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Local financing mechanisms for forest and landscape restoration

A review of local-level investment mechanisms



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Local financing mechanisms for forest and landscape restoration

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A woman plants some seeds while taking part in a Sahelian plants growth testing and reforestation project in Malamawa village, Zinder Region, Niger on July 30, 2019.
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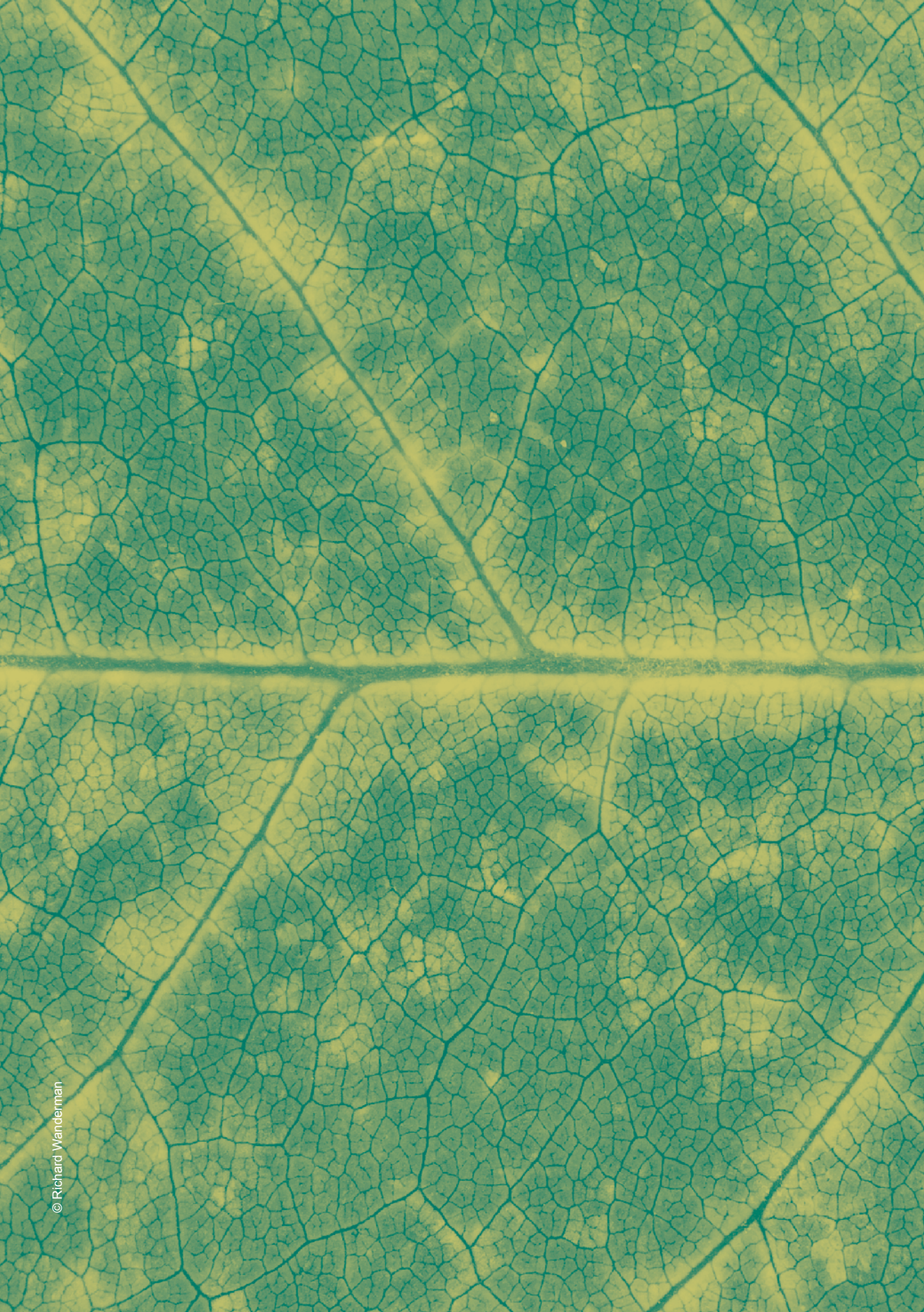
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Abbreviations and acronyms

CBA	cost–benefit analysis
CFE	community forest enterprise
CSR	corporate social responsibility
CTO	certified tradable offset
DFI	development finance institution
FLEGT	Forest Law Enforcement, Governance and Trade
FLR	forest and landscape restoration
GEF	Global Environment Facility
GGW	Great Green Wall
GPFLR	Global Partnership for Forest and Landscape Restoration
IES	incentives for ecosystem services
IUCN	International Union for the Conservation of Nature
MIF	Multilateral Investment Fund
NGOs	non-governmental organizations
NWFPS	non-timber forest products
PES	payments for ecosystem services
PPP	public–private partnership
REDD+	reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries
ROAM	Restoration Opportunities Assessment Methodology
ROI	return on investment
SDGs	Sustainable Development Goals
SLM	sustainable land management
SME	small and medium enterprise
SRI	system of rice intensification
TEER	The Economics of Ecosystem Restoration initiative
UNCDF	United Nations Capital Development Fund
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
VPA	Voluntary Partnership Agreement
WRI	World Resources Institute

Definitions

For the purpose of this document, certain terms have been defined in the context of forest and landscape restoration (FLR). These may, therefore, differ from their usual use in financial fora.

Investors are institutions, organizations, companies, individuals and governments that provide finance for FLR activities and create incentives for landscape actors to improve their practices on the ground.

Asset investments are direct investments in physical components of the landscape or activities that contribute to landscape restoration, such as tree planting, soil restoration, improved forest management, earth moving (drainage, water harvesting), grassland restoration, riparian restoration, improved management of crops, livestock and trees, wildlife habitat restoration, and water infrastructure and management.

Enabling investments lay the institutional and policy foundation for asset investments by generating incentives for asset investments and supporting landscape coordination. They include investments in stakeholder engagement and cooperation, appropriate legal and regulatory frameworks, knowledge and capacity to plan and manage on a landscape scale, and the development of incentive mechanisms.

Financial mechanisms are mechanisms that provide funds for FLR activities during different stages of the FLR process. They provide funds to cover transaction costs (for establishing initial restoration activities for example) and the scaling-up of enterprises for restoration activities to become sustainable.

For-profit financial mechanisms seek a financial return on their investment. They include loans, equity and insurance products.

Not-for-profit financial mechanisms do not produce a financial return for the investor. They include grants, fiscal policies, and public sector expenditure.

Market mechanisms use economic drivers to create a market incentive for investment in FLR by producing profitable products or services for buyers, which generate financial returns for sellers (producers).

Individually financed mechanisms include personal savings (e.g. those of farmers, landowners and entrepreneurs), personal labour invested by land managers or business owners, and social mobilization (obligatory or voluntary labour that benefits the community).

Facilitators in this context are an individual, a neutral institution, group or body that can act as an intermediary between smallholders, investors, governments and buyers of ecosystem services to support the sustainable development of financing mechanisms that can provide equitable benefits and long-term scalable restoration impacts. For example, they create landscape coordination groups, build capacity in business plan development or enable clear negotiations in contracts.

Executive summary

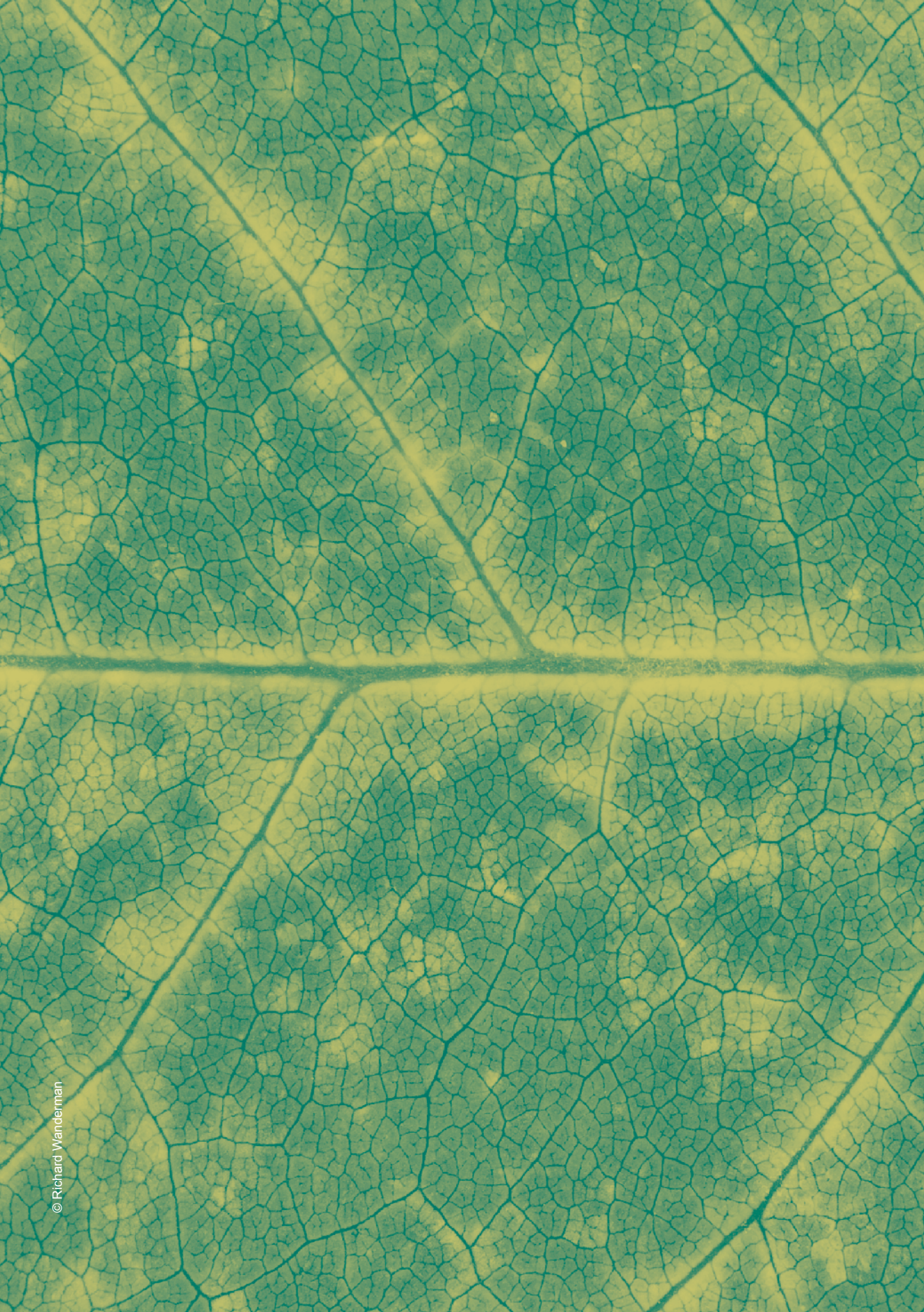
To achieve ambitious international targets related to forest and landscape restoration (FLR), significant investment is required. Annually, more than USD 36 billion is needed to meet the Bonn Challenge and USD 318 billion to reach land degradation neutrality. While investment mechanisms for forest conservation are well established, mechanisms that specifically target restoration objectives are still being explored and developed.

Finance for FLR comes from a variety of public, private and civil sources, providing both asset and enabling investments to support the various stages of the FLR process. FLR activities are often perceived as high-risk investments due to the uncertain return of investing in landscapes with high levels of degradation. Key to identifying the suitability of specific mechanisms for the financing of FLR is a clear understanding of the restoration needs, socio-economic context, institutional capacity, political landscape and biophysical dimensions of the restoration site. This document reviews different financial and market-based mechanisms targeting FLR activities for local-level impact.

It provides an in-depth study on how these mechanisms support FLR activities on the ground, the diverse incentives they provide for local actors and their conducive conditions. Case studies illustrating each investment mechanism share lessons learned and the economic, environmental and social impacts of these investments on FLR implementation at the local level.

Optimal restoration outcomes (environmental, social and economic) are more likely to be achieved when financial and market mechanisms are applied in a coordinated approach throughout the restoration process. The development of innovative ‘blended finance’ mechanisms, integrating a package of financing mechanisms through a supportive enabling environment, can enable multiple issues to be addressed and the diverse needs of local actors to be met. The coordination of a diverse spectrum of FLR investments can maximize the leverage of finance and the adoption of practices at scale across the landscape, while spreading the burden of risk for individual investors.

The document reviews the different ways in which this coordination of investment for FLR can occur. It explores various coordinating mechanisms and the timing of FLR investments. It examines the pathways available for financing restoration at the landscape scale, focusing on options for stakeholder partnerships, and the importance of developing a landscape financing strategy and clear financial plans. Lastly, it emphasizes the key role of facilitators in bridging the gap between smallholders and investors and coordinating investment, while promoting local ownership of FLR financing strategies.



1. Introduction: The financing of forest and landscape restoration needs

The Global Partnership for Forest and Landscape Restoration (GPFLR, 2013a) defines FLR as “an active process that brings people together to identify, negotiate and implement practices that restore an agreed optimal balance of the ecological, social and economic benefits of forests and trees within a broader pattern of land uses.” GPFLR (2013b) elaborates further: “Forest and landscape restoration turns barren or degraded areas of land into healthy, fertile, working landscapes where local communities, ecosystems and other stakeholders can cohabit, sustainably. To be successful, it needs to involve everyone with a stake in the landscape, to design the right solutions and build lasting relationships. FLR is not just about trees. The goal, in each case, is to revitalize the landscape so that it can meet the needs of people and the natural environment, sustainably.”

Goals set at the international level for FLR are ambitious. The Bonn Challenge calls for the restoration of 150 million ha of degraded land by 2020 (Bonn Challenge, 2020),¹ while target 15.3 of the Sustainable Development Goals (SDGs) focuses on restoring degraded land and achieving land degradation neutrality by 2030.

A variety of factors contribute to successful FLR. To meet restoration needs, significant investment in both capital assets and supportive enabling environments is required. It is estimated that USD 36 billion (per year) will be needed to meet the Bonn Challenge target alone, and more than USD 318 billion per year must be invested to reach full land degradation neutrality (FAO and Global Mechanism of the UNCCD, 2015). Such investments often exceed national budgets and therefore responsible and coordinated investment from the private sector is often required (Shames, Hill Clarvis and Kissinger, 2014). At the local level, mobilizing and accessing finance for FLR faces additional constraints. These include a lack of stakeholder organization (scale efficiencies), appropriate investment match, ability to meet investment criteria, technical proficiency, and fair market access and business skills, which can reduce the provision of sufficient support for smallholders to implement restoration (Macqueen *et al.*, 2018).

Investments in FLR come from a variety of private, public and civic sources, and in diverse formats. Private investors may include individuals, companies with corporate social responsibility (CSR) commitments or carbon offset schemes for example, cooperatives, non-traditional funding such as crowdsourcing, banks and impact investment funds. They usually seek a social or financial return on their

¹ Data from land under restoration in 2020 is forthcoming. However, to date (May 2020) 172.35 million ha have been pledged for restoration.

investments. Public investors may include local or national governments that finance FLR through state budgets, programmes or institutions. Civil society investors may include development agencies or corporations, international donors, philanthropists and non-governmental organizations (NGOs) (Figure 1) (FAO and Global Mechanism of the UNCCD, 2015). Each of these investment sources may be sought to finance different FLR and stakeholder needs, at different stages of the restoration process, according to the level of risk investors are willing to accept and the expected rate of return.

Landscape stakeholders on the ground (e.g. local decision makers, smallholder farmers and foresters, cooperatives and NGOs) can also be viewed as individual investors in landscape restoration activities. They may provide, for example, in-kind investments (e.g. unpaid labour), or monetary investments (personal finance) into the landscape. For the purpose of this document, however, investors are considered to be those institutions, organizations, companies, individuals and governments that provide finance for FLR activities and create incentives for landscape actors to improve their practices on the ground.

Financing mechanisms leverage investments to implement FLR. Investments provide financial and non-financial incentives to support landscape actors at different stages in the transition from restoration to sustainable practices, by addressing short-, medium- and long-term changes. While there is substantial experience relating to forest conservation financing instruments and products, financing mechanisms targeted explicitly at integrated restoration objectives are less common. This is a relatively new



Figure 1. FLR funding sources (FAO and Global Mechanism of the UNCCD, 2015)

investment arena, and potential investors are learning how to engage in it. There has been some analysis of the business case for FLR as well as the potential sources of FLR financing (e.g. FAO and Global Mechanism of the UNCCD, 2015). However, even if enough investors with compelling business cases are interested in engaging in FLR, to unlock this potential these investors may need additional guidance on the wide range of opportunities and available mechanisms, their impacts at the local level and the specific combinations of financial, environmental and/or social returns that can be expected.

1.1. PURPOSE OF THIS DOCUMENT

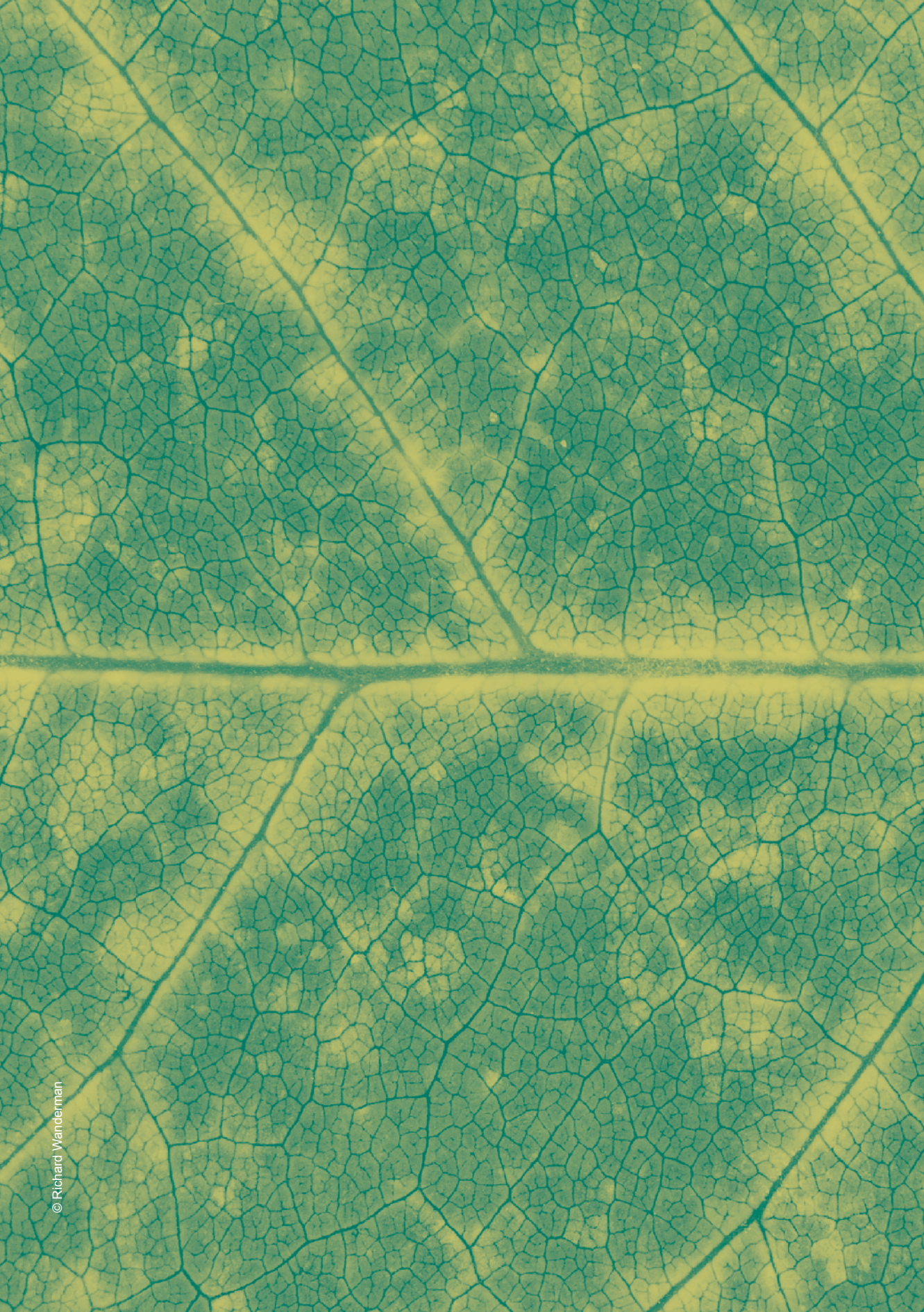
Following the publication of the FAO document, “Sustainable financing for forest and landscape restoration: Opportunities, challenges and the way forward” (FAO and Global Mechanism of the UNCCD, 2015), a more in-depth study was conducted to better document and understand individual financing opportunities and mechanisms for FLR and the role of these in supporting local-level actors, including smallholder farmers, foresters and landowners. This document examines some of the investment mechanisms and planning strategies that can be used to finance FLR activities on the ground. It describes each mechanism’s function and role for FLR at the local level; it explains how each of these mechanisms can be accessed; it shares examples illustrating each mechanism’s conducive conditions, stakeholder roles, and the key lessons learned from implementation; lastly, it suggests ways of integrating diverse sources of financing to scale up FLR at the landscape level.

