certification and together with other community groups generate an annual gross income of US$ 5 million a year from timber and non-timber forest products, harvested in an area of approximately 400 000 ha[19].

Another interesting case is that of FUNDECOR in Costa Rica[20], where individual forest owners enter into agreements with the foundation. In this case, FUNDECOR acts as an intermediary but is financed based on a percentage of the results it obtains for its clients. The foundation provides the umbrella for forest certification and provides technical assistance for the activities from management of natural forests and plantations to marketing of the products and services derived from them. In addition, they provide support to the formalization of land rights, since about 20% of their members did not possess adequate up to date documentation, having acquired the land during a period of (legal) expansion of the agricultural frontier, when documentation requirements were less stringent. FUNDECOR has been experimenting with advanced payments for timber from plantations, as well as with bidding processes for the sale of timber from natural forests, both with the intention to improve the timing and size of income for the producers. It was also instrumental in the development and piloting of the national payment for ecosystem services scheme. It is an example of how an intermediary whose own survival depends on the success of its clients has been able to bring SME activities to scale, improving their access to markets for timber products as well as for ecosystem services. In more recent years the foundation has ventured in the provision of services to a wider audience, spreading its work also towards ecotourism as well as to climate change action within sustainable landscapes.

Access to natural resources is often also linked to tenure arrangements. In many countries, land ownership does not automatically imply that one has rights over the trees on the land. At the same time, land tenure arrangements may need to be made in order to get access to trees over which one has required the rights. Furthermore, in many societies men and women do not have equal rights to ownership of land or trees. As a result, access to resources may be subject to gender issues which may need to be understood in order to be able to find the best approaches to come to sustainable and inclusive landscapes.

Migration

Out-migration has been suggested as enabling forest recovery in pastures in Costa Rica when coupled with secure tenure rights (Louman et al. 2016). Pasture land is bought by urban people who then make long term investments in crops and trees. Rural migration, however, is considered by some a major factor for deforestation (Carr 2009). In both cases, the economic conditions at the source are seen as the main underlying drivers. Under these conditions it can be expected that local capacity to reduce migration flows is limited and as in

[19] Pers. comm. 30 January 2019. ACOFOP: Teresita Chinchilla (president), Elmer Mendez (advisor for member organizations), and FORESCOM: Mario Rivas and http://www.foreststreesagroforestry.org/news-article/moving-towards-a-more-integrated-view-on-finance-and-impact/

[20] https://www.fundecor.org/

the case of land and forest tenure security, financial flows can have various consequences. The application of due diligence practices can contribute to avoid worsening the situation, including for instance commitments to avoid displacements often linked to large scale farming. In the early 2000s in Brazil, for example, a combination of government policies and company commitments was able to decouple soy expansion and cattle breeding from deforestation rates (Gollnow & Lakes 2014). Sustainable and inclusive finance can also play a crucial role to create locally opportunities for decent livelihoods thus reducing outmigration.

4. Mobilizing finance for sustainable and inclusive landscapes through innovative finance

Sustainable finance has produced a number of innovations can could address at least some of the constraints that were highlighted above.

At the GLF investment event held in New York in 2018, three innovative finance approaches were highlighted. Blended finance is an innovative financial structure that aims for a mix of funding sources (see definition below). Green bonds are debt instruments that allow private and public finance to invest in medium to long term endeavors with sustainability objectives and relatively low risks. Blockchains are digital mechanisms that allow for financial transactions to occur at minimum costs of intermediaries and maximum transparency. Other mechanisms that may increase private sector finance towards SIL are national or local (landscape) funds and different types of crowdfunding. Each of these have surged during the last ten years as promising to channel additional finance for climate and/or sustainable development to developing countries.

In this section we look at whether these innovations can address the issues that hamper scaling up investments in SIL, or whether further innovations are needed to scale up investments for SIL. We look in particular at three innovations that surged in landscape finance during the last ten years: blended finance, green bonds and crowdfunding. In addition we look at some non-financial innovations that have improved either access to finance or the sustainability impacts of financial investments in landscapes.

4.1. Blended finance for investments in sustainable and inclusive landscapes

The Blended Finance Taskforce (BFT) of the Business and Sustainable Development Commission (2018) defines blended finance as ***the strategic use of public or philanthropic development capital for the mobilisation of additional external private commercial finance for SDG-related investments*** (The Blended Finance Taskforce, 2018). Blended finance structures may implement a series of mechanisms and instruments to get the funds to the final beneficiaries.

Blended finance could address the issues of risk reduction for private investments through providing guarantees or finance technical assistance facilities that accompany the financial instruments, thus increasing the after risk rate of return to investments (Gommans et al. 2016). Public and philanthropic finance is also needed to address concerns related to governance structures and institutions, dialogues, improving policies and administrative procedures for investments, provision of economic incentives, and information and communication technologies and knowledge management (Clarke et al. 2018, IFC 2013), particularly in a context of climate change, where the risks increase while data and information on climate, impacts, vulnerabilities and responses are limited. In such cases, blended finance structures can be used to channel public and philanthropic money to "mitigate risks and enhance returns for investors" while at the same time addressing general sustainable development concerns (Guarnaschelli et al. 2018).

Blended finance is on the rise, having doubled its overall finance in the last five years. Most of that is oriented at clean energy and infrastructure projects and medium to large scale lower risk investments (BFT 2018). Although relatively little private finance has been mobilized in the agriculture sector (OECD 2018), opportunities exist to finance landscape initiatives through blended finance structures, in particular within the context of achievement of the climate goals.

For blended finance to achieve positive impacts, often public funds are blended with private finance in so-called impact funds. An example is the Microfinance Initiative for Asia (MIFA) Debt Fund, where German public funds and IFC funds are placed in a mezzanine position, subordinate to private funds, and provide 50% of the total fund[21]. While the MIFA fund is oriented at micro-finance, and thus at least partially contributes to inclusiveness, the contribution of blended finance to inclusiveness and sustainability will depend on how these concepts are interpreted by the fund managers in their policies and strategies, and the effectiveness of the instruments they create to implement them.