This review is intended for landscape project managers and implementers, as well as facilitators. It aims to support discussion, thinking and decision-making on how to effectively find, select and use different financing and investments for FLR to provide appropriate incentives and enable maximum FLR impact.

It should be noted that a landscape’s restoration and funding needs are highly context dependent. Each context and restoration need requires a suitable match to one or several appropriate financing mechanisms, depending, for example, on whether the restoration will generate profits, reduce costs or improve the socio-economic conditions of those who will benefit from the activity. Each mechanism should therefore be viewed within the context of the FLR landscape’s environmental, socio-economic, political and legal setting, both at the local and national level.

This paper addresses the following topics:

- an overview of mechanisms for financing FLR;
- a review of local financing mechanisms and sources for FLR;
- examples of the use of local financing mechanisms and the incentives they provide to local stakeholders;
- the coordination of financing mechanisms for FLR and the enabling environment required.



2. Overview of mechanisms for financing forest and landscape restoration

2.1. FOREST AND LANDSCAPE RESTORATION INVESTMENT NEEDS

The specific investments needed to achieve FLR will differ depending on a given landscape's agro-ecological, social, economic, legal and political characteristics, together with the needs of those implementing FLR activities. Restoration strategies will vary according to the degree of degradation, the ecosystem type (e.g. grasslands, wetlands or mangroves), the ecosystem services sought, the extent of dependency of people and industrial value chains on natural resources and ecosystem services, and the land-use activities to be addressed to support sustainable use.

Asset investments are direct investments in physical components of the landscape or activities that contribute to the restoration of landscapes. FLR-specific asset investments can finance activities including agricultural and forestry practices and value chain activities (e.g. improved management of water, crops, livestock and forests, and water harvesting), enterprises and industries using natural resources or products (e.g. more efficient agro-processing and sustainable energy use), green infrastructure

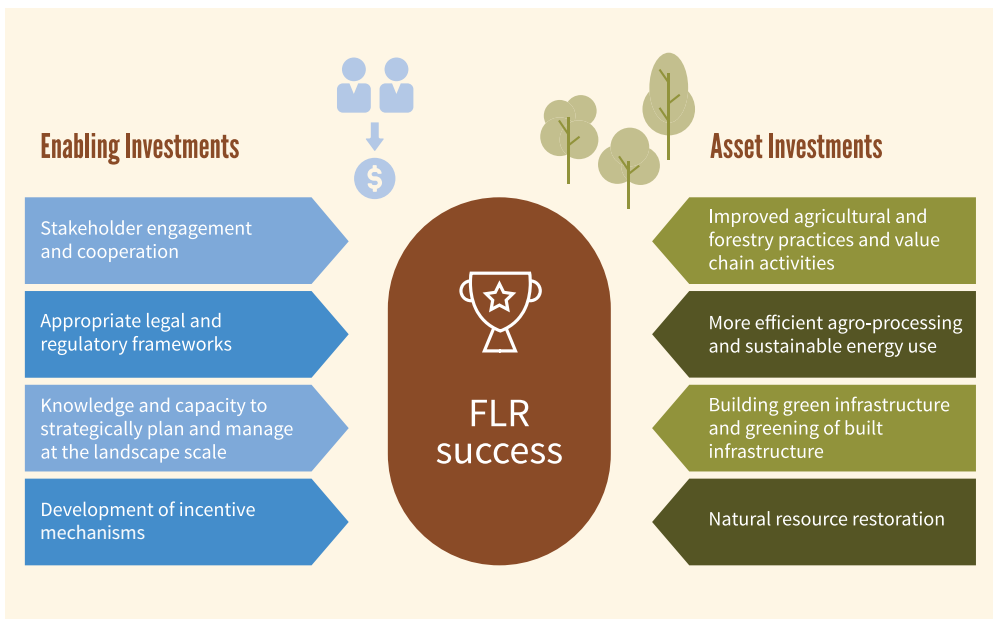


Figure 2. Asset and enabling investments are needed for FLR success

and greening of built infrastructure (e.g. sustainable practices), and natural resource restoration (e.g. riparian restoration, soil conservation and afforestation).

In forest landscapes, asset investors (e.g. private sources and capital markets) are comfortable making microfinance and industrial-scale investments, which each present different, but acceptable risk/return ratios and transaction-cost profiles. However, forest restoration enterprises in the middle of the spectrum, SMEs, are perceived by asset investors as being high risk, low return and with significant transaction costs. There is therefore a gap in accessing asset investment to support local-level, small-scale FLR (Macqueen *et al.*, 2018).

If associated with proper market mechanisms, asset investments can present an opportunity to generate financial returns for local stakeholders, resource managers and financial investors. Some asset investments critical to landscape restoration are, however, unable to generate (sufficient) financial returns to attract commercial sources of finance. Other sources of finance are therefore required.

Access to asset investments is often limited by a lack of enabling conditions to support their implementation (e.g. secure tenure, knowledge, market access and efficiencies of scale). **Enabling investments** are therefore needed to lay the institutional and policy foundation to facilitate and attract asset investments and support landscape coordination. Investing in enabling conditions can reduce the risk for asset investors and promote the long-term sustainability of restoration activities. In the context of FLR, enabling investments include investments in stakeholder engagement and cooperation (e.g. multi-stakeholder platforms, development of cooperatives), appropriate legal and regulatory frameworks (e.g. secure tenure and commercial rights), knowledge and capacity to strategically plan and manage at the landscape scale (e.g. technical extension and training) and the development of incentive mechanisms (e.g. fair market access and conditional rewards for restoration activities). Enabling investors typically include public-sector funds, official development assistance and philanthropic sources.

Investment sources depend on the cost of restoration and the level of degradation

For each investment, the risk level, expected rate of return and transaction costs for the investor will be different. While it has been suggested that FLR can offer significant returns (7–79 percent) (TEEB, 2009), dependent on their objectives, however, different investors will be comfortable with different risk/return ratios (Macqueen *et al.*, 2018; FAO and Glocal Mechanism of the UNCCD, 2015). In more degraded landscapes, the cost of restoration and, therefore, the investment risk is higher (Figure 3). It is also often necessary to invest in enabling conditions before asset investments (i.e. investments for which a financial return is expected) can flow. In these landscapes, NGOs, public foundations and governments are more likely to accept the investment risk of providing early stage grant funding or to invest in risk-sharing mechanisms to start the restoration process. For less degraded landscapes, or as landscapes are restored through the FLR process, the investment

The Economics of Ecosystem Restoration

The Economics of Ecosystem Restoration (TEER) is an initiative currently developing a consistent and reliable database on the costs and benefits of ecosystem restoration options in all biomes and across a wide range of contexts worldwide. This aims to support analysis and decision-making by FLR project developers, donors, governments (national and subnational) and investors. It is coordinated through FAO and supported by the CGIAR Research Program on Forests, Trees and Agroforestry (FTA)² and member organizations of the GPFLR.³

The TEER database is built on information from comparable projects (past and present) collected through a standardized framework on the costs and benefits of FLR interventions. Following a pilot phase in 2019–2020, the database will also aim to provide information for conducting comparative cost–benefit analyses (CBAs) of interventions, explore the economic implications of scaling up interventions and support prioritization of investment opportunities.

² <https://www.cgiar.org/research/program-platform/forests-trees-and-agroforestry/>

³ <https://www.forestlandscaperestoration.org/>

risk and transaction costs will reduce, and more private sources and capital markets (e.g. impact funds and traditional investors) will likely finance FLR activities with a lower risk and a higher likelihood of return.

Throughout the FLR process (initial upfront/readiness investment, implementation-related investment, and sustained financing), a broad range of financing is needed to support enabling, asset and combinations of asset and enabling investments in FLR over time (Simula, 2008; FAO and Global Mechanism of the UNCCD, 2015). Different financing mechanisms are applicable to different circumstances and operate over a range of time horizons to succeed. Investment strategies should therefore consider the changing investment and incentive needs of specific FLR projects and landscapes over time.

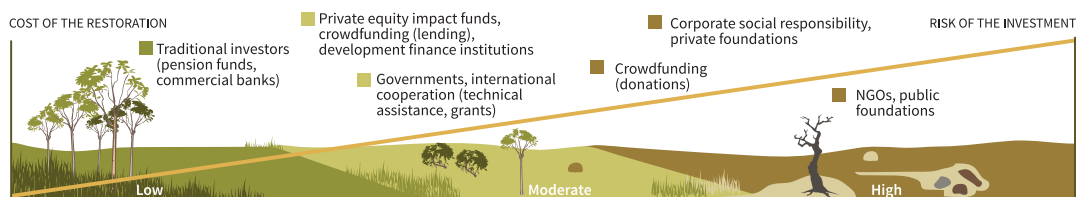


Figure 3. Investment risk and restoration cost (FAO and Global Mechanism of the UNCCD, 2015)

Upfront/readiness investment

In the early development stages of a landscape restoration effort, landscape stakeholders and potential project developers identify restoration needs and develop integrated solutions to complex landscape issues (e.g. using the restoration opportunities assessment methodology (ROAM),⁴ for the baseline assessment of natural resources and strategic planning). Flexibility is required to develop goals, gather information and determine investment priorities. Finance is needed to support enabling investments in stakeholder coordination, policy reform (including policy coordination, tenure security and land zoning), opportunity assessment and planning, capacity building, and creating incentives for high-risk, low-return or ‘patient’ investments. Commercial investments may be made at this stage but are likely to be considered high risk and offer below-market returns in the short term. More often, the most suitable financing mechanisms at this stage will, therefore, be grants from public and civic sources for supporting enabling investments, and soft loans for supporting initial high-risk commercial investments.

Implementation-related investment

After the early stage of enabling investment and potentially high-risk asset investment, sources of finance may diversify, and restoration-supportive market mechanisms can be established to support the implementation of FLR through increasing asset investments (e.g. restoration activities for degraded lands and forests, improved forest management practices and development of value chains). FLR projects may capture investments based on CSR commitments (made by companies seeking to mitigate reputational or operational risks), investments from domestic banks willing to offer below-market capital, or even from allocations by government budget line items. More innovative mechanisms, such as payments for ecosystem services (PES) and catalytic loan facilities may also be appropriately accessed and developed at this stage to support the implementation of FLR activities identified and planned during the readiness enabling investment stage.

Sustained financing

After landscapes are restored or in the process of being restored, investment in FLR will be lower risk and a wider range of incentives and asset investments will emerge for smallholders, cooperatives and companies implementing restoration activities. Market mechanisms for sustainable agriculture and forestry production, non-timber forest products (NWFPs), ecotourism and ecosystem services will have matured and can begin to directly finance restoration activities, making them profitable and desirable in the long term (e.g. livelihood and value chain development for landscape and forest products and services, including PES, certification schemes, ecotourism and NWFPs).

⁴ <https://www.iucn.org/theme/forests/our-work/forest-landscape-restoration/restoration-opportunities-assessment-methodology-roam>

2.2. MECHANISMS FOR FINANCING FOREST AND LANDSCAPE RESTORATION

Several mechanisms for financing the FLR process are available to support asset investments, enabling investments and different combinations of asset and enabling investments from varying sources of funding (Figure 1). There are three basic types of mechanisms: financial and market mechanisms (Figure 4), and individually financed mechanisms.

Financial mechanisms

Financial mechanisms have the dual role of providing funds (i) for transaction costs and initial restoration activities; and (ii) for building and scaling up enterprises (such as those described below in market mechanisms) so that they can effectively operate and sustain restoration activities over the long term. These mechanisms may seek a return on investment (ROI) (for profit) or may invest without expectation of investment returns (not for profit).

- **For-profit financial mechanisms** include debt (loans), equity (buying a stake in an enterprise) and insurance products. These mechanisms may also seek environmental and social benefits in addition to their objective of a financial ROI, such as improved reputation through CSR or sustainable value chain development. Returns on investment can be sought through, for example, improving the quality or sustainability of the supply of products/services, improved reputation, or increased value in the landscape and/or goods or services over time. Lenders benefit financially from the interest charged on loans, while equity investors share in profits from a successful business, although some may accept below-market financial returns. It has been observed that due to the higher burden of risk involved, investors are less willing to invest in highly degraded landscapes.

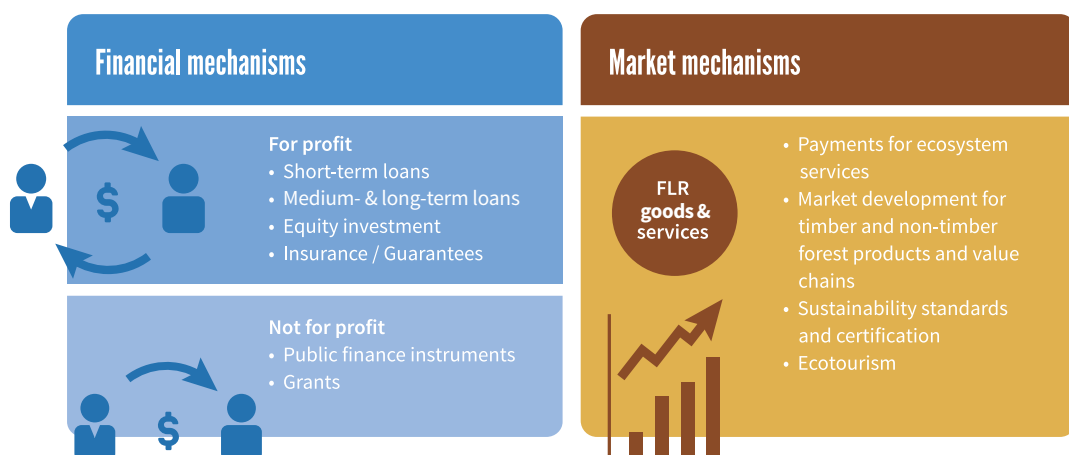


Figure 4. Financial and market mechanisms for forest and landscape restoration

- **Not-for-profit financial mechanisms** include grants, public-sector expenditure or fiscal policies, which play a critical role in funding restoration directly and building enabling conditions and enterprises that incentivize FLR. For example, these can focus on removing perverse subsidies or they can be initiatives funded by public programmes or NGOs to support improved land-use practices that reduce forest and landscape degrading activities. They are not designed to produce a financial return for the investor. Not-for-profit financial mechanisms are often the dominant sources of finance for enabling investments (though other financial mechanisms may also support institutional activities). They are, therefore, more likely to provide finance for investing in the readiness stage of the FLR process, since they accept a higher risk/return ratio (as they do not seek a return) and higher transaction costs. Such investments may help de-risk for-profit investments. They include institutional arrangements for market-driven FLR (e.g. establishing a PES programme) and for direct FLR activities that do not generate financial returns for investors (e.g. management of protected areas that are too sensitive for economic exploitation).

Market mechanisms

FLR activities and outcomes produce different ecosystem goods and services, which can be sold/bought through different market mechanisms. These mechanisms can leverage investment by providing incentives to implement FLR. Market mechanisms can address ‘market failures’, such as absent markets or externalities (benefits or costs that have not been considered and are imposed by one stakeholder on others (Fisher *et al.*, 2009; Brancalion *et al.*, 2017). Landowners, foresters or farmers are compensated for the lost opportunity cost of degrading activities or rewarded for positive land management, which produces goods and services that benefit buyers. This creates incentives for FLR investment and generates a financial return, an economic or a social benefit for sellers. These mechanisms aim to generate long-term incentives and financing for FLR activities, making sustainable activities worthwhile in the long term. Since a good or service needs to have been clearly established before it can be sold on the market, these mechanisms are often used during the implementation and sustained financing stages of the FLR process.

Market mechanisms include (Macqueen *et al.*, 2018): i) markets for selling FLR products, such as timber and NWFPs, and markets for benefitting from services such as ecotourism; ii) economic mechanisms, such as compensatory finance from PES systems (e.g. watershed protection, carbon sequestration and biodiversity conservation), enabling investments for technical support, business training and development (e.g. formal banking finance, trade chain finance and microfinance); iii) legal and regulatory enforcement to discourage degrading activities and/or encourage FLR (e.g. fines, permits and quotas, and subsidies to support improved forest management); and, iv) voluntary sustainability standards/eco-certification for agricultural or forestry products, and landscape labelling approaches, which may include FLR as a key requirement for certification.

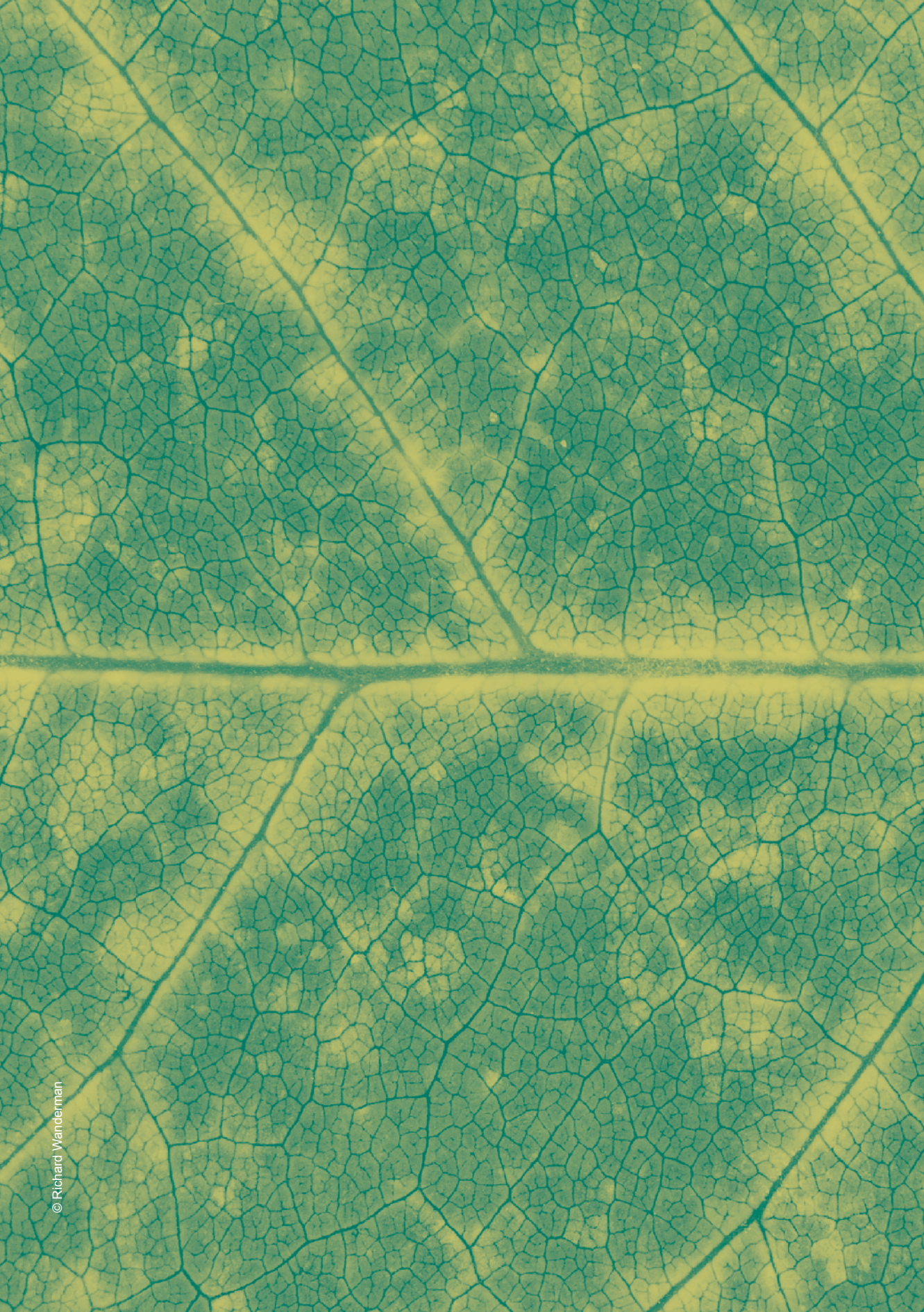
Key challenges for market mechanisms include free riders, economies of scale, context, distance to markets, scarcity in markets for goods/services, transaction and opportunity costs, secure tenure, types of goods/services, and the need for supportive enabling environments. Free riders – individuals who access and benefit from public ecosystem goods or services but do not pay for them – create market failures. To address this, market mechanisms often need to be supported by policy frameworks and regulation. FLR has substantial potential to generate livelihoods, provide ecosystem services and increase landscape value. For investments to be efficient, the scale at which goods and services can be realized should be identified and accounted for. This often requires, for example, smallholders to organize themselves into cooperatives to reduce transaction costs. Similarly, restoration requirements and activities, and the local landscape context will vary widely (Brancalion *et al.*, 2017; IUCN and WRI, 2014). It is important, therefore, when developing market mechanisms to identify appropriate incentives, which target the right stakeholder groups for these to implement suitable FLR activities. For example, it is essential to consider when financial returns can be realized so that lost opportunity costs can be compensated for, especially in the case of slow-growing reforestation species.

Individually financed mechanisms

Individually financed mechanisms are also central to the implementation of FLR. Types of individual financing include personal savings (e.g. those of farmers, landowners, or entrepreneurs), investment of personal labour by land managers or business owners, and social mobilization (obligatory or voluntary labour that benefits the community). When designing an appropriate business model/financial strategy for FLR, it is important to recognize the central role that each of these activities plays in the implementation of FLR. Given the purpose and audience for this review, however, the details of these activities will not be included.

2.3. HOW EACH MECHANISM IS DESCRIBED: OVERVIEW, AN EXAMPLE AND CONDUCIVE CONDITIONS FOR SUCCESS

Different mechanisms will be appropriate in given circumstances depending on the FLR stage, the landscape type and restoration needs, the nature of the potential investment, and the availability of other options. Different mechanisms will also be financed by different sources, according to the channels available, the level of risk investors can manage, and the outcomes sought. Section 3 below provides a detailed description of each mechanism to help potential facilitators, practitioners and interested investors determine the most appropriate option. Each mechanism description includes an overview and an example of their use in FLR. From each example, the conditions most conducive to the success of that particular mechanism, the key challenges to its implementation, and the role of stakeholders in the mechanism will also be analyzed to illustrate how it functioned in its particular context. Further details for each example are provided in the Annex on page 65.



3. Financial mechanisms

3.1. FOR-PROFIT FINANCIAL MECHANISMS

3.1.1. Credit: Short-term loans

Overview

Currently, most loans available to farmers, foresters and agroforestry producers are short term, usually matching the length of an agricultural cycle (3–18 months). They provide access to capital and can allow producers to overcome financial setbacks quicker than they would be able to do with longer-term debt. These loans can be large, medium or small (microcredit), provided by public and/or private banks, investment funds, companies or microfinance institutions. Rotating credit schemes run by community organizations, producer cooperatives, or NGOs may also be set up with funds from community members themselves, NGOs, companies or government grants. In some cases, commercial loans made by banks or companies to producers may be subsidized (i.e. providing below-market interest rates, or covering the higher risks associated with low-income farmers or enterprises) by governments or civil society organizations (see Section 5 on Coordinating finance for FLR). Short-term loans can also be a first step toward medium- and long-term loans, with lenders more willing to lend to small producers who have already shown their ability to repay, therefore reducing investor risk.

High interest rates or the need for additional subsidies to improve the cost effectiveness of improved management practices may prevent the uptake of short-term loans. Loans with below-market interest rates (soft loans) can therefore be offered to finance FLR activities. For these loans to succeed for both parties, smallholders and SMEs would still need the collateral and revenue stream that lenders require before making a loan.

Short-term loans provide funds for working capital to farmers, cooperatives and companies. They can also be used for cash flow management to cover the delay between expenses incurred and the sale of products or to finance sustainable land management (SLM) practices that will generate short-term financial benefits and contribute to restoration. FLR activities financed by short-term loans include improved soil and water management practices, the purchase of new seedlings or improved seed varieties, and covering increased labour costs during harvest season. To promote restoration activities, lenders can link access to short-term credit or soft loans to compliance with environmental and social standards.

Challenges and implementation requirements

FLR activities are often seen as risky investments, especially in highly degraded landscapes. It is therefore often difficult to find loan instruments adapted to or targeted at restoration. Often, loans are linked to supply chains, with repayments linked to the sale of products. However, most FLR investments need time before they generate the income flows required to guarantee repayment.

A key challenge for the implementation of all short-term loans, particularly those offered by local institutions, is that the monitoring and assessment of compliance with environmental performance require technical knowledge that many local entities may lack. Another difficulty is that producers may also require additional finance for technical assistance in implementing practices (including new technology and innovations that can increase productivity) and legal assistance in ensuring accurate land titling.

To enable the scaling-up of restoration, accessible loans adapted to FLR activities may be developed. Specific credit lines can be created in local banks and local entrepreneurs implementing FLR can be supported to develop strong business models.

Facilitators can support landscape actors to identify the most appropriate short-term loan for the landscape/FLR activities planned, develop business plans to ensure repayment, and identify synergies with other activities to reduce investment risk. They can also support investors to develop suitable credit lines.

Investor types: Traditional investors such as commercial/national/development banks, pension funds and microfinance institutions.

The 'Imdodi Rushd' microloan foundation, Tajikistan

To address soil erosion and landscape degradation, the United Nations Development Programme (UNDP) supported the development of a microloan foundation (MLF). The MLF provided loans via *jamoat* (municipality) resource centres (JRCs), which financed technical assistance and eco-agricultural capital to help smallholders and SMEs improve and secure income generation, adopt agroforestry techniques and adapt ecosystems and livelihoods to climate variability.

In close collaboration with the JRCs and local forestry agencies, the MLF also supported technical training for loan beneficiaries and rural communities on the MLF's purpose and operations, loan management, and modern agroforestry technologies. At the same time, local NGOs provided support for environmental learning, and delivered community-based programmes, community outreach and environmental learning.

By the end of 2010, the MLF portfolio had reached USD 654 000, and had directly or indirectly supported 671 beneficiaries. The MLF system has enabled

residents to rehabilitate and reinforce slope lands, enrich the soil and maximize their yields by using improved production practices and crop varieties.

By 2012, microloans had been distributed to 66 villages, and there were no recorded default payments. Beneficiaries have also reported that the scheme's flexible and affordable lending conditions were key to its success.

Learn more about this case in Case Study 1.

3.1.2. Credit: Medium- and long-term loans

Overview

Pathways for FLR require financial stability while a farm, forest or landscape is being restored. Many restoration activities are implemented over a number of years, and the financial benefits of restoration will not accrue to the land managers or businesses in one or two seasons. Medium- and long-term loans provide financing to bridge this gap. Medium-term loans range from 18 months to 15 years and can be used to finance depreciable assets such as machinery, equipment, water-harvesting structures, and tree or grassland establishment/renovation. Longer term loans (up to 30 years), however, tend to be for the purchase of land, larger fixed assets or timber plantations.

Soft loans are generally used as part of a wider strategy to incentivize improved management practices. They tend to be wider and medium sized to maintain or scale up cooperatives or companies that incentivize restoration.

Challenges and implementation requirements

Financial institutions providing loans tend to be conservative by nature. Investments through medium- and long-term loans for FLR are therefore not always appropriate or available (length of repayment and credit rate) due to the long-term ROI of restoration investments requiring long periods (e.g. timber and perennial crops). Cash flows may be insufficient to repay loan debts to schedule. This may sacrifice the long-term sustainability and profitability of the FLR activities supported by the loan. Early investment is therefore associated with substantial risk and requires a longer perspective.

Medium- and long-term loans for FLR activities also require well-established, stable financial institutions for those receiving the loans. The entities receiving the loans should have a strong financial management capacity either individually or through technical assistance from facilitators to reassure investors and reduce investment risk.

Facilitators can support landscape actors to identify the most appropriate medium- or long-term loan for FLR activities, develop business plans to ensure repayment, and identify synergies with other activities to reduce investment risk. They can also help investors develop adapted credit lines.

Investor types: Traditional investors, such as commercial national and development banks that can develop specialized credit lines associated with guarantee schemes to overcome the barriers to FLR loans.

Specialized credit line providing loans to community forest enterprises, Guatemala

To improve the competitiveness of community forest enterprises (CFEs) in the Maya Biosphere Reserve in Guatemala, a specialized credit line has been created by the FIDOSA Bank, with support from the Rainforest Alliance and the Multilateral Investment Fund (MIF, a member of the Inter-American Development Bank Group) to provide loans to CFEs involved in sustainable forestry for them to quick-start and/or scale up their businesses.

Two types of credit lines were established:

- loans of USD 2 500 to USD 250 000 for medium- and long-term investments (5–7 years);
- loans of USD 2 500 to USD 250 000 for working capital, for up to 60 months, dependent on the extent of areas under sustainable forest management.

Annually renewable lines of credit (fixed in USD) have an interest rate of 10 percent, to which a disbursement fee of 0.5 percent is added when the timber buyer deposits a payment into a FIDOSA account, and an additional 0.5 percent if the buyer makes a payment directly into the account of one of the concessions.

This credit line and the associated loans have successfully supported CFEs for the following reasons:

- The key needs of the target audience have been considered and addressed. First, the credit line was made available for one of the key needs of CFEs, which is typically not covered as part of loan deals: working capital. Second, the interest rate was fixed at a relatively low level (accessing a loan directly from a commercial bank would incur much higher rates, around 25 to 35 percent). Third, a purchase order for wood – essentially standing timber and a harvest permit as collateral – was made eligible as a guarantee. Finally, the longer time horizon is more suitable for forestry operations, and the interest rates are fixed.
- The Rainforest Alliance has provided support for the whole CFE development model for 15 years, through training and monitoring in all areas – forest management, monitoring, enterprise development, finance, markets, legal compliance, transparency, accounting systems and overall financial administration. Access to credit has been enabled on the back of this support, but has also catalysed improvements in internal enterprise administration, which technical assistance on its own seldom achieves. Technical assistance for financial competency needs to be continual and should be developed further.

Learn more about this case in Case Study 2.

3.1.3. Equity investment

Overview

Equity investments see investors buying a share in a given enterprise, with returns/dividends to the investor linked to growth in company value (FAO and Global Mechanism of the UNCCD, 2015). In this case, investors will accept a higher level of risk but stand to gain significantly more if the enterprise is successful than would accrue from the interest on a loan. Due to the greater risk involved, investors typically may seek a much more active role in the management of the enterprise than in other financing arrangements.

In the context of restoration, a wave of equity investments are being made by ‘impact investors’ (who can also invest in debt), such as Althelia Funds⁵ and Livelihoods Funds.⁶ In addition to providing financing, equity impact investors would need to be able to support some combination of product and service development, business plan development and organizational development, and provide technical and management support to their investees. These investors can be public or private and can offer accessible terms based on the triple bottom line (financial, environmental and social), often to SMEs looking to scale up.

Equity investors in FLR may also invest in stocks or shares of individual companies or a mutual company fund focusing specifically on FLR. Investors in shares would, however, have little control over company operations.

Challenges and requirements for implementation

A challenge for equity investments is the commitment of impact investment funds to certain objectives when their funds are launched. This creates difficulty in identifying projects that are ‘investment ready’. Consequently, they often need to partner with public-sector or philanthropic investors to build the capacity for project implementation or even to manage technical facilities alongside their investment funds. There is therefore a need for business incubator services with professionals who are familiar with landscape restoration.

The greater involvement of investors in the management of FLR enterprises may also create conflicts of interest and governance issues for SMEs and FLR activities, and this should therefore be taken into account.

Facilitators can provide incentives to investors seeking to invest equity into FLR projects by reducing the risk of their investment, by spreading the burden of investment risk through ‘blended finance’. They can also provide a link between landscape actors and private investors, and support smallholders to build their capacity to access loans and develop business plans.

Investor types: May include private equity impact funds, venture capital funds, foundations, sovereign wealth funds, traditional investors (commercial banks, pension funds), development finance institutions (DFIs), or high net-worth individuals.

⁵ Althelia Funds describes itself as “an asset manager with an impact-driven approach to investment, aligning strong financial returns with measurable environmental and social impact.” <https://althelia.com/>

⁶ Livelihoods Funds describes itself as “proposing innovative investment models to simultaneously address environmental degradation, climate change and rural poverty, while helping businesses become more sustainable.” <http://www.livelihoods.eu/>

Moringa's equity investment in the Cafetalera Nica-France Out-growers programme, Nicaragua

The Moringa Fund has invested USD 13.3 million in equity in Cafetalera Nica-France, which has successfully developed one of the largest independent coffee farms in La Cumplida, Nicaragua. The farm covers over 1 500 ha, including 660 ha of coffee agroforestry plantations. The agroforestry system combines coffee plantations with ten high-value, native tree species. Moringa's equity investment in a joint project with the coffee company marks the beginning of a long-term partnership. This 5-year programme, known as Cafetalera Nica-France Out-growers, has built a coffee cluster to supply Cafetalera Nica-France by reinvigorating neighbouring small- and medium-scale farms, which have been severely affected by coffee rust and the effects of global warming.

As the financial return to its investors is linked to the project's success, Moringa takes an active role in the programme. It also provides technical assistance to farmers to help them embrace the new system.

By using agroforestry techniques, the Cafetalera Nica-France Out-growers project will enable the sequestration of more than 500 000 tonnes of CO₂ and the rehabilitation of 2 000 ha of degraded land, as part of Nicaragua's national contribution to restore 2.7 million ha under the 20x20 Initiative. Six thousand local jobs will be created, and the sustainability and profitability of the small and medium farms are expected to increase. The Cafetalera Nica-France Out-growers programme illustrates that it is possible to achieve both profitability and positive social and environmental impacts for all stakeholders over the long term.

Learn more about this case in Case Study 3.

3.1.4. Insurance/guarantees

Overview

Insurance products or loan guarantees are designed to support restoration investments and/or provide mechanisms to mitigate risks for investors through a third party. They provide a pathway for investors who are interested in the environmental and social objectives of FLR activities, as well as in the potential business benefits, but do not trust that they will get a return on their investment. Guarantee mechanisms are relevant for addressing market failures, for example if there is high political risk in the investment region. Insurance can also unblock private investment by protecting against the risk of expropriation and the failure of governments to meet specific performance obligations.

Investors include traditional investors and DFIs. Insurance/guarantee beneficiaries can either be those implementing FLR or investors seeking to increase their SME portfolio while reducing risk.

Insurance/guarantees can be used in different ways to support FLR implementation. For example, governments can offer guarantees (as well as insurance) to promote exports: the Netherlands promotes export credit insurance (EKV) against the risk of non-payment by the buyer, to cover banks financing the export of Dutch capital goods. Multilateral development banks can also deliver guarantees at low cost to developing countries. To enhance credit access for a range of stakeholders in developing countries, the United States Agency for International Development (USAID) loan guarantee programme is implemented through its Development Credit Authority. It aims to encourage risk-averse financial institutions to lend to creditworthy, but underserved, borrowers. USAID covers up to 50 percent of the potential loss to which a local bank or investor could be exposed. Under this programme, USAID is supporting Althelia Ecosphere, an impact investor, to lend up to USD 133.8 million in commercial financing for forestry and sustainable land-use projects in developing countries.

A few private mono-line insurers have also issued ‘wrap’ guarantees – full credit that covers timely payment of interest and principal in the event that the issuer of the guaranteed (‘wrapped’) debt is unable to meet its financial obligations. The sector is largely based in the United States, but its reach is global.

Challenges and implementation requirements

When dealing with a new/unproven type of investment in FLR, it can be difficult to calculate the level of risk and therefore the appropriate cost of insurance. Investors and insurers may need to create new models to evaluate the risk of insurance investments and establish a fair system of repayment for guarantees. This can be supported by a well-documented track record of the performance of these investments and defined strategies to address identified risks.

Facilitators can coordinate insurance/guarantee mechanisms with landscape actors to reduce the risk of their investment in appropriate FLR activities on the ground. They can also seek these financing mechanisms early in FLR implementation to provide an environment that can reduce the risk for other financiers, motivating others to invest in the landscape.

Investor types: Hedge funds, specialist insurers, multilateral financial institutions, and so on.

The Multilateral Investment Guarantee Agency and EcoPlanet Bamboo, Central America and Southern and West Africa

In Central America and Southern and West Africa, EcoPlanet Bamboo has undertaken the restoration of degraded lands, turning them into commercial bamboo plantations using a landscape approach. Some projects occur in countries with high perceived political risk from an investment perspective. To 'de-risk' these investments, the Multilateral Investment Guarantee Agency (MIGA) is providing a USD 48.8 million guarantee against EcoPlanet Bamboo's current investment in Nicaragua and USD 8.6 million guarantee against its current investment in South Africa. The 15-year policy covers the project against political risk, including expropriation, war and civil disturbance.

MIGA's guarantee helps to restore land and implement good practices on the ground. The project has already restored over 3 440 ha of degraded land and received several awards and certifications for its good practices towards environmental and social issues. Hundreds of jobs have also been created in Nicaragua as a result of EcoPlanet Bamboo's local sourcing.

Due to their indirect investment, guarantee mechanisms provide a way of reducing risk in sustainable investments. The project's sustainability is also considered seriously by the guarantee agency as a security for their investment. It has been verified that EcoPlanet Bamboo plantations are not in competition with food production since they are established on degraded land.

Learn more about this case in Case Study 4a.

Local guarantees can be an efficient way to bring funds to stakeholders implementing activities on the ground. One example of local guarantees are out-grower schemes, which are contractual partnerships between growers or landholders and a company. The company guarantees the purchase of forest products grown within sustainable systems (see Case Study 4b).

The Swiss Lumber Company out-grower scheme, Ghana

The Swiss Lumber Company lacks access to forests for wood supply, and the plantation on its own land is insufficient to meet the capacity of its sawmill in Ghana. The Swiss Lumber Company has therefore developed strategies to attract out-growers to produce indigenous trees on land that was degraded or producing marginal agricultural yields. The company provides cash and in-kind rewards to landholders and farmers for the development of plantations. Farmers

and landholders are allocated land and other resources for the production and management of trees to supply the sawmill, while the company is providing a guaranteed market for them.

To date, the 25 growers involved have planted 4–10 ha each. The company aims to expand the area by 25 ha per year on average. The planting and management of trees in previously degraded areas is increasing soil carbon content while reducing erosion by using contour planting across degraded hill slopes.

This scheme is a form of integrated value-chain financing where a buyer higher up the chain provides financing to a producer lower down the value chain. It also allows smallholders to access finance for investment in plantations, as well as input supplies. Local employment opportunities are created by the joint ventures and directly by the company, which employs growers.

Learn more about this case in Case Study 4b.