Essential actors in blended finance structures are the fund managers: they do most of the blending, acquiring funds through different means and from different sources. But other major actors include development institutions such as the IFC, a key provider of blended finance, via mobilization and intermediation of concessional finance. The EIB, IDB, AIIB, AfDB and the ADV are also key players in blended finance. These institutions may not only provide sources of funds to contribute to the blending orchestrated by fund managers, but also do the blending themselves and act as fund managers.

To reduce transaction costs, they also prefer to invest at scale and therefore usually seek some form of aggregation at the landscape level. This can be done through project developers, micro-finance organizations, large companies that work with smallholders through for example out-grower schemes, but also through other forms of organization of local producers or investees. These aggregators distribute the funds to the final recipients or provide technical assistance and production inputs. It is at this level where further criteria need to be applied that ensure the contribution of raised funds towards sustainable livelihoods and inclusiveness.

Box 8 New Forests's Tropical Asia Forest Fund

The Tropical Asia Forest Fund (TAFF) is a private equity fund, managed by New Forests, an Australian fund manager. The fund focuses on investing in large-scale timber (Acacia, Eucalyptus etc.) production companies in order to facilitate supply of sustainable timber in Asian markets. TAFF seeks to improve investee production to the point of obtaining FSC certification, where certification is not already in place, as well as protecting and improving existing forest ecosystems and supporting stakeholder engagement and community development.

New Forests is anticipated to continue its investments in the region through a second round fund, where they will also include climate finance. A representative of New Forests explained that they were able to improve management of risk-adjusted returns by mixing different types of investments together, thus increasing the interest of impact investors in sustainable forestry. This in turn may increase attractiveness of the fund to other investors (presentation at GLF Bonn, 2018).

Blending

Blending is done at the fund level: TAFF raises the money from a variety of investors, each with different perspectives on the benefits they want to pursue. Development funds come from public and philanthropic investors, who expect to receive a "lower financial return commensurate with impact value delivered instead' (Guarnascheli et al., 2018). Among these investors are the Danish Investment Fund for Developing Countries (IFU), the Dutch development Bank (FMO) and FinnFund, who contribute through equity investments or provide technical support to the investees of the New forests (Guarnascheli et al., 2018; New Forests, 2018b). Private finance has come from institutional investors such as

[21] http://www.blueorchard.com/blended-finance-meets-impact-investing-oecd-showcases-blueorchard-managed-mifa-fund/

pension funds, and funds of funds in the form of subscribing to commingled funds, pursuing different types of investments in for example timber real estate investment trusts (REITs) (New Forests, 2017). Both private and public investors may apply conditions to their investments, such as requirements for internationally recognized forest certification, the existence of social and environmental management systems, and specific restrictions on activities (for example those that involve practices on the European DFI exclusion list[22]) or geographic areas.

Whereas the major investees of TAFF investments are large timber or tree crop producing companies, New Forests recognizes the need to be inclusive of other stakeholders in the landscape where these companies operate in order to achieve long term production goals. In addition to seeking a return to its investments, the aim of TAFF is to contribute to achieving stable and attractive livelihoods for local stakeholders by supporting the development of local economic land use activities and industries (Guarnascheli et al., 2018). This support is provided in the form of investments in capacity building, provision of inputs, commitments to acquire the future products, joint venture planting areas, but also by providing stable job opportunities. In addition, TAFF aims to achieve biological sustainability goals, which include conservation and promotion of high conservation values (HCV), production of renewable resources and research on priority wildlife species.

Landscape approach

In their management of TAFF, New Forests adheres to what they call their Sustainable Landscape Investment (SLI) approach to fulfill their mission to create productive and sustainable landscapes through their investments (New Forests, 2018). Through this approach New Forests aims to achieve an 'integrated management of business, environmental and social performance' (ibid.). see also Box 6).

When investing in assets, New Forests considers the assets' role within the landscape and how the asset can contribute to increase the landscape's sustainability. In addition, in some locations, New Forests manages multiple assets within and across landscapes, offering landscape-scale impacts. In cases of larger single investments, land use planning includes multiple land use areas that contribute to landscape functions. For example, as manager of TAFF, New Forests invested in a large-scale rubber plantation of Hutan Kalimantan Industri (HKI) in West Kalimantan, Indonesia in 2015. This investment affects the landscape by the rubber plantation tripling its territory. Guided by their SLI approach, the investment also includes conservation areas, and ensures that essential ecosystem services are maintained and enhanced. Moreover, the investment agreement ensured that local communities were consulted and positively engaged in the project (New Forests, 2015).

Inclusiveness

New Forests considers consulting and engaging stakeholders important for understanding the present and future needs related to land-use (New Forests, 2018b). As investor, however, it cannot directly engage with local stakeholders. Their approach is to use a rigorous due diligence informed by appropriate local experts and consultants. This will help them to understand local key ecological and social issues and develop an action plan as guidance for engagement by the operators. One of the tools for social inclusion and legitimacy promoted by New Forests is Free Prior and Informed Consent (FPIC) conducted with local stakeholders. It should help to reduce future land use conflicts and it is important in recognizing and managing other production risks. Throughout the ownership of their investment, the fund manager continues supporting positive social outcomes for all stakeholders, including local communities (ibid.).

[22] https://www.edfi.eu/wp/wp-content/uploads/2017/10/EDFI-Exclusion-List.pdf

New Forests' investee in Laos, with the help of consultants, carried out environmental and social assessments. This research included assessments of impacts that might have occurred during the land acquisition phase which took place prior to New Forests' investment (ibid.). Based on these assessments they proposed the revitalization of community development programs.