3.2. NOT-FOR-PROFIT FINANCIAL MECHANISMS

Most non-profit financial mechanisms for investing in FLR are grants (financial ‘gifts’ related to specific funder priorities and involving no repayment) or public-sector fiscal policies providing incentives (e.g. subsidies) and disincentives (e.g. taxes).

3.2.1. Public finance instruments (fiscal policies and direct investment, taxes and subsidies)

Governments play a central role in FLR. Fiscal policies use public revenues to provide incentives for investors or land managers to undertake restoration and sustainable management activities and disincentives to prevent further deforestation or land degrading activities. Specific instruments include property tax relief, exemptions and rebates to land managers in exchange for agreed management actions (e.g. restoration and sustainable management of forests), and direct subsidies for inputs to land managers who implement better management practices and adopt new technologies (e.g. agro-environmental measures supporting FLR). Governments can create disincentives, for example by taxing or applying fines for land clearance and deforestation, poor land management or agricultural pollution.

Although these are examples of fiscal policies that incentivize FLR, in some cases, simply removing existing harmful policies that provide perverse incentives to continue poor land management practices is an important first step (e.g. removing subsidies that incentivize land encroachment or the use of fertilizers).

To support the development and implementation of FLR-supportive fiscal policies, national authorities may devolve the powers needed to change fiscal policies to local authorities, or facilitate fiscal transfers so that local authorities can most appropriately target public investment in FLR. The ability to direct tax revenues raised from

natural resource extraction to restoration spending is therefore important. For example, in Colombia, royalties from resource extraction (e.g. mining) are allocated to regional and local authorities for investing in sustainable development projects at the landscape level.

Fiscal reform can also be achieved on a much more local scale. For example, proceeds from taxes levied on companies benefitting from clean water could be ring-fenced to fund environmentally friendly agricultural practices in the same watershed, or sponsor stakeholder workshops on local land-use decisions and conflicts. This type of mechanism is used in Costa Rica, where the National Forest Financing Fund (FONAFIFO) acts as an intermediary between large water users, such as utilities, and upstream providers of watershed protection, such as hillside coffee farmers, to finance forest management, reforestation and conservation on private land (see Case Study 7).

National and subnational policies to support the enabling conditions for FLR are, however, often lacking. Sectorally siloed government planning and decision-making processes often hinder territorially oriented development, which seeks to achieve multiple, cross-sectoral objectives. Moreover, negotiation processes involving multiple stakeholders at landscape scale are currently insufficiently supported by business-as-usual policy. While such elements of government action are beyond the scope of this paper's focus on financial mechanisms, it is important to consider how governments can and do use fiscal policies to influence investment decisions. Further discussion about enabling conditions for FLR can be found in Section 6.

Challenges and implementation requirements

Key to public programmes supporting the implementation of FLR on the ground are strong and stable governments able to target public funds. To be relevant, public investment needs existing structures able to technically support local stakeholders to manage direct investments, raise taxes, share benefits and provide incentives to land managers and actors implementing FLR activities in the field in target areas.

Political cycles can impact the implementation of fiscal policies and public programmes through changes of governments, shifting public policy objectives and varying ministerial targets. Changing political circumstances may also raise concerns about private-sector investment in related programmes, landscapes and activities. Often, the financing of public programmes is focused on single sectors rather than on the whole landscape. This may lead to funds and resources being allocated without consideration for potential conflicts between sectoral targets. For the sharing of tax revenue to be fair, allocation criteria must be clearly defined, and strict controls and monitoring procedures must be implemented by an external entity. For FLR financing initiatives to be sustainable, they must also allow for the consultation of local people and consider their land rights.

Facilitators can help landscape actors comply with legislation by raising awareness of regulations, identifying areas where they may need support to reach compliance, and developing supportive programmes to address this. They can also propose

collaboration initiatives between existing public programmes, government departments and sectors to improve governmental support.

Investor types: Public investors can direct public programme finance or legislation to support specific FLR activities and outcomes. This may require establishing new programmes or supporting advocacy for such schemes to be set up. Public investors can also engage across sectors to increase dialogue between ministries and improve the potential for collaboration between different programmes.

The Brazilian 'Ecological-ICMS': A fiscal transfer between states and the municipalities enhancing the protection of ecosystems

The Brazilian tax on the circulation of goods and services, Imposto sobre Circulação de Mercadorias e Serviços (ICMS) is an indirect tax levied on products and services at the national level. State governments are required to share 25 percent of the ICMS revenue with municipalities according to criteria they partly define. In 1991, the Paraná State introduced a system in which 5 percent of the ICMS municipal share was allocated to municipalities as a reward for the number of hectares they had under protection. This Ecological ICMS (E-ICMS) is therefore a way of rewarding the municipalities for taking care of their natural resources and of encouraging others to commit to long-term sustainability goals. The municipal tax share is thus reallocated depending on the environmental protection measures taken by municipalities.

Over the last 14 years in Paraná, it is estimated that the E-ICMS has redistributed approximately USD 170 million to communities with protected areas and led to a 158 percent increase in the number of protected areas between 1992 and 2006.

This instrument could, however, be improved by integrating quality management and monitoring of the declared protected areas against criteria for receiving funds. As each state is responsible for the criteria chosen for tax allocation and monitoring, there is a risk that the E-ICMS could be used to justify the sharing of tax revenue with no incremental improvement to environmental conditions. The adoption of a quality index sensitive to the efforts of municipalities towards protected area establishment and maintenance is therefore essential. This could incentivize municipalities to dedicate more resources to protected area management.

Learn more about this case in Case Study 5.

3.2.2. Grants

Grants are transfers of funds from governmental, non-governmental, philanthropic, or private sources, which support the development or strengthening of an enterprise/organization or the direct implementation of FLR activities, but do not provide a direct

financial return for the granting organization. There is an expectation that public goods will be produced by the grantee. The funder supports the organization receiving the grant, which may, under some circumstances, be an unrestricted core contribution, to achieve its own priority objectives within the specified criteria of the grant programme. Financial reporting ensures that funds are used for the purpose agreed upon. Funds are typically provided in advance of activities. This contrasts with a service contract in which the deliverables are defined by the funder, and disbursements made upon completion and approval of deliverables.

There is usually a formal proposal process by which the prospective grantee applies for the grant and provides a detailed description of proposed activities, outcomes and impacts. Most grants are provided to registered non-profit organizations, sometimes with provision for sub-granting to informal organizations, like farmers or communities. In the environmental field, it is also common for grants to be made to companies or to support investment in environmental management improvements (such as restoration) with public benefits.

For FLR, grants can be used to support a wide range of activities, like the early establishment of more sustainable agricultural systems (e.g. agroforestry), and for longer-term restoration activities, which are not financially viable for commercial funders. They can also be used to provide technical support to land managers, or to establish restoration-supporting market mechanisms, such as PES or ecocertification systems.

There are many organizational models for grant-giving. These include:

- government or foundation programmes;
- sustainable development funds overseen by stakeholder representatives and financed from a variety of sources;
- company grant programmes, which help suppliers or users improve resource management related to their activities (e.g. hydroelectric utilities providing grants to land managers in their watershed for restoration, or coffee buyers providing grants to suppliers to invest in conservation); and
- civil society financed grants (e.g. WWF EFN Restoration Grants,⁷ International Tree Foundation Community Tree Planting Programme).⁸

Grants are particularly useful to support the initial transition to and implementation of early FLR activities, where there are no market instruments available to produce the desired restoration outcomes, or where the technical or institutional capacity is insufficient to take advantage of those market opportunities. Grants are also useful for innovating and piloting new technologies, management systems or business models, and for generating and disseminating information widely to land and resource managers.

Each grant will have specific eligibility criteria, application processes, scalability and priority criteria for awarding grants according to the investors' objectives. This may determine the applicability and suitability of grants to support specific FLR activities in a given landscape. Not all grants will, therefore, be suitable to finance all FLR activities.

⁷ <https://www.worldwildlife.org/projects/reforestation-grants>

⁸ <http://internationaltreefoundation.org/community-tree-planting-grants-uk-africa/>

Challenges and implementation requirements

Difficulties that may arise are securing grant funding at the scale required, as well as meeting the criteria for each grant application. Grant amounts, particularly those financed by civil society, are often small and, therefore, more suitable to kick-start initial small-scale activities, institutions and plans to support FLR in target areas.

Facilitators can seek out different grant opportunities, identify key criteria for applying, and support landscape actors to get and manage the grant when received.

Investor types: Investors can either directly provide grants specifically targeted at supporting FLR outcomes or the implementation of FLR activities on the ground, or leverage grant funding while investing in other financing mechanisms. For example, a private investor in equity can leverage a technical assistance grant from a public entity. Investors include NGOs, bilateral and multilateral donors, and philanthropists.

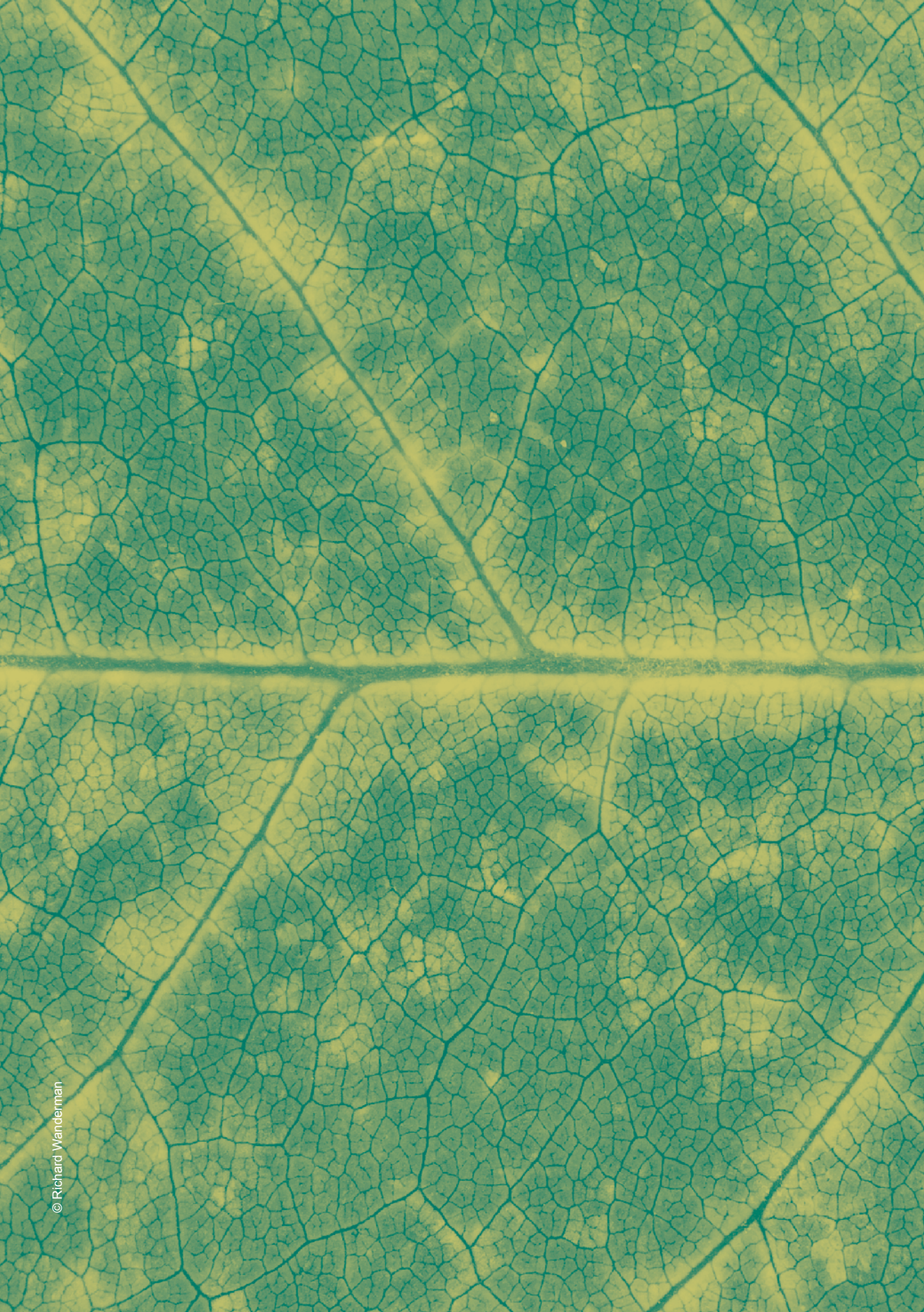
The Global Environment Facility Small Grants Programme – Cultivating tara trees to reforest degraded riverbanks in El Agustino, Peru

The Small Grants Programme (SGP) of the Global Environment Facility (GEF) provides financial and technical support (up to USD 50 000) to restoration and conservation projects that also improve livelihoods. Grants are given directly to local communities, community-based organizations and local NGOs to implement projects that “think globally by acting locally.” To address extensive land degradation, deforestation, landslides and pollution, 100 women organized themselves into a group called Promotoras Ambientales to rehabilitate the riverbanks and surrounding hills with tara trees and other medicinal plants.

A USD 50 000 grant was given to the Central Distrital de Bancos Comunales de los Distritos de El Agustino y Santa Anita between 2009 and 2012 to support the training of the Promotoras Ambientales group in the production of organic fertilizer, as well as nursery and reforestation techniques for the area. This included construction of an artificial wetland to filter polluted water for the irrigation of the plants. To date, 17 900 m² of degraded land have been reforested with more than 2 500 tara trees along the banks of the river and on the hillsides to reduce landslide risk. The cultivation of tara trees has increased conservation of the species, while commercialization of NWFPs from tara trees has provided a long-term incentive for women to sustain these activities. One thousand aloe vera and other medicinal plants have also been planted to extend green cover and subsidize livelihoods. The artificial wetland and its ‘biofilter’ has proven to be a simple, cost-effective method to remove solid waste and pollution, while also providing habitat for wildlife.

Socio-economic benefits for Promotoras Ambientales include the creation of a microenterprise to commercialize organic fertilizer, and various tara and aloe vera products. As a result, the women have substantially increased their income.

Learn more about this case in Case Study 6.



4. Market mechanisms for financing forest and landscape restoration

The market mechanisms described in this section provide incentives for restoration through the profitable sale of products and services that support restoration and sustainable agro-environmental measures and management. Restoration investors can either buy these products and services directly (therefore indirectly financing FLR activities) through strengthened, sustainable value chains or invest in the development of mechanisms that will ideally provide sustainable flows of finance for FLR activities.

4.1. PAYMENTS FOR ECOSYSTEM SERVICES

Overview

Payments for ecosystem services are mechanisms linking buyers – from the local, regional, and global communities – to sellers, directly compensating land managers for the opportunity cost of implementing sustainable agro-environmental practices that support restoration and ecosystem services (Figure 5). Payments for ecosystem services can counter the economic benefit of activities that deforest or degrade landscapes by making competing restoration activities more profitable in the long term.

The design and implementation of Payments for ecosystem services on the ground are determined by how PES are defined. Early definitions (Wunder 2005, 2007; Engel, Pagiola and Wunder, 2008) were difficult to apply on the ground, creating examples of compensatory schemes often referred to as ‘PES-like’. PES definitions have since been revised and clarified to reflect the practical implementation of PES. They determine PES to be: i) voluntary transactions; ii) between service users; iii) and service providers; iv) that are *conditional* on agreed rules of natural resource management; v) for generating offsite services (Wunder, 2015).

Payments for ecosystem services schemes can be set up for an array of FLR measures that provide environmental services, such as water, carbon and biodiversity, and support the conservation or restoration of functioning ecosystems:

- For watershed conservation, public users of water services, such as government agencies, private companies, downstream communities or philanthropic organizations, pay to support a shift in practices by land managers to enhance water quality, reduce runoff and erosion, or to achieve targeted incorporation of landscape features (e.g. riparian buffers).
- Payments can also be made by public users, whether local, national or global

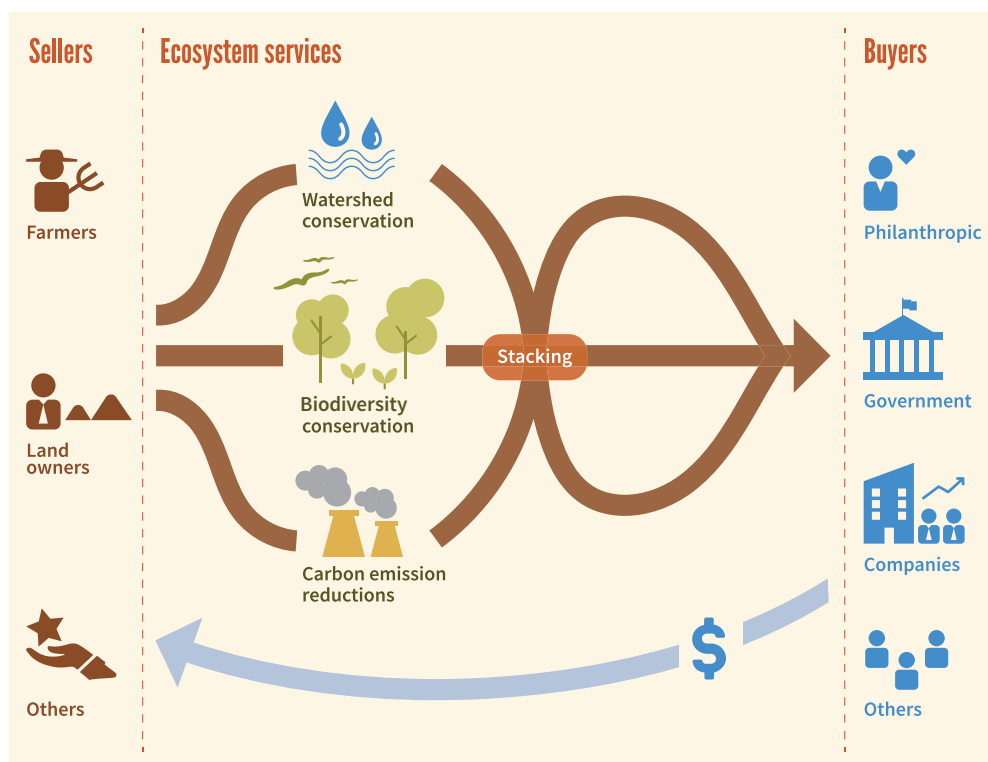


Figure 5. Payments for ecosystem services scheme

buyers, for biodiversity conservation, whereby land stewards are paid to protect biodiversity-rich habitats or endangered species or enhance habitat connectivity.

- In PES systems for carbon sequestration and emission reductions, buyers are public users, often at national or global level. Payments support a shift in land-management practices to incentivize climate change mitigation (e.g. conservation tillage, agroforestry, and avoided deforestation).
- Buyers for carbon-specific PES schemes can also include global beneficiaries of carbon sequestration programmes, such as REDD+,⁹ which aim to create value for carbon stored in forests. The REDD+ programme rewards governments, companies or forest owners in developing nations with results-based payments for actions to reduce or remove forest carbon emissions and invest in low-carbon sustainable development. In addition to addressing deforestation and degradation, REDD+ includes conservation activities, sustainable management of forests and the enhancement of forest carbon stocks.

Payments for ecosystem services schemes often target specific ecosystem services. These services are, however, increasingly linked together within a single initiative (e.g. carbon projects that are also designed to protect biodiversity), blurring the lines between them. These efforts are often referred to as bundling or stacking (Zhang, 2016). There are three general types of ecosystem service buyers, each with distinct motivations:

⁹Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries, <http://www.unredd.net/about/what-is-redd-plus.html>

- **Government buyers:** Public-sector agencies seek to secure public goods on behalf of their constituencies. The buyers in these cases can be national funds, regional or local development funds or international donors.
- **Business buyers:** Companies may engage in these schemes for a variety of reasons. They may participate because they see a direct link between long-term profitability and the conservation or restoration of ecosystem services. This may be through improved and sustainable production practices that reduce the need for inputs or the risk of ecological or social disruptions to their operations (e.g. for water companies, the cost of removing sediments from upstream soil erosion is reduced). Others may engage in PES schemes because of regulatory obligations to offset environmental impacts or as part of CSR programmes to improve their reputation in local or international communities.
- **Philanthropic buyers:** These include local, national or international conservation and development NGOs, as well as charitable foundations and individuals who recognize the importance of creating incentives for the maintenance or restoration of ecosystem services.