New Forests seeks to support the best site-fitting smallholder models for smallholders inclusion in sustainable timber production. One of those models is that of outgrower schemes. In Laos, for example, New Forests invested in the revitalization of an existing but defunct scheme which involves as many as 5000 farmers (New Forests, 2018b). This outgrower scheme was designed to support smallholders by providing seedlings, trees, trainings and secure market to sell the trees. New Forests is considering to support the outgrowers to obtain certification (FSC and PEFC).

According to the available information, smallholders involved in the outgrower schemes appear to own their resources, including the land, and are supported to improve their own decision making processes in terms of sustainable use of those resources. In addition they increase their benefits from those resources and by receiving the appropriate inputs, technical assistance and a secure market outlet, production risks for the smallholders are reduced.

Contribution to sustainability

The SLI approach is the basis for New Forests' proposal to improve its investments impact measurement and monitoring of social and environmental issues (New Forests, 2018). Monitoring is performed over time and is meant to 'demonstrate [that their] management approach improves performance underpinned by appropriate risk management and governance' (ibid.). It is New Forests' policy, however, to present the results of monitoring at fund level, rather than at individual investment level[23]. It can be expected that the explicit inclusion of conservation areas, as in the case of HKI in Kalimantan, will have positive impacts on the natural environment while planting and restoration of natural areas will contribute to the global carbon balance and have created employment opportunities. Thus, it can be expected that New Forests' investments that follow the SLI principles will contribute to SDG 8, 12, 13 and 15. In addition, all investments follow the IFC Performance Standard guidance, which requires investors to ensure inclusiveness in general and in particular of women and vulnerable groups, contributing thus to SDGs 5 and 10 as well.

Blended finance seems to create the opportunity to particularly address the access issues of aggregation, network strengthening and technological innovations (Box 4). In addition, it has the potential to address some of the issues that influence achieving the desired impacts (for example certification, tenure rights, access to markets and resources, knowledge and experience). Mixing development finance with commercial finance into specific funds can facilitate the establishment of specific technical assistance programs linked to investments and addressing local issues. The Tropical Landscape Finance Facility is an example of this, although it is still too new to be able to assess whether it is successful. Development funds received by the secretariat of the Facility are used to provide technical assistance to potential beneficiaries of the commercial investments. Care should be taken though that these new funds address the needs of all stakeholders in the landscape and do not only go for the low-hanging fruits: big companies that are willing to follow international sustainability standards. These could achieve large scale positive environmental impacts in a relatively short term (for

[23] See http://newforests.com.au/wp-content/uploads/2019/04/NEW-FORESTS-2018-Sustainability-Report-web.pdf

example reducing deforestation) but may not address the underlying drivers of such deforestation (for example lack of governance, land tenure security, knowledge and resources for the implementation of economic alternatives for smallholder farmers). While such low-hanging fruits are a good first step towards greater sustainability, these would need to be accompanied by parallel efforts to invest in addressing the underlying drivers.

Few blended finance initiatives, however, explicitly apply an integrated landscape approach. New Forests (Box 8) has clearly defined guidelines for their investees. TLFF (Box 2) invests in first instance into rubber plantations within specific jurisdictions, but it is not clear yet how the investments will relate with other stakeholders in the target landscapes.

So blended finance does create opportunities to scale up finance for sustainable landscapes. In particular, because it can help lift the apprehension that many impact investors still have for landscape investments. Some of the sources of development funds have a better understanding of the landscape issues, which could make the investors feel more at ease with this new type of investments. In addition, the development funds would share the risk, and could be used to cover first losses. The opportunities exist, but more evidence is needed to be able to assess the true value of blended finance in achieving greater sustainability and inclusiveness in tropical landscapes.

4.2. Green bonds

A bond is a fixed income instrument that represents a loan made by an investor to a corporate or governmental borrower. Bonds are used by companies, municipalities, local governments and national states to finance projects and operations.

Green bonds are innovative (debt) financial instruments focused on financing climate and other environmental projects, for example focused on sustainable agriculture and forestry in order to increase carbon sequestration and to minimising carbon losses. Annual issuance of green bonds have made an enormous growth globally since their beginning in 2007. Between 2016 and 2018, for example, the new green-bond issuance has more than doubled from $81 billion[24] to 167 billion (CBI 2019), most of that in the US, China, and European countries. Nonetheless, Green bonds accounted for only a small fraction (~1.4%) of the overall bond market in 2016 (Kuna-Marszalek and Marzalek 2017). The geography of the green bond market is expanding and diversifying, however, it is still in an early stage in developing and emerging economies.

Green bonds are similar to conventional bonds, including their structure, risks and returns, however, Green bonds aim for environmental benefits. As such, they can mobilise resources from domestic and international capital markets for a variety of environment-friendly projects, focused on, for example, climate change adaptation; energy efficiency and renewable energy; pollution prevention; sustainable agriculture, land use, forestry and fishery; protection of biodiversity; protection of aquatic and terrestrial ecosystems; sustainable water management and clean water, and; sustainable housing (ICMA 2018, UNDP 2016). As sustainable landscape-related issues are broad and varied, the bond markets, not only through Green, but also Social and Sustainability Bonds, can play a role in attracting private capital to finance landscape-related needs. Although it is understood that the outstanding volume of issued green bonds could be as large as USD 2 trillion in 2019, during 2017 and 2018 only 5% of the green bonds issued were dedicated to these sectors (CBI 2019). The first wave of green bonds primarily targeted renewable energy and efficiency projects. There

[24] https://www.climatebonds.net/resources/reports/green-bonds-highlights-2016

is now an increasing number of such bonds issued for the wider infrastructure sectors (e.g. water) and the agriculture and food sectors.

According to the International Capital Market Association (ICMA), Green, Social and Sustainability Bonds are any type of bond instrument where the proceeds will be exclusively applied to eligible environmental and/or social projects. Looking more specifically at Green bonds, there is not one single definition on what 'Green' really means, or how green a bond must be. According to the ICMA, there are four guiding principles to consider when classifying a bond as green:

- **Use of Proceeds**: which should be designated for green projects as described in the bond's legal documentation
- **Process for Project Evaluation and Selection**: whereby issuers should provide transparency of the project's sustainability objectives and process
- **Management of Proceeds**: which should be held in a distinct sub-account and tracked throughout the life of the project, with a high level of transparency for investors
- **Reporting**: should be kept up to date and readily available, describing the amounts allocated to the projects and the expected environmental impact

The ICMA guidelines remain however open to interpretation. Other institutions such as the European Union (EU) or the Climate Bond Initiative (CBI) are also developing their own criteria for qualifying green bonds.

One of the main advantages of green bonds is the simple structure in comparison to other green instruments. Due to the guidelines of monitoring and reporting on the use of proceeds, green bonds are considered more transparent than other instruments in the fixed income market and combined with low due diligence costs this makes them attractive to fixed-income investors that are already familiar with traditional bonds, e.g. pension fund investors (Mulder, 2018). The commitments over monitoring, disclosure and reporting over the duration of the bonds may however constitute a deterrent for issuers.

The profile of issuers of green bonds is, however, changing. While initially driven by international institutions such as the World Bank or the Asian Development Bank, the market is now dominated by banks, funds and corporations. The profile and terms attached to green bonds vary wildly too: From short-duration to longer-dated bonds to medium-term notes, from program-specific to project-specific to corporate green transition-focused, or from USD 30 million or USD 2 billion straight issue to carbon credit coupons.

Third-party verification/certification is needed to determine whether a bond qualifies as green, according to various principles, standards and initiatives. Examples involve the International Capital Market Association's Green Bond Principles and the Climate Bonds Initiative's (CBI) Climate Bond Standards (UNDP, 2016).

Although there is now a multiplicity of products, issuers, sectors of focus and objectives, the demand for green bonds still far outstrip the supply. Possible issues such as finding adequate green projects to finance, strictly recognizing the green credentials of an issuer, or measuring the direct benefit to the SDGs are understood to hamper the further acceleration of green bonds issuance. The mismatch between demand and supply could possibly lead to increasing the risks of a 'green bonds bubble'.

Green bonds specifically designed to tackle issues pertaining to sustainable landscapes in developing countries are difficult to structure. Cautious issuers and investors are putting a high premium on the risks associated with rural environment in developing countries (as highlighted in section 3). In the universe of green bonds, sustainable landscapes/forest bonds are only slowly emerging.

The notes issued in 2018 by the Tropical Landscape Finance Facility (Box 2) were one of the few examples approximating green bonds issued for landscape initiatives. Approximately 11% of the total project value of 350 million USD is reserved for smallholder finance[25]. This is an interesting example and worthwhile following, to see how well sustainable and inclusive landscape objectives will be met through this project.

Other examples are highlighted in Box 9. Green bonds offer good opportunities for sustainable landscape development, since the proceeds can be used for a variety of actions, as long as they are qualified as "green", and the initial investment does not have to be paid back until the bonds mature. Maturity age may vary from short (2-5 yrs) to long (>10 yrs). The advantages and disadvantages of each of these are different for whether you are an issuer or a buyer. For the issuer, long term bonds give greater security over the time you can dispose of the money, but very likely you need to pay more for the use of it (reflected in higher interest rates). Such bonds are useful for example to plant fast growing trees, where costs are at the beginning of the process and the benefits can only be reaped at first tree harvest after 8-20 years, depending on the tree species planted and the local site conditions. For transforming the local agricultural sector into a more sustainable one, or implementing specific climate actions, long term bonds are also attractive, since in many tropical landscapes the capacities of local institutions are weak and need to be strengthened before transformation will take place. This usually takes time. In such cases, however, it may be difficult to issue a bond, because without a strong local institutional setting, the risk of default is considered too great to invest. Without strong local institutions, for example a government backed Development Finance Institution, it may be necessary to work through an intermediate organization that has the capacity to issue a bond and manage its proceeds according to internationally established regulations and criteria. A bigger problem may be in identifying suitable projects and initiatives and generating appetite from issuers, as there is a huge investor/buyer demand for green bonds. This far, green bonds in the land use sector have focused on generating returns through government investments and through carbon credits (as in the examples of Box 9). The sector is currently constrained by the lack of good quality and scalable projects to finance.

Box 9 Examples of landscape oriented bonds that are in development

IFC Forest bonds (IFC 2018)

Since 2010 IFC has been a key player in the green bonds market, but only in 2016 did the IFC issue a landscape/forest bond. IFC's Forests Bond was the first bond (in fact, a 5 year note program) aimed at forest conservation, offering full principal protection and targeting to raise USD ~150million in issue proceeds. Ultimately the bond's proceeds aimed at supporting a conservation project in the Kasigau corridor in East Kenya. The project was also the first REDD project, providing income to the community and local landowners for protecting their land instead of destroying it. The supported Project was expected to reduce deforestation, protect endangered plant and animal species, and develop sustainable economic opportunities for communities in Kenya

[25] http://tlffindonesia.org/rlu-transaction/

A key feature of the bond was the option for the noteholders to receive a cash coupon with an option for the coupon to be partly or fully deliverable in Verified Carbon Units (VCUs) issued by the REDD project (IFC having purchased all the VCUs generated by the project). The noteholders had the ability to retire the VCUs to offset greenhouse emissions, or sell them directly on the VCU market. Another interesting feature of the structure was a price support mechanism for the VCUs, with BHP Billiton deposited a cash amount equivalent to all VCUs (to be generated throughout the project) in escrow. With BHP Billiton given the ability to use the cash leftover, on a yearly basis, to buy VCUS for its own account.

Data available on fiscal year 2017 showed that, for that year, a total of 1,829,532 VCUs (net 1,591,693 VCUs after deducting the risk buffer) were monitored. For the second coupon payment on November 5, 2018, the Project delivered 469,984 Eligible VCUs of vintage 2016 to IFC. No Noteholder however, selected the coupon in the form of VCUs, therefore, no Eligible VCUs were delivered to the Noteholders.