Challenges and implementation requirements

Key requirements for PES systems include clearly defined property rights – to enable a voluntary contract to be entered into between buyers and sellers – and mechanisms to aggregate smallholders so they can have sufficient scale to participate. They require systems for cost-effective monitoring to ensure conditionality of payments and activities. Clearly established baselines, the valuation and targeting of payments appropriate for the local context are also important considerations, as are enforcement mechanisms with proper incentive and disincentive structures for compliance. It is crucial that there are also clearly identifiable suppliers, buyers and intermediary institutions to facilitate payments. Payments for ecosystem services systems must also be based on a long-term (often regulated) commitment and socio-economic diversification to enable permanence (sustainability of the environmental service).

It is difficult for all of the five PES criteria described above to be met in a given landscape. A frequent bottleneck is identifying or the lack of a clear buyer. For payments for watershed services programmes, for example, these buyers are local, downstream entities that are impacted by upstream land managers. If there are no public or private actors in a given landscape willing to buy, even if the water has a clear economic value, a system will not succeed. Often, biodiversity and carbon are internationally oriented ecosystem services, and buyers for these services are more likely to come from outside a given landscape. Carbon markets for SLM have, however, varied significantly over the past twenty years, with the current market dominated by voluntary transactions. Without a more sizeable commitment by governments to mandate, establish, and participate in carbon markets, these mechanisms may not reach their theoretical potential to provide sufficient incentives for FLR.

Other key challenges to the implementation of PES include determining payments themselves: to whom, at what level, for what amount and at what scale. Land tenure security is often key to determining which landscape actors are to be compensated for the lost opportunity cost of activities on their land. It is also important that the restriction of activities in one landscape does not create leakage.¹⁰

Determining the cost–benefit analysis (CBA) of FLR activities and calculating the amount of compensation required is important, as is understanding local-level/community dynamics to grasp whether there is a willingness to accept compensation, either in cash or as in-kind rewards and whether this should be at individual or community level. While conducting this analysis often requires time and financing, it is essential to design a PES scheme that is equitable, efficient and sufficiently supported by local- or national-level governments and/or policy. Once a PES scheme is established, monitoring and enforcing conditionality of these payments to providers can also be costly, and one challenge is demonstrating the link between FLR activities and downstream ecosystem services outcomes.

Despite these challenges, PES schemes can be a useful mechanism to finance FLR activities on the ground. As each PES scheme will be shaped by the context in which it operates, the understanding of the focus site's ecosystem, and socio-economic and political setting is key to their implementation. Clearly identified ecosystem services and clear links between improved practices and benefits can support the targeting of performance-based payments. With effective and rigorous monitoring to ensure conditionality and reduce leakage, a clear governance mechanism, often supported by policy, can enable the development of a long-term PES financing mechanism, with potentially large gains in cost efficiency compared to indirect payments or other regulatory approaches.

Facilitators can act as an intermediary between buyers and sellers by creating links and negotiating contracts between them, as well as by supporting the design, implementation and monitoring of the scheme, and ensuring the transparent, equitable distribution of benefits. They can also raise awareness among local communities, buyers and local and national government about the scheme, the benefits to be derived from the targeted ecosystem services and the business case for supporting payments.

Investor types: Public, private or civil society investors can invest in specific FLR activities or the provision of ecosystem services within a PES scheme for either their own or the global benefit. They can also support the development of PES schemes themselves. Investors can be the broker and the first investor covering the set-up costs and the first instalment. Investors can also support the enabling environment for PES schemes: regulation, connecting ecosystem service needs with providers/buyers, legal frameworks to support the functioning of PES (i.e. Costa Rica). Investors may include multilateral financial institutions (e.g. the World Bank Forest Investment Programme), bilateral donors, socially responsible investors, and taxpayers/ecosystem service users.

¹⁰ When a landowner receiving payments simply shifts the degrading activity to another area not under a PES contract.

Payments for ecosystem services, Costa Rica

Costa Rica has established a national fund dedicated to supporting the implementation of FLR activities, such as reforestation. Since 1997, the Pago por Servicios Ambientales programme has been implemented to protect primary forest, enable growth of secondary forest and promote plantations to meet demand for timber and NWFPs.

Revenues from a national sales tax on fossil fuels predominantly finance PES for a range of environmental services, including biodiversity, landscape and hydrological services, and for carbon storage. Funds are managed, and payments distributed by Costa Rica's National Forest Financing Fund (FONAFIFO) within the Ministry of Environment and Energy. Signed contracts between FONAFIFO and landowners agree on land use and the monitoring of compliance through forestry technical facilitators. Private landowners are compensated for adopting land uses and forest management practices that restore and protect forest cover. Financial returns are fixed according to the type of land and PES contract: forest conservation, sustainable forest management, reforestation, or agroforestry.

Besides direct cash payments, landowners have also benefitted from property tax exemption and strengthened land tenure. Numerous studies have evaluated the impact of Costa Rica's PES scheme, which has, since 1997, helped conserve nearly 1 million ha of forest, returning forest cover to more than 50 percent of the country's land area, from a low of just over 20 percent in the 1980s. It has also provided significant biodiversity benefits through forest conservation for watershed management.

Learn more about this case in Case Study 7.

4.2. MARKET DEVELOPMENT FOR TIMBER AND NON-TIMBER FOREST PRODUCTS AND VALUE CHAINS

Overview

FLR activities and practices support improved agro-biodiversity through the promotion of reduced reliance on monoagricultural practices, increased resilience of ecosystems and diversified livelihoods. FLR promotes mixed systems which also enhance the financial value of agricultural production systems (e.g. fruits associated with moving from sun coffee to shade coffee) and natural habitats (e.g. supporting the value chain of a product found in natural habitat). The diversity of agricultural, agroforestry and forestry value chains can integrate and engage multiple actors through production,

processing and marketing stages (Miller and Jones, 2010). This provides multiple opportunities to engage with a spectrum of financing mechanisms along value chains, such as product financing, physical asset collateralization, risk mitigation products and financial enhancements, etc.

Primary and secondary trees and NWFPs produced through FLR practices include perennial plants, trees and herbaceous shrubs. The development of markets and value chains for these products can reduce some of the risks associated with sustainable agriculture by diversifying income. Such markets and value chains help maintain landscape integrity or re-establish agro-ecosystems experiencing land clearance or degradation. The products can either be introduced to mimic natural vegetation, or sustainably harvested from existing non-agricultural lands.

Challenges and implementation requirements

Investment in value chains to develop market values for timber and NWFPs can be challenging (Miller and Jones, 2010). Often viewed as a high-risk, low-return investments with significant operational costs, components such as tenure, scale and volatile markets can also impact the ability of value chains to meet consumer demand and match competitiveness. A comprehensive understanding of the roles, interests, needs and constraints of those engaged with value chains supporting restoration is needed. This can help identify appropriate financing instruments to support the development of sustainably produced timber and NTFP markets through FLR practices.

Building markets for these products requires: i) the identification of a buyer market that could be satisfied by products derived from the landscape; ii) the existence of an effective intermediary to establish links between the producers and the buyers along the value chain, particularly with respect to communicating quality and quantity requirements; and iii) producer groups able to adapt production and/or processing to meet demands of the new market, while sustainably harvesting the product (Marshall *et al.*, 2006). Secondary products may be incorporated into pre-existing sustainable supply chain initiatives formed around a dominant crop. For example, sustainable coffee supply programmes may support diversification in shade coffee plantations (e.g. with cocoa), or, such diversification may enable access to higher-value markets linked to biodiversity support.

If the value chain for these products does not already exist, as most of the market effort is focused on primary production, efforts will be needed to promote new or expand existing markets and sustainable value chains for products that are scalable. This can be achieved through improvements in quality, processing and packaging, and aggregating sellers or securing buyers.

For wild species, major risks include over-exploitation, potential volatility of markets, and generally small product volumes. For FLR to be financed through the development of markets, their scalability is, therefore, integral to success. It is important to conduct a strong spatial analysis of the landscape and local participation to determine where incorporating or increasing secondary crop production will have significant environmental or social impacts. Strong technical assistance or monitoring is also crucial to build capacity and develop appropriate production and processing

techniques for accessing the market.

Facilitators can map actors, their roles and interests to identify needs and constraints along the value chain. They can create linkages between producers, processors, value chains and markets for sustainable products. This can ensure that such markets exist. They can identify training needs for landscape actors so that they can develop sustainable NTFP production practices and meet market requirements. They can also link them to financing to support this.

Investor types: Investors include private-sector companies, NGOs, multilateral financial institutions, and bilateral and multilateral donors. They can invest in secondary trees and NWFPs by developing markets for sustainable products, the products themselves or supporting sustainability within value chains. They can support local producers or producer organizations, as well as other stakeholders along the value chains, through direct investment in local companies/cooperatives or training in sustainable practices and processing, or through investment in the enabling environment. They can also support market development at the beginning of the chain through, for example, establishing tree nurseries, or at the end through marketing or direct purchase.

Acacia and agroforestry in Mampu, the Democratic Republic of the Congo

The Mampu plantation is an 8 000 ha project designed to reduce deforestation linked to charcoal consumption and restore soil fertility. The project, supported by the Hanns Seidel Foundation, involves more than 300 farmer families. Food crops, such as cassava and maize, are combined with acacia in a 12-year cycle, applying agroforestry techniques. Acacias are burnt at maturity providing charcoal and fertile soils for food crops. Through this project, the city of Kinshasa is buying local and sustainable charcoal for its wood fuel supply and avoiding deforestation in its peri-urban areas. Producers benefit from the charcoal sales as well as from increased food crop yields due to the nitrogen fixed by acacias.

Consequently, the Mampu project avoids the destruction of 500 ha per year of bushlands and forest. It also generates an income of about USD 9 000 per year (USD 750 per month) for individual farmers from 1.5 ha of their land.

Key to the project, however, is ensuring that producers benefit from training and technical assistance from qualified experts, potentially through farmer field schools. Agroforestry systems are complex and usually not well understood by local producers. For example, producers may be tempted to shorten the time between two acacia cuts to maximize charcoal sales. For the system to remain sustainable, however, this interval must allow the acacias to regenerate.

Learn more about this case in Case Study 8.

4.3. SUSTAINABILITY STANDARDS AND CERTIFICATION

Overview

Sustainable agriculture and forestry practices are a key feature of FLR. Sustainability standards and certification systems can be used to promote products, processes or services arising from these practices and outcomes if they comply with specific environmental/social requirements. These may be a set of principles or criteria for how a crop, a timber or an NTFP should be sustainably produced or a landscape managed, or for how tourism businesses can improve their environmental, social and economic sustainability (e.g. Global Sustainable Tourism Council).¹¹ These mechanisms aim to provide preferential market access to participating farmers, foresters, producers and companies. A competitive supply chain can be created through increased demand for sustainable certified products. This provides benefits to consumers, retailers, agribusinesses, and farmers themselves. Compliance with these standards is certified by verification methods recognized and developed by a third-party certification body, with no direct interest in the economic relationship between the buyer and the seller.

Three major groups of certified agricultural and forestry commodities may be relevant to FLR. They are tropical beverages, such as coffee, cocoa and tea, other tropical commodities, including palm oil, soy and sugar cane, and lastly, timber. Organic certification may cover any agricultural or forestry product, and other certifications are now covering an ever-wider range of products.

Almost all these certification systems require producers to meet social, economic and/or environmental criteria. Practices to meet these criteria can also have wide-reaching impacts and support FLR implementation. Impacts may include improved on-farm worker conditions, more efficient use of resources and land management, and environmental improvements both on and off the farm because of reduced agrochemical inputs and increased soil protection and water conservation measures (e.g. organic certification).

The types and strength of these criteria vary substantially, as does the rigour of their monitoring and verification. In some cases, requirements may also be placed on other supply chain actors. For example, the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreements (VPAs)¹² ensure that only legally harvested timber is imported into the EU from participating countries. In others, the certification may be linked to the entire landscape rather than a single commodity. For example, landscape labels establish a standard to encourage a range of sustainable production and restoration practices throughout a landscape while enhancing its market value. The buyers for products with these labels are wholesalers, retailers and consumers who value supporting these landscapes. Many lessons for landscape labelling have been learned from the experiences of geographical indications, *terroirs*, denominations of origin, and other spatially oriented labels. Landscape labelling brings together the larger community of stakeholders around a common vision and strategy: linking sustainability and restoration activities in farms, grazing lands or forest production units, activities in protected areas, and human settlements. The

¹¹ <https://www.gstcouncil.org/>

¹² <http://www.euflegt.efi.int/vpa>

aim is to build social norms to reduce unsustainable and illegal resource management activities. One example is the Wine and Biodiversity Initiative in South Africa, which protects and restores the critical Fynbos ecosystem, while supporting farmers to sell their wine in higher-value markets using the sustainable landscape label.

Challenges and implementation requirements

These systems work best in landscapes where local policy incentives for sustainability are weak, but where consumer and NGO movements can use certification and standards to create external incentives to shift production practices. They are often found in landscapes where one major commodity is dominant. In both cases, it is crucial to have a proactive investment environment with enterprises ready to invest in sustainable activities along the value chain to make achieving certification standards more affordable and profitable in the long term for producers. Small producers with low production yields and volumes may also need support from strong cooperatives (or to organize themselves into cooperatives) to spread the cost of certification and increase market access. Landscape labels work best in places that have already developed a coherent image identifiable to outsiders.

The incentive for producers and companies to participate in these systems is the expectation that the consumer will pay a higher price for these products and they will receive a share of the increased market price. The development and maintenance of this incentive depend, however, on the market demand for the product and the costs associated with certification. Consistent marketing support is, therefore, usually required for faraway markets, and local producers may have little control over this. Most of these systems, and landscape labels in particular, require strong organizational and institutional structures to maintain and monitor compliance. It is also difficult to facilitate equitable sharing of costs and benefits and equal participation in decision-making among producers and enterprises in a landscape. More often, price premiums from certified production chains are difficult to realize through certification alone. The certification of sustainable products does, however, reduce sourcing risks. It can also enable certified supply chains to have better access to financing.

Certification and adherence to standards take a long time to achieve due to the time needed to transition to more sustainable land management practices and verification requirements. The shortfall during the transition period before obtaining the label and entering the certified value chain should not be underestimated. This cost is often borne by farmers and foresters who must work to change their practices, processing and land use before the return from access to higher-value markets can be realized (especially for organic certification). Additional support, including through training, provision of inputs/equipment and access to credit may therefore be required to enable farmers to transition to compliant sustainable practices. Different certification schemes may do this through focusing on different aspects of the value chain. For example, studies in central Kenya identified that UTZ-certified coffee contributed to improved productivity, whereas Fairtrade certified coffee was more effective in developing improved processing (van Rijsbergen, *et al.*, 2016). Small-scale production

can also obtain ‘participatory certification’, through Participatory Guarantee Schemes (PGSs).¹³ These locally focused quality assurance schemes provide certification for stakeholders who are active participants in defining the standards, developing and implementing certification procedures, and in the decisions surrounding certifications. Such schemes are adapted to local markets and short supply chains, and are built on a foundation of trust, social networks and knowledge exchange. Initially developed by IFOAM-Organics International¹⁴ as an organic certification, PGSs are now being promoted extensively in developing countries as they are significantly cheaper than third-party certification.

Independent certification agencies verify the compliance of producers or landowners. Certification is, therefore, often specific to a landholding and/or product. Although many thousands of landholdings may be certified across a landscape or a country, they may be mixed with non-certified landholdings. Land managers who seek a landscape impact must therefore try to ensure habitat or hydrological connectivity and promote forms of natural resource management (such as shade-grown coffee) that use integrated crop, grass and tree combinations mimicking the ecological structure and function of natural habitats.

Facilitators can support farmers, foresters, and landscape actors in general to transition to more sustainable practices for complying with certification schemes/standards either individually or through cooperatives. This may include supporting the transition from agrochemical use to organic fertilizers (Wildlife Friendly Ibis Rice™ certification)¹⁵ and may require seeking additional sources of finance to cover training and upfront equipment/input costs.

Investor types: NGOs (e.g. SCAN – Sustainable Commodities Association Network), multilateral financial institutions, bilateral and multilateral donors, and private-sector companies in landscape labels and certification schemes/standards can support either a producer or a landscape group to comply with certification standards, as the initial costs to achieve compliance are often high. They can also invest in the marketing of certified/labelled products to ensure that sales and/or prices increase after certification is achieved. Investors can also support the development of a standard if none of the existing standards fit with the restoration needs of the area.

There is, however, a risk in investing in certification schemes/standards. There can be a low market return on some commodities for which certification or compliance with standards is merely required for market entry. Moreover, investments in value chains for achieving certification or complying with standards may be lost because of side-selling to ‘free-riders’. For this type of mechanism to be effective, it is therefore important for producers and investors to establish long-term, stable and mutually beneficial commercial relationships in order to build loyalty from suppliers and buyers along the value chain.

¹³ <https://www.ifoam.bio/en/organic-policy-guarantee/participatory-guarantee-systems-pgs>

¹⁴ <https://www.ifoam.bio/>

¹⁵ <http://wildlifefriendly.org/specie/giant-ibis/>

Rainforest Alliance Certification™ of banana farms – Global

To become certified, and increase their market access and competitiveness, banana farms must meet criteria set by the Sustainable Agriculture Network (SAN), a coalition of leading conservation groups working to promote sustainable agriculture. The SAN standard encompasses all three sustainability themes: social, economic and environmental. Rainforest Alliance Certified™ farms are regularly audited to verify that farmers are compliant with the SAN standard's comprehensive guidelines, which require continual improvement in the transition to sustainable agriculture. The SAN standard is built on the following principles of sustainable farming:

- biodiversity conservation
- improved livelihoods and human well-being
- natural resource conservation
- effective planning and farm management systems

The Rainforest Alliance works with banana farmers to help them conserve their natural resources and promote the well-being of workers and local communities. Rainforest Alliance Certified™ banana farms are audited annually to ensure that they comply with rigorous social criteria designed to protect workers, families and nearby communities. For example, while Rainforest Alliance certification requires the phasing-out of dangerous pesticides, farms must also provide extensive safety training, protective gear and washing stations to workers handling agrochemicals while they are in use to prevent workers – and their families and communities – from being exposed.

Once farms are certified and their products are reaching the market with the new label, farmers and investors can benefit from commercial advantages (larger consumer base or higher prices), as well as from other benefits stemming from being environmentally proactive, such as by gaining a competitive advantage or improving productivity.

Learn more about this case in Case Study 9.

4.4. ECOTOURISM

Overview

Ecotourism is the responsible development of natural areas for the holiday market. It is intended to enhance the positive impact, or at least minimize any negative effect of tourism on the conservation and restoration of landscapes and the well-being of local communities. It is focused on long-term sustainability, rather than short-term returns. It aims to link sustainable agro-environmental practices with the development of a market for tourists seeking an ecological holiday experience. Landowners are

therefore encouraged to restore and sustainably manage their land to host tourists and develop their business. Ecotourism includes the following activities, on their own or in combination:

- agro-ecotourism, which provides incentives for farmers to maintain natural areas while managing agricultural lands sustainably;
- nature/wildlife-based tourism, which can be practised on either public or private parks, and provides incentives for communities to maintain habitat connectivity and natural areas for tourists who seek out wildlife or natural areas; and,
- community-based tourism, which provides incentives for entire communities to maintain natural areas while managing agricultural lands sustainably.

Ecotourism can be a strong incentive, providing supplementary income for farmers, pastoralists and communities participating in sustainable practices. Non-market benefits can include increased value placed on natural resources, a sense of cultural pride, the empowerment of local people, broadening of their skills and experience, and the protection of ecosystems (Idol, Haggard and Cox, 2011).