As of 2018, IFC was exploring expanding the use of Forest bonds through a collaboration with GCF. The program aims at raising USD 750 million through 3 bonds. Peru, Madagascar, Colombia and DR Congo are the countries of focus as they have a strong supply of REDD projects and are already working with the World Bank's Forest Carbon Partnership Facility (FCPF). The bond issues proceeds will provide cash to support REDD projects. The program provides for IFC to purchase USD 100 million of carbon credits from REDD projects through Forest Emission Reduction Purchase Agreements (FERPA). The program includes a USD 30 million Debt Financing Facility (80% IFC / 20% concessional) to provide REDD projects with funding to accelerate project operations and delivery of carbon credits. It also includes a USD 5 million capacity building program.

An interesting feature of the program would be to use a jurisdictional approach instead of a project-based approach. Another interesting feature, which likely aims at addressing the lack of VCs deliveries in the first Forest Bond and at increasing the program attractiveness, is to offer detachable warrants. This will give investors the option to convert interest payments into carbon credits, or to sell the detachable warrant to third parties while keeping the underlying security. This recognizes the fact the investors in bonds and green bonds may not be the same as investors in carbon credits.

Haze & Clean Air bonds

The Haze phenomenon, caused by peatland and forest fires in Indonesia every year, and which directly affects people across Southeast Asia (including in the financial hub of Singapore), could be seen as a catalyst for increased interest in sustainable landscapes bonds. A number of initiatives are being developed by fund managers to tackle restoration and conversation in concessions in Indonesia. The following examples are concepts that are still at development stage.

<u>Haze-related Example 1</u>

An Asia-based fund manager is proposing to issue long-term medium-term notes (MTN) against a commitment of capital by a major donor. Bonds and medium to long-term maturity MTNs are broadly similar instruments. There are a few differences, including the more open- ended nature of the MTNs program and the ability to propose the program (to issue) for a relatively longer period of time ("shelf"). The program is to be issued by the Government of Indonesia (GoI) and aims at reducing GHG emissions and ensuring forest/peatland protection in Indonesia.

As one third of the fires are within private sector concessions, the program is based on private sector companies investing in the MTN program (via GOi and a project management vehicle). The MTN program provides the capital and development costs to fund restoration and conservation projects within the concessions of companies in Indonesia. The major donor then provides the funds to GoI for repayments. Carbon emissions reductions credits provides further resources to the initiative. If targets are exceeded, adjustment of interest rates and performance-linked grants by the major donor may also make participation to the projects more attractive.

An interesting aspect of the program is that 'enforcement' at local level is ensured by the companies owning the concessions and supported by GoI itself. GoI ultimately carries the risks and costs associated with a failure to reach milestones and objectives. Should the targets not be met, then the donor would not fully provide for the notes' repayments, leaving GoI to fill the funding gap.

Haze-related Example 2

An impact-focused organization is looking at putting together a Haze Mitigation Bond to directly address unsustainable practices in forest management and to be used by the main contributors (smallholder farmers and corporations) to South East Asia's haze problem. The initiative would aim at incentivizing smallholders and farmers to use alternative, less harmful practices. The target size of the Haze Bond would be USD 30 million. The Haze (Clean Air) bond would raise funds from investors, with a special purpose vehicle then using proceeds to lend out money to corporations and SMEs (and the small farmers they are working with) that are currently using unsustainable slash and burn methods. The borrowers would be selected based on their willingness to transition to more sustainable practices. A key feature of that initiative, as opposed to Example 1, is the direct lending to corporations and SMEs, rather than going through a local government.

Analysing the usefulness of green bonds for land conservation, Dupont et al., (2015) found that matching scales is an ongoing challenge while also the definition of green is still a challenge. They also concluded that investors are still not ready for these debt-based instruments for financing conservation, nor have green bonds shown to be the best option for sustainable land use projects, but that may change. The main challenges for scaling the use of green bonds for sustainable landscapes seems to lie in strengthening the governance framework with harmonized standards that allow for effective and efficient reporting on the impacts of the bonds (Krimphoff et al. 2016), and in creating the enabling conditions that allow for green bonds to be issued for landscape appropriate investments (Mulder 2018). In particular, a (financial) intermediary (aggregator) with a strong balance sheet that can issue the bond and carry the risk will be a strong element of such enabling conditions (see also Box 4 for the elements that facilitate access to finance). In that case, the risk of the investor is against the issuer and not a (portfolio of) project(s). In the end, however, the definition of these enabling conditions needs to be fine-tuned based on additional experiences.

4.3 Crowdfunding

Crowdfunding, *pooling of small amounts of capital from a potentially large pool of interested funders* (Short et al. 2017) is not a new finance mechanism. What is new is, that while in the past it has been accessible mainly to people which frequently reached a large public and used their communication channels to solicit funding for specific projects or actions (e.g. newspaper owners), the mechanisms is now accessible for a much wider public. Short et al.

(2017) cite the case of the Statue of Liberty's pedestal where a publisher used his newspaper to access potential funders in 1885. The novelty of crowdfunding lies in its expanded use by individuals and small private enterprises, increasing its value creation rapidly from 2.8 billion USD in 2012 (Massolution 2013) to over 16 billion in 2015[26] (The World Bank Group 2015). Crowdfunding complements more traditional forms of funding in that the entrepreneurs directly seek small investments from a large number of investors without the intermediation of formal financial institutions.

Several forms of crowdfunding exist and these can be classified into rewards-based, equity-based and debt-based crowdfunding. In some instances, funds are donated. In rewards-based crowdfunding, investors receive benefits other than financial returns to their investment. This is a more common approach when funds are small. With needs for more funding, investors tend to give more importance to financial benefits from their contributions (Belleflamme et al. 2014). This can be achieved through either equity or debt-based crowdfunding. In equity based crowdfunding, investors acquire small stakes in the new venture, while for debt-base crowdfunding investors may receive a financial benefit although in some cases they only expect the original invested amount to be returned within a set period of time.

The success rate of crowdfunding, in terms of raising the required money, is variable. It is affected by a number of circumstances (Short et al. 2017). More successful initiatives were able to build on their own peer-communities: people that think likewise and have reasonable good knowledge of the track record of the issuers of the crowdfunding call. They often can assess better the risks involved than formal credit raters can and have a preference for funding incremental innovations, rather than radical (and therefore more risky) changes. Third-party endorsements also have a positive influence on the success rate of crowdfunding. The language with which investment opportunities are presented also may influence success of crowdfunding efforts. Preferences have been noted for funds that highlight the creation of further opportunities to help others, in comparison to those that highlight business opportunities for the fund solicitors (Allison et al. 2015). This may, however, differ according to the type of crowdfunding. Internet accessibility and the increased trust placed in online payment methods also contribute to the success of crowdfunding (Stiver et al. 2015).

For funding of sustainable and inclusive landscapes initiatives, civic crowdfunding shows potential. It has emerged as a means to fund government supported or backed initiatives in response to limited availability of government funds. It is seen as having great potential to facilitate networking and collaboration between citizens and (local) government agencies (Stiver et al. 2015). It distinguishes itself from other forms of crowdfunding by its close link to participatory democratic processes (such as participatory planning), its goal to fund specific projects that result from these processes, and the potential to combine government, philanthropic and for-profit funding sources. In addition, civic crowdfunding has been combined with in-kind contributions, such as volunteering time to help realize the project envisaged. In general, civic crowdfunding includes both donations and reward-based crowdfunding efforts, emphasizing the non-financial benefits of the investments, usually including having access to the project benefits. Since it is a relatively new form of crowdfunding, and its focus in general is local, with communities less on-line connected than in other crowdfunding initiatives, even less is known about its performance, impacts and sustainability (Stiver et al. 2015). Questions arise such as how effectiveness and impact can be increased; what is the interaction between civic crowdfunding and local community; and how can financial and non-financial benefits be balanced in order to achieve sustainable initiatives?

[26] Dietrich and Amrein (2017) estimate the 2015 value at 140 billion

One of the disadvantages of crowdfunding in general is its focus on starting up new projects. Where such projects require further maintenance or management activities for longer periods of time, raising money through crowdfunding becomes more difficult. In addition, whereas crowdfunding links investor and recipient more directly and avoids many intermediary costs, its unregulated nature also poses greater risks in cases of failure to implement the projects, or use of funds for purposes different than previously announced. Building trust prior to publishing a request for funding is therefore a major issue for the fundraiser.

In developing countries, the concept of crowdfunding is relatively unknown among new entrepreneurs and in 2015, only 2% of global investments in crowdfunding went to developing countries and much of that is used for improving living conditions through micro loans rather than expanding business opportunities (the World Bank Group 2015).

An example of a developed country based crowdfunding platform that is used by initiatives in developing countries is the 1%club. Interestingly, the Cheetah fund[27] stimulates the use of this platform by offering to top-off raised funds to the needed funds, if within a month after initiating the request the initiative was able to raise more than 30% of the needed funds. This is an example of a financing structure that could link development funds (such as the Cheetah fund) to commercial funds (raised by the crowdfunding). Another example of an international crowdfunding platform is "standfortrees" (Box 10). In this case people or organizations can buy carbon credits, the proceeds of which go to direct actions of conservation of forests as well as addressing the local underlying drivers of deforestation.

Box 10 crowdfunding platform standfortrees[28]

Individuals can buy a 'Stand For Trees Certificate' to support local forest communities with the implementation of REDD+ practices on the ground in tropical forest countries; protect forests, and; thereby avoiding carbon emissions. Every certificate stands for 1 ton of carbon less emitted or sequestered. Code REDD (nonprofit) takes a 12% commission on all Stand for Trees sales, and the company that processes credit card transactions takes about 5% in transaction fees. The remaining funds is distributed between a cashflow directly to participating communities for previously determined community investments, and the project developer who ensures management and protection of the area for which the funds were raised. An example of a project funded through this platform is the Isangi Congo Rainforest Conservation Project in the Democratic Republic Of Congo (https://medium.com/@StandForTrees/isangi-congo-rainforest-conservation-project-democratic-republic-of-congo-drc-c961a7c8de45). This is a former logging concession converted into a conservation area of 187 571 ha, which has been registered as a REDD+ project under the Verified Carbon Standard and the Climate, Community & Biodiversity (CCB) Standards and under the latter has achieved Biodiversity Gold Level. The project area is home to 30 villages with a combined population of more than 50,000 people.

Impacts

Biodiversity: Jadora (Private company: https://www.jadora.co/) has constructed 28 fish ponds stocked with native species in the project area. Along with edible caterpillars that naturally populate several endangered species of trees, these initiatives provide sources for protein that dramatically reduce the practice of illegally hunting bush meat in the project region.

Community Development: The numerous jobs created from this REDD+ project include, but are not limited to, forest conservation rangers, social outreach workers, teachers, horticulturalists, machinists, seamstresses, foresters, construction workers, drivers,

[27] https://onepercentclub.com/en/projects?category=cheetah
[28] https://standfortrees.org/en/

mechanics, and administrative personnel. The project also supports micro-finance programs which enable community entrepreneurs to finance new local businesses.

Education

Over the past few years, Jadora has constructed one large primary K-12 school, and three satellite schools in the project area. We have also provided modern communication with the outside world via satellite internet. The schools existing prior to the start of the project were inadequate. These four facilities and their outreach programs are already providing education for more than 3,000 students, and the establishment of more schools is underway.

Agriculture

Jadora also implemented education programs regarding improved agricultural practices, often implemented by Jadora-supported women's groups. The Isangi project supplied the local communities with disease-resistant crops and seeds, while introducing the practice of field soil improvement, intercropping and no-burn farming. These practices result in greater crop diversity and productivity, a wider range of nutritionally valuable crops, and a significant increase in the useable life of farmland. One good example of this has been the promotion of cultivating peanuts by women, a significant source of food and a plant that fixes nitrogen to rejuvenate tropical soils.