Challenges and implementation requirements

The development of an ecotourism operation is easier where it builds on existing tourism marketing and infrastructure in an area. Investments can be made by a combination of government and private tourism investors. For an operation to lead to landscape-wide impact for FLR (which is critical for many of these businesses), they will need to participate in landscape-wide multi-stakeholder design and planning.

Ecotourism often involves local communities directly. The biggest challenge for community-based operations and those that engage smallholders is the lack of tourism infrastructure and management skills. The development of ecotourism can also lead to the reduction of available resources for local communities (e.g. livestock grazing land and water) as well as the displacement of settlements, while also increasing in-migration and land-grabbing in the area by those seeking employment within the ecotourism industry. Landscape-level planning with local participation can help avoid rural areas becoming even more vulnerable, in the event of droughts, for example.

Facilitators can link landscape actors with the tourism market and make sure that infrastructure is developed or in place to ensure that ecotourism projects are sustainable and have minimal impact on the environment to prevent further landscape degradation.

Investor types: These include tourists themselves, tourism companies and NGOs. They can invest directly in tourism activities and/or establish the ground for successful ecotourism activities through local capacity building and infrastructure development.

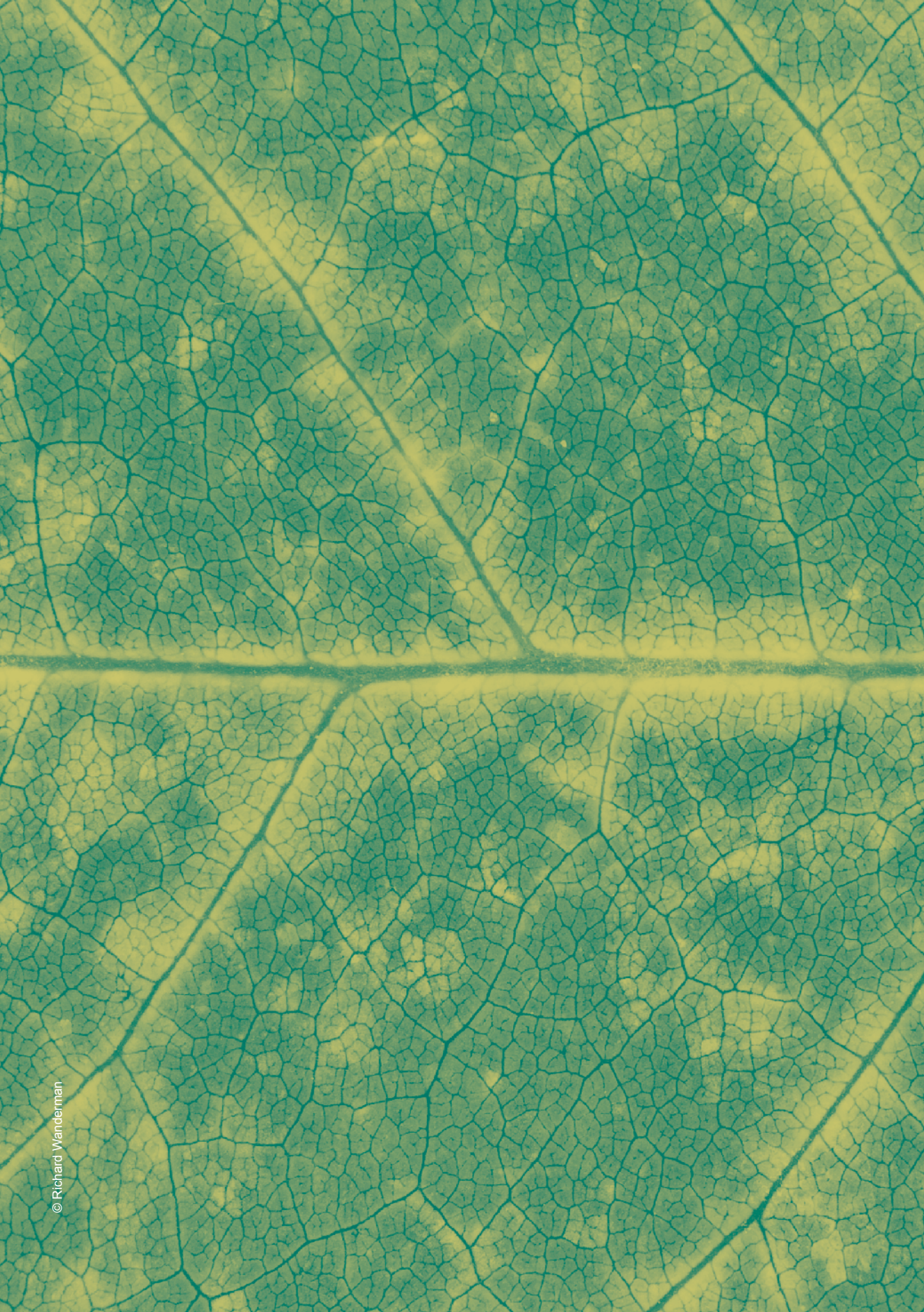
The Olare Orok Conservancy, Kenya

The Olare Orok Conservancy (OOC) in Kenya prevents land degradation/overgrazing and promotes tourism through the leasing of community land for tourism. It aims to conserve wildlife habitat and boost tourist activities without compromising the livelihoods of pastoral landowners. It is a private-sector driven initiative, where individual landowners are paid directly for a collective action.

Through these institutional arrangements, the Maasai landowners are paid USD 41 per ha per year by a consortium of five commercial tourism operators. In return for the payment, the landowners are expected to voluntarily move their settlements outside the conservancy land and exclude livestock grazing inside the OOC. Through this public-private partnership (PPP), the conservancy is now exclusively reserved for high-end wildlife tourism.

Pastoral landowners that used to be excluded from the tourism benefits, due to mismanagement and lack of transparency, are now receiving direct payments leading to a stable and predictable income. This provides income security to households, which are often severely affected by drought, such as in 2008 and 2009. Co-benefits of the OOC also include the creation of employment opportunities in the conservancy and provision of social services.

Learn more about this case in Case Study 10.



5. The coordination of finance for forest and landscape restoration

5.1. THE NEED FOR COORDINATION

Often, investments in FLR already exist and offer finance for activities within a given landscape. Individual financing mechanisms can work towards FLR implementation, but, when applied in isolation, cannot address all the threats in a landscape or support land actors in the transition to restoration and sustainable practices. The FLR financial and market mechanisms described in the previous sections can produce optimal financial, environmental or social results when they are applied in a coordinated approach¹⁶ to address the multiple issues causing land and forest degradation, and to support activities throughout the FLR process (Figure 6). For example, financing reforestation can be supported by financing farmers and other land actors to improve land management, to reduce the original drivers of deforestation.

Meeting diverse stakeholder needs

Coordinating FLR asset and enabling investments from public programmes, private-sector investment and civil society initiatives into ‘blended finance’ (also known as public–private partnerships – PPPs) at the local level can provide multiple sources of incentives for smallholders to overcome barriers to implementing restoration,

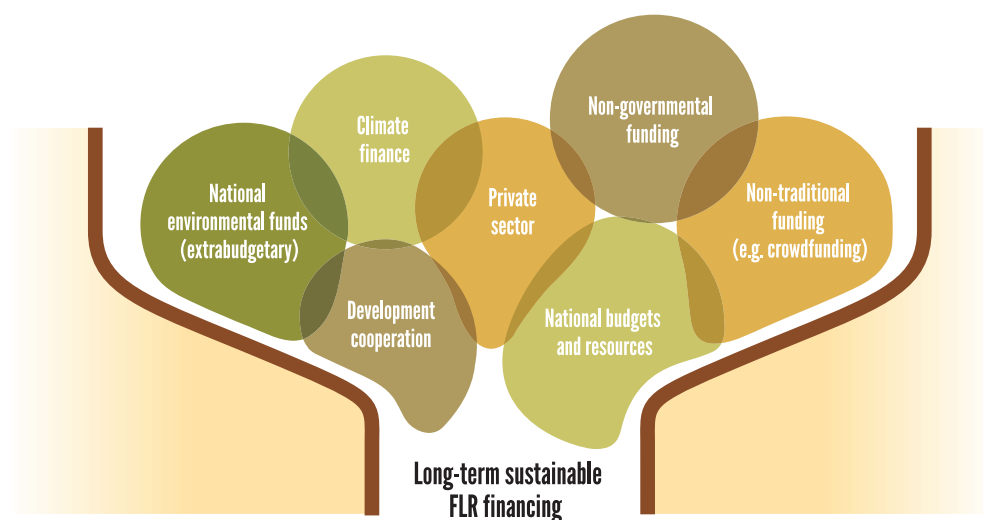


Figure 6. Mix of financing sources required for forest and landscape restoration (FAO and Global Mechanism of the UNCCD, 2015)

¹⁶ Coordination can be led by a wide variety of stakeholders (e.g. NGOs, the public sector, private companies and investors, community initiatives, SMEs and intermediaries) and is highly context dependent.

while supporting the provision and conservation of ecosystem services (FAO, 2016). As illustrated in Figure 1, these incentives can be funded through diverse sources, and they can be either financial or non-financial. They not only support implementation of FLR but also develop livelihood and well-being outcomes within the landscape. Translating investment for FLR into an integrated package of incentives can support smallholders and landscape actors to lower the opportunity and transaction costs, and the risk of investing in restoration. Packages of incentives for ecosystem services (IES)¹⁷ can support smallholders to comply with restoration goals by improving their productivity elsewhere on their land, compensating for land set aside for conservation, rewarding restorative and sustainable production practices, and enabling livelihood diversification. This can reduce pressure on remaining natural ecosystem services and create more resilient agro-ecosystems for more sustainable restoration outcomes.

For example, public programmes to improve farm productivity can be combined with those that reward conservation and restoration practices. Both can see results maximized by partnering with green business strategies and investments along the value chain. To coordinate a set of cumulative incentives, policy coherence and institutional coordination is required to facilitate multi-scale, multi-stakeholder and multi-sectoral collaboration, and to enable landscape-wide restoration and adoption of sustainable practices.

Maximizing leverage of finance and adoption of practices at scale

Scalability of activities is key in FLR. The coordination of landscape-scale investment can leverage adequate finance over time and across the landscape to maximize the adoption of practices that can generate a much larger restoration impact, particularly for ecosystem functions that require connectivity across large areas (e.g. water quantity and quality, biodiversity conservation, or reduced habitat fragmentation). This may also increase financial returns and reduce costs and risks for the various actors and investors. A diverse portfolio of investment types and sources can provide a wide spectrum of incentives for land actors, enhancing the social and economic benefits of individual investment while also meeting mutually beneficial sectoral objectives.

Spreading the burden of investment risk

Blended finance can also provide financing on terms that make FLR financially viable and sustainable. It draws capital from a diverse set of investors with different investment objectives, risk tolerance and expected rates of financial return. A fund may, therefore, be structured to include traditional for-profit investors, as well as public financial institutions and philanthropists who are willing to take lower returns or accept longer periods of time for returns to materialize than more conventional investors. This enables the fund to make FLR investments that would not generate sufficiently high returns to attract private finance working alone. For for-profit asset investors, for example, blended finance is necessary when the business case for specific investments has a high risk/return ratio or needs to be matched with enabling investments. For enabling investors, it can allow them to unlock large

¹⁷ <http://www.fao.org/in-action/incentives-for-ecosystem-services/en/>

pools of capital otherwise unavailable for FLR investments. For investors seeking a return, combining investments spreads the burden of investment risk associated with the environmental, economic, political, social, biophysical and cultural conditions of for-profit asset investments. For investors not seeking a financial return, blended finance can enable the scaling-up and larger overall impact of FLR.

Any investor in FLR, whether a public programme, private company, NGO, community association, impact investor or bank, may therefore benefit from considering how they can coordinate with other investors and landscape stakeholders. Each stakeholder may invest in the landscape or specific FLR activity for their own objectives, but together, through blended finance, their investments may have a much larger FLR impact.

This, therefore, also requires cross-sectoral dialogue and coordination of diverse activities as, often, landscape activities involve the environmental, agricultural, financial, urban planning, employment, and public sectors. Facilitators can map these existing public-, private- and civil society-sector investments. They can therefore identify synergies and conflicts (as well as perverse incentives) between investments, activities and FLR requirements. They also have a role in supporting dialogue between stakeholders and investors to develop landscape investment strategies, improve the coordination of activities and financing and identify champions who can promote coordinated activities.

The section below details how finance can be coordinated when such investments and FLR activities are dependent on one another and must be implemented simultaneously or in a sequential way.

5.2. MECHANISMS TO COORDINATE FINANCE

Coordinated asset and enabling investment for FLR can occur in a variety of ways, varying in the structure and timing of investments. These can be through informally developed partnerships, blended finance via a single mechanism or intermediary, blended finance via complementary mechanisms jointly managed within the same institution or facilitated through aggregated finance. This can enable the simultaneous or sequential use of financing mechanisms to support the FLR process.

Informal coordination partnerships

Where the interdependent nature of investments is recognized, blended finance often takes the form of informal PPPs between public and private investors on a project-by-project basis, and investment strategies are developed together. Each investor invests for their own objectives, but, combined, the activities financed can leverage and support each other, enabling mutually beneficial outcomes that support a common overall goal. For example, an agricultural investor may build a processing facility while an NGO supports the technical capacity of farmers to supply the facility using sustainable production methods. Coordination may also occur more formally through a single coordinating instrument or institution, or an intermediary that can independently manage interdependent investments and seek conducive enabling environments to support FLR activities on the ground. One example is blending enabling investments

from national governments that include public programmes to improve farm productivity, with NGO- or development agency-financed training programmes in sustainable agroforestry practices. Results can then be maximized by combining additional finance from PES, which rewards conservation activities, and asset investments from the private sector to support ecological value chain development from sustainable restoration practices.

For example, on the Kenyan side of Mount Elgon, deforestation, unsustainable agricultural practices, soil erosion and uncontrolled grazing are impacting fertility, production and biodiversity within Mount Elgon National Park. Poor crop yields and low milk production are exacerbated by limited market access. The Livelihoods Fund¹⁸ is working with Brookside Dairy, a local company, and Vi Agroforestry (a Swedish farmer-training NGO) to create a new market opportunity for 30 000 farmers in the area, while also supporting their transition to agroforestry, crop diversification, and improved fodder production and cattle management practices.

Vi Agroforestry builds the capacity of farmers to increase their crop and milk productivity, develop a sustainable supply chain to link production to markets, as well as improve their resilience to climate change with more resilient crop varieties and livelihood diversity. It is estimated that in five years crop yields will increase by 30 percent and milk production in the region will be multiplied by a factor of nearly 30. Brookside Dairy has committed to buy all the milk produced for ten years. With the 10-year commitment of the Livelihoods Fund and Vi Agroforestry to the landscape, the risk of Brookside's investment in infrastructure in the area is reduced. This creates a large-scale restoration impact, with 30 000 farmers transitioning to sustainable agricultural practices.¹⁹

In northern Sumatra, Indonesia, palm oil expansion, deforestation, climate change and social conflict are threatening tropical forest wildlife species living alongside local communities that cultivate oil palm, rubber, rice, coffee and cinnamon. While many palm oil companies have committed to more sustainable practices, the Sustainable Landscape Partnership (SLP) programme of Conservation International (CI), USAID and the Walton Family Foundation²⁰ have been working with the local government, the private sector and smallholder farmers to find ways for businesses to profit from these more sustainable practices.

SLP facilitates an enabling environment for improved coordination of land-use planning and investments for good governance. SLP also works with approximately 5 500 smallholder farmers to close yield gaps while avoiding further forest clearance. The programme provides non-financial incentives by training farmers in sustainable practices – diversifying production to increase landscape and livelihood resilience, improve the quantity and quality of rubber, cocoa, sugar palm and coffee, improving access to markets for these sustainable commodities, and collecting key scientific data to inform future local-government spatial planning. CI also works with the public and private sectors to facilitate integrated watershed management to support forest protection and improve water supply.

¹⁸ <http://www.livelihoods.eu/>

¹⁹ <http://downtoearth.danone.com/2016/11/16/the-livelihoods-at-mount-elgon-project-kenya-improving-the-standard-of-living-for-farmers-and-protecting-the-environment/>

²⁰ https://www.conservation.org/projects/pages/sustainable-landscapes-partnership-northern-sumatra-indonesia.aspx?utm_source=FB&utm_medium=social

Single coordinating mechanism

Coordination of finance may be supported by a single coordinating mechanism. For example, the EcoEnterprises II Fund,²¹ a private equity fund which makes tailored investments in restoration-supportive companies to scale them up, brings together finance from diverse sources to implement FLR activities. The sources of finance include an NGO (The Nature Conservancy), development banks (the Inter-American Development Bank, European Development Bank, and Netherlands Development Finance Company), other impact investment funds (Hivos Triodos Fund, Oikocredit), foundations (Calvert Foundation, Blue Moon Fund), the largest bank in the United States (JP Morgan Chase), as well as private accredited investors. The fund is structured so that each of the investors feels comfortable that their particular desired balance between financial, social and environmental returns will be met.

Companion mechanisms jointly managed within the same institution

In some cases, innovative investors can support a variety of for-profit FLR finance mechanisms within the same project, implemented and managed alongside enabling investments. In the case of the Moringa Fund,²² a grant facility is managed in coordination with a private equity impact investment fund to combine economic benefits with environmental and social outcomes. The grants are used to finance technical assistance to farmers, landscape stakeholder engagement, as well as government policy outreach to support integrated landscape approaches and agroforestry development. Moringa uses its grant facility to develop new markets for the resulting agroforestry products.

Wide Open Agriculture,²³ a company operating in the West Australian Wheatbelt, is developing a range of creative financing strategies to support FLR. Its key shareholder is Commonland,²⁴ an impact investment fund which also manages a foundation. Wide Open Agriculture's model is based on land acquisition. To finance the purchase of land for restoration, it has three financing strategies including debt, equity and a *land-for-shares* model. For debt, it is issuing a green bond / regenerative note in which the land purchased acts as collateral for the bondholders, and conservation/restoration covenants agreed to with farmers to ensure the sustainability of ongoing land management. The company also hopes to list on the Australian stock exchange to access additional equity investment into the company. A portion of any funding raised in a proposed initial public offering is intended to be allocated to land purchase. This land, in turn, will be used to access more traditional forms of financing such as bank debt. In the *land-for-shares* model, Wide Open Agriculture provides a loan to farmers, so they can lease back part of the land they have sold and can stay involved in the farming operation during a transition period if they wish to do so. This structure offers an exit strategy to farmers/landowners who do not have a succession plan in place. In addition to these mechanisms, Commonland is using grant funding to rehabilitate areas of native vegetation on the purchased farms.²⁵

²¹ <https://ecoenterprisesfund.com/index.php/fund-ii>

²² <https://www.moringapartnership.com/>

²³ <http://www.wideopenagriculture.com.au/>

²⁴ <http://www.commonland.com/en>

²⁵ <http://peoplefoodandnature.org/wp-content/uploads/2017/05/Business-for-Sustainable-Landscapes-An-Action-Agenda-for-Sustainable-Development-May-2017.pdf>

5.3. TIMING OF FOREST AND LANDSCAPE RESTORATION INVESTMENTS

Landscapes often have a mix of stakeholders with diverse investment needs and diverse opportunities for FLR. Different incentives, financed by different sources at different stages, are therefore required by different stakeholders to overcome their adoption barriers to implementing FLR and transitioning to long-term sustainable practices. The timing of investment during the FLR process may therefore influence the type of coordination mechanism used to finance activities (Figure 7). Databases, such as those developed by TEER, can provide information for decision makers on the costs and benefits of different restoration efforts and help determine potential investment requirements at different stages of the FLR process.

Simultaneous use of financing mechanisms

The simultaneous use of different financing sources and mechanisms can enable each stakeholder to receive a diverse range of the type of funding/incentives they need or can handle. It can also maximize the funds available for FLR for different interdependent and/or complementary activities at certain stages of the FLR process or strengthen the business case for asset investors by reducing the risk/return ratio of their FLR investment. This can have a much greater overall impact for FLR.