Water

We utilise existing water sources for low impact agriculture, and provide improved access to clean drinking water to the inhabitants of the Isangi project area.

Emission reductions

1,699,905 metric tons of CO2e have been verified that covers the monitoring period 12 September 2009 to 31 December 2013[29]*.*

According to the World Bank Group (2015), there are several factors that contribute to the low rate of crowdfunding in developing countries:

- In developed countries, lending crowdfunding has shown greatest increase. However, this often required additional regulations in order to safeguard the interests of both investors and investees, as well as reducing the risk of whitewashing of capital (ECN 2017). In many developing countries, such additional regulation does not yet exist, while existing restrictions on raising private capital do not allow for lending or equity crowdfunding, thus limiting the scope of crowdfunding.
- In developing countries, access to mobile payment systems is still limited. Such systems form the basis for most crowdfunding exercises.
- Being part of social networks whose members can contribute to the cause increases the chance for successful crowdfunding (The World Bank Group 2015). In developing countries, people that can contribute are much fewer than in developed countries. Some successful cases reportedly were able to access international platforms, with or without the support of incubating agencies.

Of course, another key factor is available income, and the growth of the middle class in many developing countries could provide additional opportunities if the above mentioned factors

[29] http://www.vcsprojectdatabase.org/services/publicViewServices/downloadDocumentById/24547

are addressed. Crowdfunding could increase and facilitate access to finance for small and medium entrepreneurs in tropical landscapes, thus contributing to greater financial inclusiveness. Whether it will contribute to greater sustainability will depend on what the money is invested in, as well as the intentions of the contributing "crowd".

Applying the concept of twin cities[30] to landscapes, where a landscape (for instance as a local government) in a developing country and one in a developed country forge formal agreements aiming for the sustainable development of both landscapes, may strengthen access to social networks for the inhabitants of the landscape in the developing country. Jurisdictional approaches to landscapes would be a prerequisite for this, in order to have a legal entity that can raise and manage the money for the entire landscape. The International Model Forest Network is a global network of landscapes that could strengthen such a form of collaboration. It was, however, set up to "*promote partnerships to provide a neutral forum where a range of values and interests could be represented, and where a desire to experiment with new ideas under a common goal of sustainable development could occur*"[31] and fundraising has been more oriented towards conventional ODA for projects than towards strengthening continuous flows of finance towards the member landscapes. This and other similar networks could be interesting platforms to strengthen the capacities of the landscapes in developing countries to access finance for their sustainable and inclusive development. Finance should go beyond project finance, generating a continuous flow of income at the landscape level for products or services rendered.

4.4 Synthesis

When considering sustainable investments in landscapes, innovative finance can help address the constraints faced by smallholders. It is unlikely that blended finance, green bonds and crowdfunding will address all constraints equally. A combination of the three in any given landscapes could however bring substantial benefits.

Ability to address = Y	Blended Finance	Green bonds	Crowdfunding
Lack of bankable projects	Y	N/A	Y
Limits to access to financial services for smallholders			
- Nature of financial mechanisms/instruments			
○ Ease of implementation	Y	N	Y
○ Legitimacy	Y	Y/N	Y
○ Transparency	N	Y	Y
○ Coherence with Objectives	Y	Y	N
- Financial literacy	Y	N	Y
- Social networks to increase financial literacy	N	N	Y
- Scale	Y	Y	N
- Physical access through fintech	N	N	Y
- Own capital	Y	N	Y
Influencing positive impacts on sustainability and inclusiveness of landscapes			
- Organization	Y	Y	N

[30] the construction and practice, by various groups and to various ends, of relatively formal relationships between two towns or cities usually located in different nations (Clark 2009). Since the 1980s this has become another form of promoting international development cooperation. While originally applied to towns and cities, it could also be applied to other geographical spaces.

[31] http://www.imfn.net/international-model-forest-network

- Experience and knowledge	N	N	Y
- Risk management strategies	Y	Y	Y
- Certification or frameworks	Y	Y	N
- Tenure right security	Y	Y/N	Y
- Access to markets	Y	Y/N	Y
- Migration	Y	Y/N	Y

4.5 Other innovations

All three innovations discussed in the sections above build on existing financial instruments. Innovation is related to the rules, regulations and objectives of the instruments. All three have the potential to increase accessibility to finance for smallholders, SMEs, communities and indigenous people, although they generally require an intermediary organization that facilitates the acquisition, management and distribution of the money. In each of them, it is more the objectives that allow for distribution to a greater number of people, for a greater variety of investment classes and with greater flexibility in return expectations. They attract, therefore, also a greater variety of investors, including people with little capacity to invest. How much they really contribute to greater inclusiveness, however, will still depend very much on the state of the enabling conditions.

Financial inclusion has been much more facilitated by another innovation in financial systems: not changing the financial instruments, but changing the communication channels between sources and beneficiaries. **Digitizing financial services**, allowing online and mobile money transactions, has increased access to finance for the population in general and for women in particular. It also facilitates the creation of platforms that allow for further innovations, such as blockchain, and accelerated the growth of crowdfunding. If not accompanied by financial literacy programs, however, it may also create risks of greater debts of the users. Achieving greater financial inclusion through digitizing financial services requires appropriate infrastructure as well as the availability of the devices through which the services can be accessed. It also requires adjustments in the regulatory framework and the organization of the financial entities that make use of such services. For its potential to be realized, this innovation requires, therefore, collaboration of a range of actors, national and local, public and private.

Scaling up finance for sustainable and inclusive landscapes requires an integrated approach. Such an approach would include an analysis of the best combination of financial structures, mechanisms and instruments for the local conditions, as well as identifying prerequisites that, if improved, would drive access to finance. In addition, increasing financial inclusion may require strengthening of those enabling conditions that influence the impacts of the practices financed. In comparison to conventional finance structures, mechanisms and instruments, blended finance and green bonds offer more opportunities for such an integrated approach, but still few cases have been documented where successful integrated approaches have been implemented.

Only looking at finance channeled through blended structures, a range of instruments have been used to get the money to the end users. Where this has led to an increase in sustainability and inclusiveness in the landscape a number of factors have been identified to facilitate these impacts (boxes 4 and 7). Some were important to link SMEs to the financial instruments (for example intermediaries that aggregate local stakeholders on the one hand and acquire funds from a range of sources on the other), others helped finance contribute to inclusiveness and sustainability (for example monitoring and reporting requirements). The combination of sources, structures, mechanisms, instruments, facilitating factors, practices,

influential factors and impacts, however, seems to be site specific. Few studies look at the details of these combinations throughout the financial chain.

Savenije et al. (2017) mention a series of key elements that can guide such combinations. These should be directed at seeking the most appropriate conditions for different financial mechanisms and instruments, rather than designing completely new mechanisms and instruments. The example of ACOFOP and FORESCOM in Guatemala shows how clients' needs may differ from conventional banking products. In this case, the creation of a separate fund was the solution. This fund was raised through seed money derived from an ODA funded project It increases scale of the desired investments, spreads risks over 24 community groups that are members of the association, has lower rate of return expectations and supports economic activities that are monitored in the framework of third party forest certification. While in this case no direct link was made between investors and investees (a large part of the fund has been generated by the communities' forest operations), it is an example of what could be achieved if investors and investees sit together around the table. The innovation in this case was that the intermediary (the fund) applies instruments of a nature that better fitted the requirements of the users in terms of cost (lower interest rate), term (flexible to three years) and requirements (peer references rather than formal documentation). Thus, a conventional instrument (loan) was converted into one that was easier to implement (requirements), considered to be legitimate (community owned), transparent (reports to general assembly) and was set up to address local priorities.

5. Concluding remarks

This preliminary analysis of financial flows in support of sustainable and inclusive landscapes leads to the identification of possible pathways for increasing scale of such finance, but more evidence needs to be gathered to come to clear guidelines for different local conditions. This could be achieved through detailed case studies that look at the different aspects of the flows. Such case studies could include financial flows within landscapes, increasing the understanding of the drivers of existing flows and the barriers for financial flows towards more sustainable and inclusive practices within the landscape. They should also include examples of innovative forms of financing a shift towards sustainable practices and bringing these to scale.

The analysis further highlights the importance of local financial literacy, as well as landscape literacy of the financial entities. This can facilitate and strengthen the interactions between the different stakeholder groups and improve legitimacy, transparency and a mutual understanding of each other's objectives. In addition to hiring local or regional expertise within the ranks of international institutions, this can be facilitated by involving local banks, financial institutions or other local organizations with the capacity to capture and re-distribute money into local financial flows. Interesting experiences exist but have not been fully documented. On the other hand, several cases have been documented where the local expert is a company dealing with international value chains of agro-commodities, seeking to achieve a sustainable resource area. While such examples are steps forward towards sustainability of agro-commodity investments, they seem too much focused on single commodities and may increase the dependency of local farmers, increasing their vulnerability to external shocks.

Creating or strengthening a locally based financial infrastructure (band, institution, union, association, etc.) that can raise money in different ways appears to be a pathway towards bridging the gap between investors and smallholder investees that seek to expand their economic activities. If such infrastructure is based on agreements between, and supervision by representatives of local stakeholder groups, it may be able to capture not only external finance through a range of different instruments, but also local money. This could, for example, be in the form of contributions proportional to profits made by local stakeholders, as has for example been done at a national scale by coffee producers in several countries in Central America. Such proceeds can be used for reinvestments in the landscape or for provision of supportive services, creating better conditions for further investments.

Such a local financial infrastructure could originally be set up with the support of grant money, until local contributions are sufficient and the financed economic activities proof to be sufficiently financially viable to leverage external private finance for economic activities. At the same time development money continues to flow to support maintenance of public goods such as ecosystem services (for example water, carbon, pollination). At a later stage, once the infrastructure has proven to be strong and durable, it may be able to issue notes or bonds with longer payback periods, from which a range of landscape activities could be financed, that over time together will generate the money required to pay back.

Of the factors that affect the impacts of the financed practices, stand out secure tenure and risk management. Both increase the motivation of agricultural and forest SMEs to convert to sustainable practices by increasing the probability that they will reap the long term benefits of doing so. In addition, they may facilitate access to finance. Financial entities, however, focus on conventional tenure arrangements, such as land property, which may exclude many of the agricultural and forest SMEs in the tropics, not having documentation of their tenure rights, or having other types of tenure rights arrangements. In addition, few of these entities have a

good understanding of local risk management strategies, and little information exists on the effectiveness of such strategies. As a consequence, it is difficult for financial entities to get a good grip on the real risks that these farmers run with their specific crops and under their specific local conditions. More research needs to be done on how different tenure rights and different risk management strategies affect the financial and operational risks of SMEs. Based on the review we did, however, we think that local financial infrastructure as described above may have greater flexibility to design locally adequate financial instruments with locally adapted conditions than national, regional or international banks or financial institutions can.

The analysis identified some knowledge gaps that should be covered in these different studies in order to address the complexity of scaling up finance for sustainable and inclusive finance. In particular, there is still a lack of documented evidence of viable financial pathways (structures and instruments) that are applicable under different conditions. It also provides elements to consider in the design of programs oriented at mobilizing finance for sustainable and inclusive landscapes, above all stressing the need to work on the enabling conditions for both increased access to finance and improved impact of practices financed. If one strategy stands out for improving access to finance for SME, it is the collaboration between local SME groups and national or international CSOs and financial entities to create funds that can channel finance from different sources to the local actors, using different financial instruments applying locally appropriate criteria. These require, however, a process of strong institutional support.

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