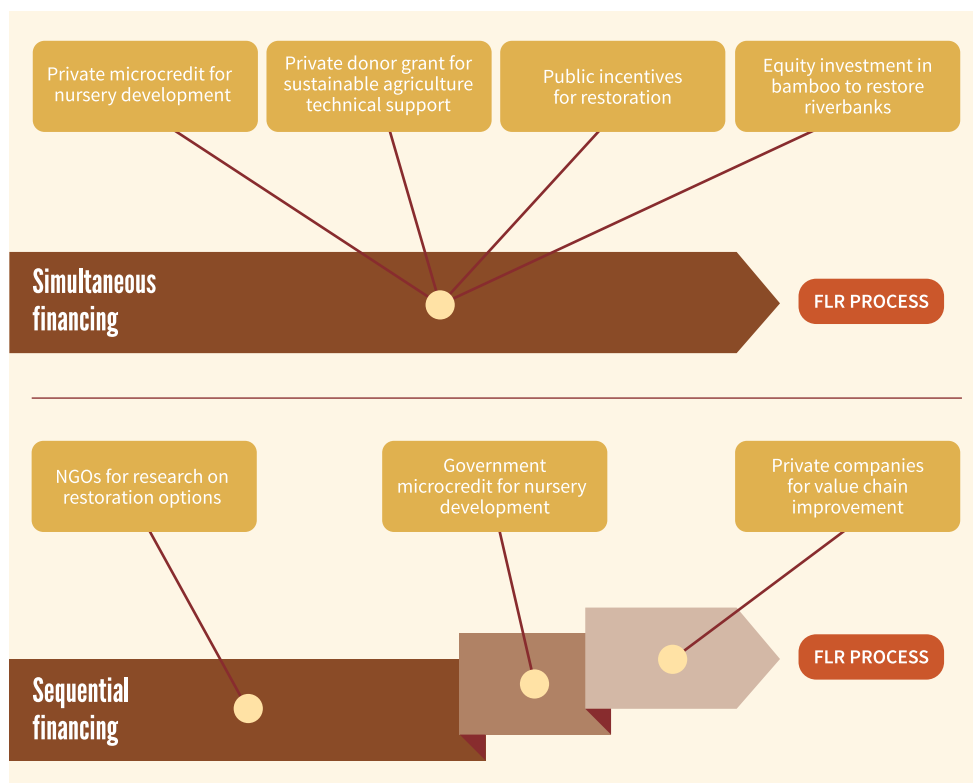


Figure 7. Timing of forest and landscape restoration investments: simultaneous or sequential financing

A landscape financing strategy can support planning for simultaneous financing mechanisms. It may, for example, include microcredit to smallholders to cover the initial transaction costs of transitioning to sustainable agriculture and a private donor grant to provide technical support for those farmers through an NGO. At the same time, an equity fund may be investing in a bamboo plantation to restore riparian buffers and providing an alternative sustainable income. There may be opportunities to mix sources of private finance with different yet complementary investment criteria for restoration investments. For example, for a commercial agroforestry investment, an agricultural bank might finance the short-term and recurrent crop improvement and input costs, while a forestry fund designed for longer-term investments may finance the intercropped timber plantation.

For example, in Maine, the United States of America, conservation easements (i.e. voluntary agreements between a landowner and the government, an industrial company or an NGO for transferring development rights to conservation), lower taxes, and sustainable timber production and recreational use have been simultaneously combined. The Forest Society of Maine Land Trust makes direct payments to landowners, as well as enabling landowners to benefit from lower income and estate tax levels when they enter into a conservation easement agreement. This incentivizes landowners to protect the land. The easements also allow, and may indirectly support, sustainable timber production and recreational tourism. In this case, 95 percent of easement lands held by the trust are managed forests, where the landowner provides a sustainable supply of wood products harvested from their lands over the long term.

Conservation agreements in the Maasai Steppe, the United Republic of Tanzania are also an example of simultaneous, coordinated incentive-based mechanisms. They combine direct payments to communities from income generated by wildlife ecotourism, and support for sustainable livestock production. The blending of finance mechanisms has developed a package of incentives that generates benefits for wider society, while enabling landowners or users to develop sustainable and compatible sources of income. This makes sustainable and conservation practices desirable for communities in the long term.

Sequential financing

As the FLR process is implemented, maturing from pilot innovations, to the implementation of large-scale restoration, to a sustainable and profitable landscape, funding needs to support stakeholders and restoration activities will also evolve. Different financial sources will therefore be needed over time to build on the achievements of earlier investments. For example, crop-field agroforestry systems in Kenya began with experimental trials to see which tree species and configurations worked better, financed by government and NGOs. On-farm field trials were then funded by NGOs, with the establishment of community tree nurseries funded by communities and SMEs. Later, companies along the value chain funded the development and organization of markets for tree fodder for dairy animals, and

building poles (e.g. through market research, technical research on best feed mixes and collection systems). Finally, public budgets and impact investors made large-scale investments in milk processing facilities and marketing linked to the utilization of tree fodder for dairy cows and other sustainability investments.

Another example of sequential coordination of FLR investments is illustrated by Managing Environmental Resources to Enable Transition (MERET),²⁷ a programme supported by the World Food Programme (WFP). MERET encourages a participatory watershed planning and management approach to food security. The programme has operated in six regions of Ethiopia, covering 451 subwatersheds. It has rehabilitated over 400 000 ha of degraded land, with the principal objective of increasing land productivity for farmers and the availability of water for farming and domestic consumption.

In these restoration processes, an enabling investment was first needed to engage local stakeholders and develop a plan to restore the subwatersheds. WFP and government agencies, with community labour, then regenerated and stabilized the heavily degraded areas in upper watersheds. After these areas were restored, more water was available and erosion was reduced. Large earthworks projects were then implemented by specialized watershed agencies throughout the watershed to capture this increased water flow for productive purposes. Then, sustained financing for production was made available to farmers through NGOs and government agricultural programmes to fund farm inputs and marketing. Each of these stages involved different public, civic and private investors, whose inputs were coordinated over time. This illustrates that, with effective planning and coordination, restoration can be financed by multiple investors as the landscape is rehabilitated over time, and livelihoods improved.

5.4. PATHWAYS TO FINANCING RESTORATION AT THE LANDSCAPE SCALE

Building partnerships within stakeholder groups

A key challenge for smallholders or SMEs to access finance for FLR is their small scale. Large financial investors in FLR may find that their minimum investment size is greater than that required by individual restoration initiatives. An individual farmer with less than 2 ha of land has limited marketing and financing opportunities. The restoration of forests and landscapes in this instance may simply need financial sources that cater to smallholders, such as microfinance institutions or local banks. When these are not available or where a larger investor is interested in financing smallholder restoration activities, however, a variety of aggregation strategies to pool investments can be used to open financial and marketing opportunities to smallholders for FLR.

Aggregating smallholders and small-scale FLR activities into a larger entity may increase their potential for investment and, therefore large-scale impact. For smallholders, this can create channels to new financial sources, increase their bargaining power, reduce business and transaction costs through economies of scale, and provide

²⁶ <https://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp225961.pdf>

a platform to share information and train members. The creation of entities, such as community associations or cooperatives, can enable easier interaction with potential investors. For investors, smallholder aggregation can reduce transaction costs, provide legal protection, enable risk sharing, and allow large-scale investors to increase their capital allocations to FLR. For example, in the previously described Mount Elgon Livelihoods Fund, the 30 000 farmers engaged have organized themselves into 1 200 groups, which coordinate training courses, and 15 cooperatives, which collect the milk.

Building partnerships between stakeholder groups

The coordination mechanisms presented above will maximize their impact if they take place within the context of a stakeholder partnership or champion institution working on a coherent financing strategy, or landscape management plan, to improve the overall social, environmental and economic conditions throughout the landscape.

The variety of actors and the need for strong partnerships should, therefore, be taken into consideration. The latter can be developed through transparent cross-sectoral dialogue. Such a landscape planning approach can also be more attractive to investors who can find business partners and co-investors more easily, reduce investment risks and benefit from complementary investments. For the landscape plan to be effective, it also needs to have strong local support through champions, as well as ensure equitable benefit-sharing among all stakeholders.

FLR requires the participation of diverse groups of stakeholders, whose financial needs and incentive requirements need to be identified and negotiated. This can be a complex task, particularly where conflicts over resources, complicated power relations and insecure land tenure exist. It therefore requires a high level of coordination, skill in facilitating such processes, and support for less powerful, marginal groups in situations of unequal power relations.

Stakeholders in landscape partnerships usually include representatives of various government offices, community organizations and cooperatives, NGOs, agri-commodity businesses, investors and other companies with a stake in the landscape. Stakeholders' concerns generally evolve around livelihood or quality of life, finance, culture, public or reputational perception, or rules. Once the partnership is formed and has a shared understanding of the FLR issues and opportunities in the landscape, it can set goals for desired changes, mobilize stakeholders and identify priority joint actions to address these concerns. Scenario building can help stakeholders understand change over time, and spatial planning tools can help understand how investments will impact different parts of the landscape.

Developing a landscape financing strategy

When a clear restoration plan has been made and priority interventions identified, a landscape financing strategy or plan can be developed or refined. It should include sufficient detail to illustrate the financial and non-financial incentives required to support stakeholder implementation through asset investments and supportive enabling investments, demonstrate the structure of costs and returns, the sources and levels

of risk and uncertainty, the market context (if a market mechanism is involved), the time frame for achieving returns, and the scale of finance required.

For example, the Atlantic Forest Restoration Pact (PACT) in Brazil was formally established in 2009 as a network of diverse stakeholders in the landscape, to coordinate and integrate the activities and resources needed to reach the goal of restoring 15 million ha of degraded lands and forests by 2050.

The PACT partnership was spearheaded by a small group of NGOs, including The Nature Conservancy and the International Union for the Conservation of Nature (IUCN), which facilitated a group of conservation organizations, community organizations, private companies, governments, researchers and landowners around a shared FLR goal. Under the leadership of this small group, a vision was developed with a set of priorities, strategies, and key products to support the PACT. Working groups, composed of staff from several of the institutions were established to undertake priority activities and generate the first outcomes of the PACT, thereby creating a credible track record. The PACT prepared media campaigns about the prospective benefits of restoration and its desired outcomes to elicit additional partners and investment.

Strategic financial planning among landscape partners will identify a clear set of restoration challenges to address, define priority interventions and investments, and develop a coherent strategy to engage with a wide range of investors. When selecting priority interventions, it is important to consider quick-wins and balance outcomes across stakeholder groups. A rigorous CBA of the synergies and trade-offs of each potential intervention can help determine their impacts across stakeholder groups and for restoration outcomes, and the investment required to support their implementation. This analysis can highlight potential problem areas and help secure broad stakeholder approval. Potential interventions can be evaluated from piloting activities, modelling and by monitoring ongoing projects. Landscape partnerships can also establish criteria to monitor and assess possible future landscape investments, and develop methods to communicate those criteria widely to stakeholders within the landscape.

A systematic assessment of *existing* financial actors, resources and investment flows in the landscape, which could potentially provide financing for the priority interventions and long-term FLR strategy should also be carried out. Synergies between these investment sources, and gaps where additional financing for the incentives needed to implement FLR activities and support the transition to more sustainable practices, can then be identified. Stakeholders can then move to identify, coordinate and prioritize the investments they would like to see financed by specific institutions, companies or civil society initiatives, individually or collaboratively, in relation to the incentives this finance would provide to actors implementing activities on the ground.

In some cases, existing financial flows can be adapted to incorporate restoration activities. This may be relatively straightforward, but it may require redesigning the

criteria, training or monitoring systems with the financial institution. In other cases, new sources of funding are needed. As a result, not all activities may be prioritized at once. The most strategic opportunities to promote large-scale FLR should, therefore, be sought. These might be found where multiple actors' risks or opportunities align, or where a combination of expert and stakeholder networks can be mobilized for scaling interventions that work. Screening criteria to encourage FLR-friendly investments may also be used to align investments to FLR priorities. Such criteria may include having a reduced regulatory burden, cofinancing elements, or tax advantages.

A landscape financing strategy would, for example:

- identify the type of asset investments required, the incentives these would provide for which stakeholders, and institutional support/enabling investments;
- map existing investments in the landscape, and the key actors involved, which are aligned with the landscape FLR priorities;
- identify synergies and gaps in financing activities, and match these with the restoration strategy; and,
- develop a business plan to finance and support the implementation of priority interventions and long-term sustainable restoration activities.

At present, there are few examples of this approach. One example, however, is provided by the landscapes supported by the Sustainable Trade Initiative (IDH)'s Initiative for Sustainable Landscapes (ISLA),²⁷ detailed below.

Finance can be mobilized either organically or catalytically.

In organic growth, stakeholders take advantage of diverse existing or new investment opportunities for specific FLR activities from different sectors, but around a common goal. FLR activities can stimulate other innovative investments in the landscape, developing a loosely linked financing mechanism over time to support large-scale landscape transformation.

Catalytic finance can be mobilized from a lead organization, such as a public agency, development bank or NGO, with a mandate for landscape-scale transformation, which provides an initial pool of funds designed to leverage and attract new investment. Additional investments provide co-benefits, further increasing the landscape's attractiveness for investment through risk/return reduction and lower transaction costs.

For example, Vi Agroforestry, in addition to its involvement in the Livelihoods Fund project, has been operating in the Kisumu and Kitale regions in Kenya since 2002 to promote SLM practices, including agroforestry, minimum tillage, composting and improved livestock enclosures. Since 2009, Vi Agroforestry has been the main implementer of the Kenya Agriculture Carbon Project (KACP) in western Kenya, which has provided financing, through the sale of carbon credits, to scale up its training and marketing activities in the area. The goal of this project is to reach 60 000 smallholders, across over 45 000 ha in western Kenya, although the current number of participants in the programme is far less. The selection of sites for the farmers was not based on an explicit landscape planning strategy, but on the farming characteristics of the individual farmers who wished to join the programme. As this project scales up, it has potential to stimulate landscape-scale transformation. If it

²⁷ <https://www.idhsustainabletrade.com/annual-report-2016/landscapes-2016/>

can reach a sufficient size, it can stimulate additional investments (e.g. Livelihoods Fund) and link up with other actors in the landscape to develop a broader strategy.

Another example of catalytic financing is the IDH's ISLA programme. The project has a small pool of catalytic funding used to leverage public-, civic- and private-sector financing to improve sustainability and create opportunities for smallholders in 11 large agri-commodity landscapes. Kericho, in the southwestern part of the Mau Forest, is one of the largest tea production areas in Kenya. Large companies, including Unilever and Finlays, produce a significant amount of their tea in this region, and the livelihoods of many smallholder farmers are also reliant on tea. Deforestation is, however, causing changes in localized rainfall patterns and the microclimate, which is negatively impacting tea yields. IDH has worked with stakeholder groups to develop a stakeholder platform and landscape action plan, and is using its catalytic funds to attract cofinance for targeted landscape investments. First, they commissioned a landscape investment model, designed to help identify key investment that could improve productivity while reducing deforestation and land degradation. The landscape coalition is now engaging government, civil society, community, and knowledge organizations as partners to move this investment plan forward (Heiner *et al.*, 2017).

Need for facilitators

Often, facilitators are needed to bridge the gap between investors and smallholders; they can negotiate on their behalf, coordinate investment priorities and support the delivery of financial and non-financial incentives to appropriate stakeholders. Facilitators are a single institution or a coalition of actors, which play a formal or informal role as 'intermediaries' or 'landscape investment facilitators' (Shames and Scherr, 2015). The facilitating institutions can be almost any type of organization, including NGOs, local community organizations, government agencies, business associations, farmers groups, or entities developed specifically to support the financial organization. They are linked to the landscape partnership, if not to the partnership itself, and can enable and guide strategic investment planning and the development of a landscape financing strategy. They can support the coordination of existing, and attract additional, asset and enabling investments, as well as aggregate investment opportunities from a wide variety of financial and market mechanisms.

For example, Imarisha Naivasha, a landscape initiative, which supports the Lake Naivasha watershed in Kenya, plays a formal role in facilitating and aggregating landscape investments implemented through community Water Resource User Associations (WRUAs). It has an annual operating budget of around USD 400 000, financed through public-private partnerships with international floriculture and horticulture companies, the Government of Kenya, and development partners. These funds are pooled together in Imarisha Naivasha's trust fund to finance development projects that align with its Sustainable Development Action Plan (SDAP) and cover recurrent operational expenses. In addition, Imarisha Naivasha coordinates a significant amount of funding that does not flow through the Imarisha Naivasha

trust fund, but finances activities in the basin that align with the goals of the SDAP. For example, members of the Lake Naivasha Growers Group contribute financing for a PES programme, which compensates smallholder farmers in the upper catchment to address issues with soil erosion. In this way, Imarisha Naivasha functions as a landscape investment facilitator by attracting and pooling funding from diverse sources, as well as having an overseeing and coordinating role for investments from outside investors (Heiner, Shames and Spiegel, 2016).

Facilitators can support the aggregation of smallholders. For example, TechnoServe,²⁸ is an NGO working to develop business solutions for competitive agricultural production to reduce poverty. In East Africa, together with the Bill and Melinda Gates Foundation, TechnoServe's Coffee Initiative²⁹ has supported 340 coffee cooperatives with nearly 260 000 smallholder farmers. Once cooperatives are formed, they receive a loan of USD 40 000 to buy professional coffee processing equipment, enabling the production of much higher-value coffee. The cooperative also negotiates purchase agreements with large buyers such as Starbucks, ensuring a market for the product (Faruqi and Landsberg, 2017). Incentives such as agronomy and business training for farmers, and improved access to specialty markets have also enabled an increase in the quality and quantity of yields, as well as the value of each kilogram of coffee sold.

Facilitators may also promote the development of a financial mechanism representing smallholders' interests and supporting their investment needs in negotiations. For example, in the Alto Mayo Protection Forest in Peru, Conservation International and local NGOs have negotiated the rules for providing incentives to farmers to stop deforestation through conservation agreements with local communities. In the Maasai Steppe in the United Republic of Tanzania, the African Wildlife Foundation has helped the National Parks Authority, NGOs and local communities negotiate the rules for establishing a land conservation trust for both wildlife and local livelihoods.

Local ownership and FLR champions

Local ownership of the financing and implementation of FLR activities is key to their long-term success and sustainability. It is therefore important to ensure that local communities are included in the planning, implementation and management of FLR financing strategies.

Landscape stewards should build on existing committed local structures and actors to support the scaling up and out of FLR, enabling greater local participation. In projects, local communities often participate in the planning and implementation of restoration, even if they are not directly managing the activities. A United Nations Capital Development Fund (UNCDF)³⁰ experience, for example, has entrusted the entire technical and financial planning and management to local communities (see the case study on page 55). This approach has enabled great results as communities are empowered and feel strongly committed to FLR. In many countries, strong decentralization efforts are already supporting the creation of management committees, which can be trained to plan and manage FLR activities.

Identifying a champion for FLR activities dedicated to the success of the project

²⁸ <http://www.technoserve.org/>

²⁹ <http://www.technoserve.org/our-work/projects/coffee-initiative>

³⁰ <https://www.uncdf.org/>

may also encourage and sustain local participation. A trusted local individual or institution that knows how to garner local support and enthusiasm for a project, and can manage and drive it on the ground should, where possible and appropriate, be sought and supported. Caution should, however, be taken to reduce the risk of such individuals or institutions impacting or influencing local power relations and, therefore, potentially marginalizing the participation of certain groups within the community.

Importance of context for replication

Where positive results have been achieved, replication in other landscapes is often difficult due to the context-dependent nature of FLR and financing solutions. Every landscape, group of stakeholders and issue are unique, and each mechanism is adapted to this set of circumstances. While some financing mechanisms have operated for a long time, their complex nature and the long-time frame for achieving outcomes mean that they are all in a process of continual evaluation and adaptation. For example, in the Maasai Steppe, each land management agreement for conservation had to be negotiated to meet the specific interests of the actors involved.

Front Local Environmental pour une Union Verte (Local Environmental Coalition for a Green Union): Supporting sustainable land management through decentralization and a local development fund

In the Sahel, SLM is crucial to support the local economy and inclusive growth. In this context, it is assumed that, since local communities are key drivers of SLM, sustainable solutions cannot be found without the participation of local stakeholders. To be effective, these local solutions also need to be aligned with national and regional decision-making mechanisms.

The FLEUVE (Front Local Environmental pour une Union Verte) project was designed to, among other objectives, integrate sustainable land, natural resource and ecosystem management into local development plans. It also aims to strengthen the capacities of local actors in five Sahelian countries, the Niger, Chad, Mali, Senegal and Burkina Faso – including local authorities – in planning and financing their development through the sustainable management of land and natural resources.

The project, initiated by the Global Mechanism (GM) of the United Nations Convention to Combat Desertification (UNCCD) and funded by the European Union, is receiving technical support from FAO. It is active in five African countries, as part of the Great Green Wall (GGW) programme.³² For a budget of more than USD 8 687 000, it involves 23 local communities for a period of four years. The FLEUVE project has three focal points:

- strengthening the capacity of local stakeholders, including civil society organizations, private-sector companies and local authorities, to plan and finance sustainable projects about natural resource management through a landscape approach;
- developing investment in sustainable agriculture, food security and sustainable innovative financial mechanisms in the context of efforts to combat desertification and,
- establishing partnerships and cooperation through the provision of a forum for dialogue, experience sharing and developing methodological tools.

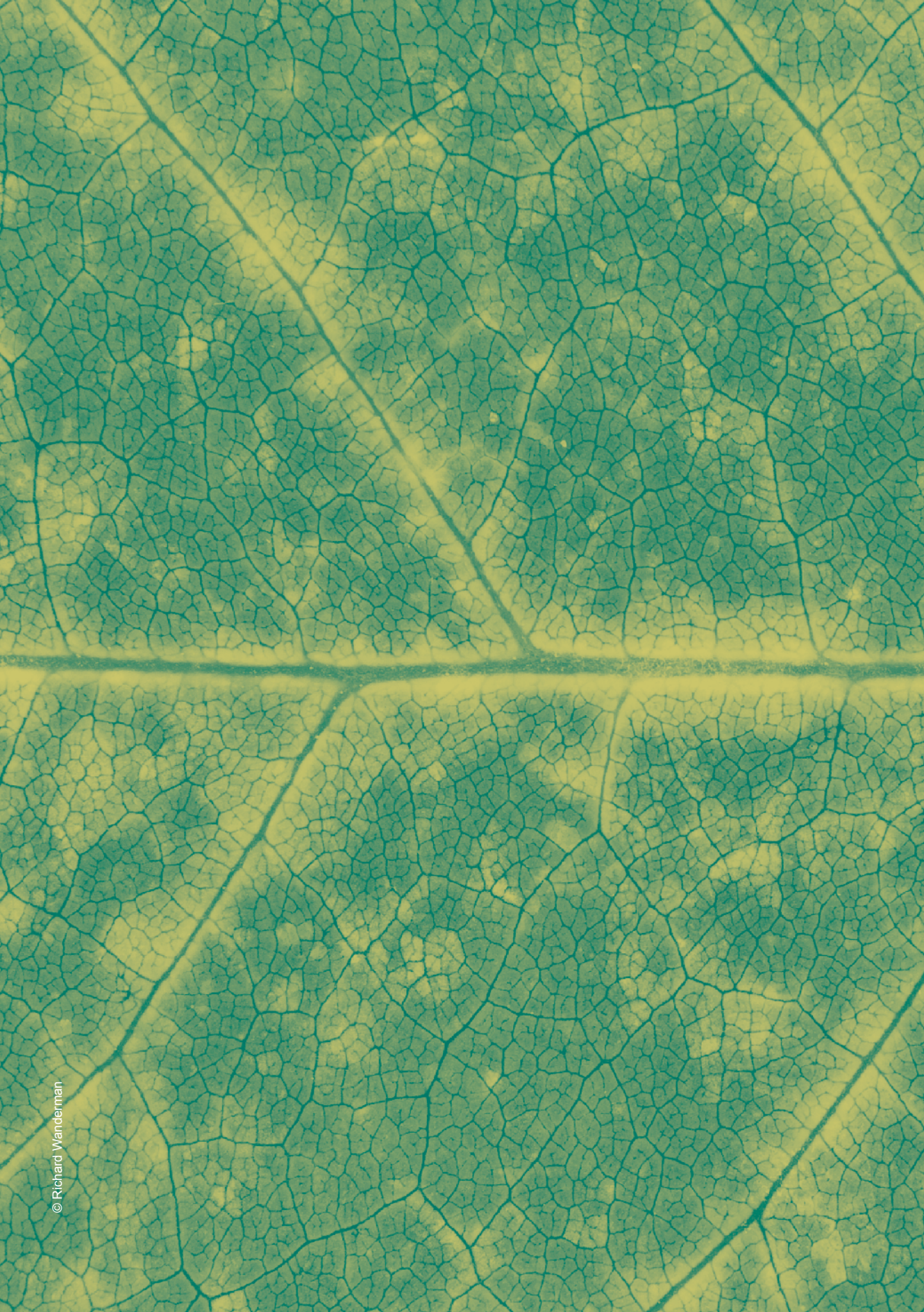
To implement the FLEUVE project in the Niger, the UNCCD Global Mechanism has selected the UNCDF as a technical partner for its expertise and good track record in capacity development and support for investments at the local level. This is particularly important in the Niger due to the size of the area of intervention (eight communes in two regions). The UNCDF has assisted each of the eight communes in mastering the operation of their local investment fund (LIF) or local development fund (LDF), which have been replenished with FLEUVE resources. Investments in SLM have been guided by a review of local development plans and selected by the local authorities. Local selected NGOs have recommended and conducted the development of income-generating SLM activities, including management of NWFPs.

The UNCDF has used the intergovernmental fiscal transfer based on an existing national mechanism, the National Agency for the Financing of Local Governments (ANFICT in French) to top up the local governments' budgets with SLM earmarked resources. The UNCDF supports the communes to have multi-stakeholder and inclusive processes to define priorities, properly manage the funds and achieve the expected results. In the same context, green windows, dedicated to SLM/FLR are occasionally set up with the LIFs to set aside funds for this particular purpose. Through these activities, people are empowered to be stewards of the natural resources.

So far, the eight municipalities have dedicated funds from their LDFs for the implementation of SLM/FLR investments. 28 917 ha of degraded land have been restored and 80 000 trees have been planted in two sites of 100 ha each. More than 8 000 people have been involved in these projects and many of them have been trained to design, implement, manage and maintain SLM investments in very harsh Sahelian conditions.

This approach is currently being replicated, for example in Burkina Faso and the Niger with French GEF funds, to support restoration efforts to achieve the current GGW targets.

³¹ The Great Green Wall is an African-led movement with an epic ambition to grow an 8 000 km mosaic of restored land to act as a natural buffer area to protect against desertification across the entire width of Africa. <https://www.greatgreenwall.org/about-great-green-wall>



6. Conclusions and way forward

Financing mechanisms developed to address FLR needs in a particular biophysical, socio-economic and political context are key for achieving positive local impact. This review has presented a range of options available to finance FLR at the local level in the short and long term. It shows that each case is unique and general conclusions are difficult to draw. This document should therefore be used as a catalogue of options rather than a 'how-to' manual.

The review has highlighted the diversity of available financing mechanisms for supporting local-level FLR. The review's key points are presented below.

Suitability and use of various financing mechanisms

To understand which financing mechanism will be most appropriate for a specific restoration context, a clear assessment of the restoration needs, socio-economic context, institutional capacity, political landscape and biophysical elements is required. Assessments such as ROAM³² can identify and prioritize restoration needs and finance requirements.

There are numerous financing sources, mechanisms and methods that can be used to fund the different stages of FLR from design to implementation and ensure the long-term sustainability of restoration action plans. Such mechanisms may build on existing finance or institutional frameworks to enable stronger local community engagement and support.

Often, activities and programmes supporting FLR are already active on the ground. Systematically mapping out existing financial actors, resources and investment flows financing priority and long-term FLR strategies on the project site can help target FLR activities and identify the type of additional financing required to support implementation. It is therefore important to also understand the existing institutional and power dynamics within a landscape to ensure strong local support and increase potential for the scaling-up of FLR activities.

The development of clear financial plans to implement FLR strategies involves the evaluation of different financing needs at all the stages of FLR implementation and their matching with appropriate financing mechanisms, each having a specific risk return. These plans should also include sustainable market mechanisms, such as value chains and PES to make restoration valuable in the long term at the local level.

Lessons learned from case studies within this review have highlighted how different financing mechanisms can be used to support specific stages of restoration.

³² <https://portals.iucn.org/library/sites/library/files/documents/2014-030.pdf>

For example, in Case Study 6 – the GEF Small Grants Programme in Peru – grant funding was used to finance activities within highly degraded landscapes where market mechanisms were not yet suitable. While in less degraded landscapes, such as in Case Study 8 – the Mampu Project in the Democratic Republic of the Congo – financial mechanisms were integrated within value chains to ensure that the restoration and sustainable management of natural resources create value in the long term at the local level.

Investment risk

FLR activities are often seen as risky investments, especially in highly degraded landscapes where the return is minimal or slow. Initial upfront costs are often high risk and therefore predominantly financed by not-for-profit financial mechanisms, such as public investment and grants. During growth phases, as FLR activities are implemented at the local level, risk is reduced and speciality funds such as loans may be more applicable. As FLR landscapes are restored and investment risk is significantly reduced, other, more risk-averse financial investments, such as equity investments can be accessed, together with the development of market mechanisms such as NTFP product development and PES.

A strong enabling environment and policy framework can enable cofinancing from multiple mechanisms. An integrated approach for implementing FLR activities combines different financing mechanisms, policy instruments and multiple institutions, supporting more effective implementation of FLR on the ground and spreading the burden of investment risk. It also ensures that finance reaches landscape actors in a meaningful way through diverse financial and non-financial incentives. Policy frameworks supporting blended finance can enable cofinancing and a coordinated approach to the planning and implementation of FLR on the ground. The clear mapping of stakeholders can identify actors who can lead the coordination and integration of activities appropriate for the landscape, restoration objectives and local stakeholder context.

Pathways to financing restoration at scale

The early identification of potential pathways to scale up the financing of sustainable restoration at the local level is critical. As shown in this review, local ownership, the development of bankable projects and blended financial mechanisms are essential for FLR impact at scale.

Local ownership in the design, financial planning and implementation of FLR activities ensures that appropriate incentives are financed through FLR funding. This increases long-term engagement with the restoration process for greater impact at the local level.

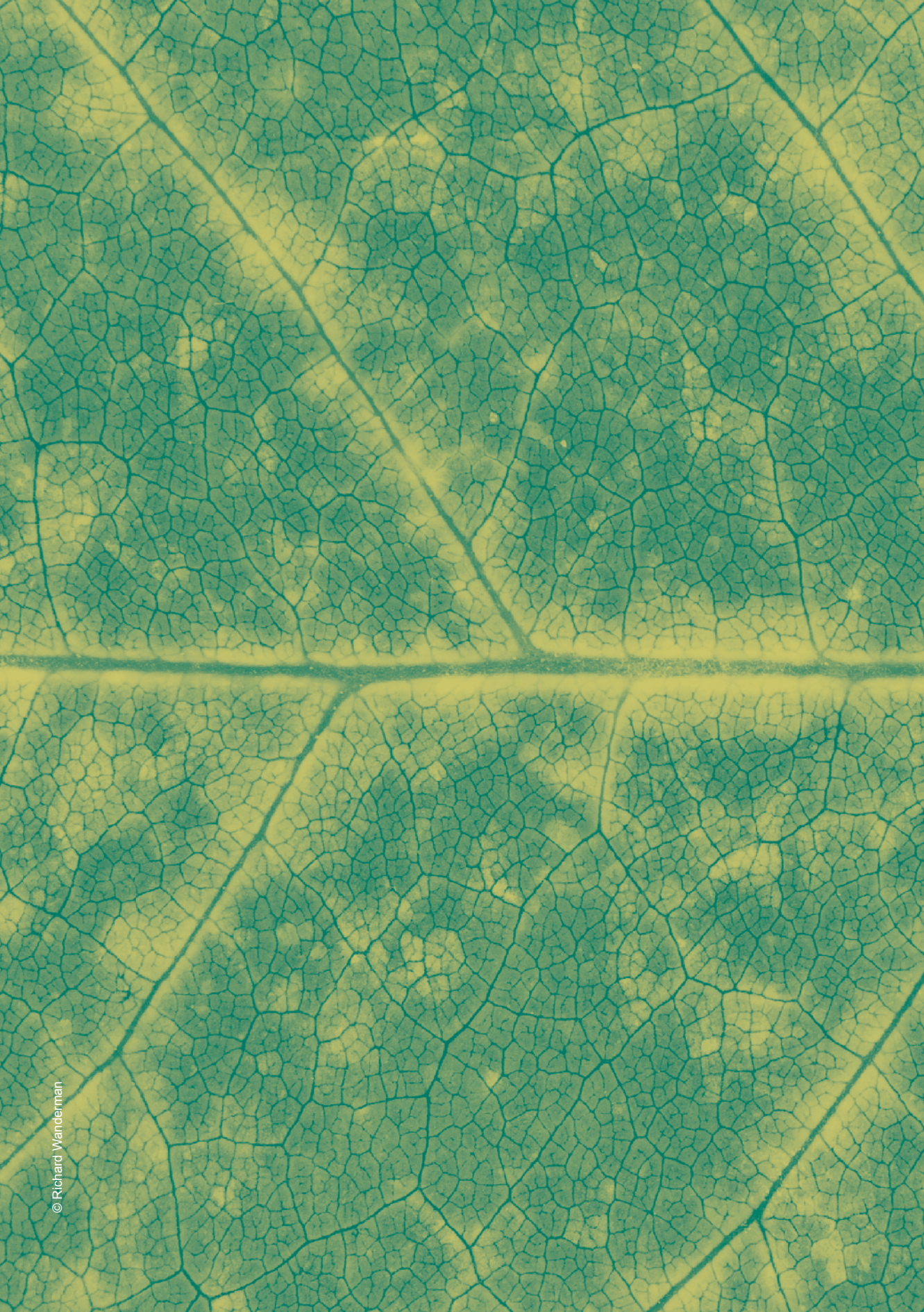
Financial plans should also include the development of viable bankable projects, which are key to attracting greater investment. Bankable projects can demonstrate the value of restoration to investors and show them how the project can meet their investment criteria and investment risk can be managed or mitigated. A clear CBA of

restoration options to identify investment opportunities and enable decision-making can be supported by databases such as those developed by the TEER.

Due to the broad temporal and spatial variation in landscapes, and the diversity of landscape actor needs, financing mechanisms should not be applied in isolation. To address all restoration needs within a landscape and support landscape actors to overcome adoption barriers to implementing FLR practices, the blending of financing mechanisms is required to provide a package of measures. This encourages landscape actors to implement FLR activities on the ground, transition to more sustainable production and conservation practices, which reduce degradation, and enable such practices to be profitable in the long term.

Ultimately, FLR activities, such as sustainable agricultural production, reforestation or habitat conservation must be competitive for landscape actors. They must increase or stabilize productivity, lower production costs, or enable compensation from users benefitting from reduced degradation and restored habitats. Unless the drivers of deforestation and landscape degradation are fully addressed through financial and non-financial incentives to improve yields and limit the expansion of agricultural land, deforestation and the use of agro-chemical inputs, the vicious circle will continue in other areas of the landscape. Combining these incentives financed from diverse mechanisms as seen in this review, can support this transition, transforming landscapes from vicious to virtuous circle and in-building the conditions and motivation for long-term change and restoration impact at the landscape scale.

The objective of this document was to offer a review of financing mechanisms to give insights into their application on the ground. Further development of this review into a guide would provide FLR project developers with a step-by-step approach for choosing and implementing the most appropriate financial mechanisms at the local level to support the restoration process from start to sustainability.

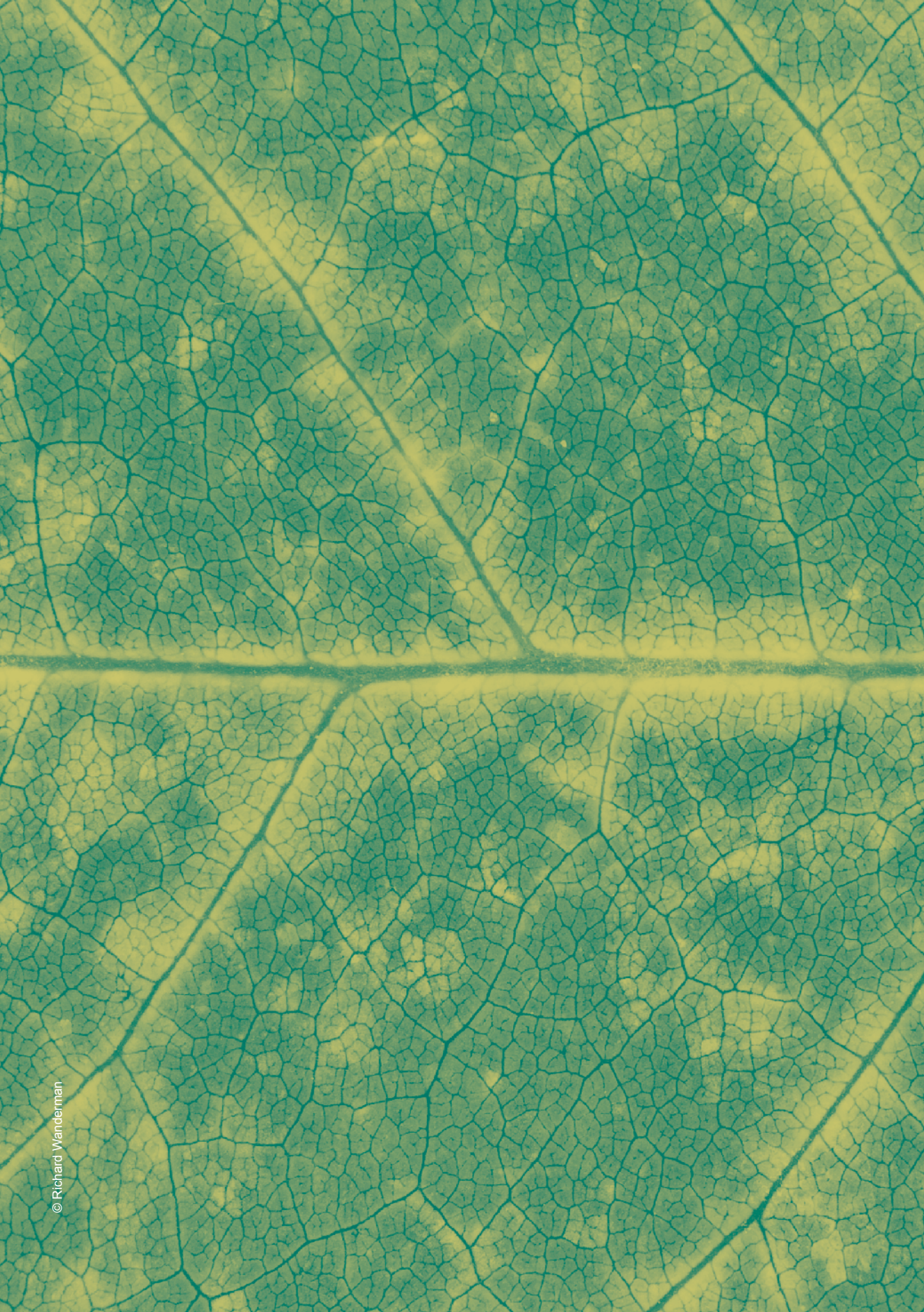


7. References and further reading

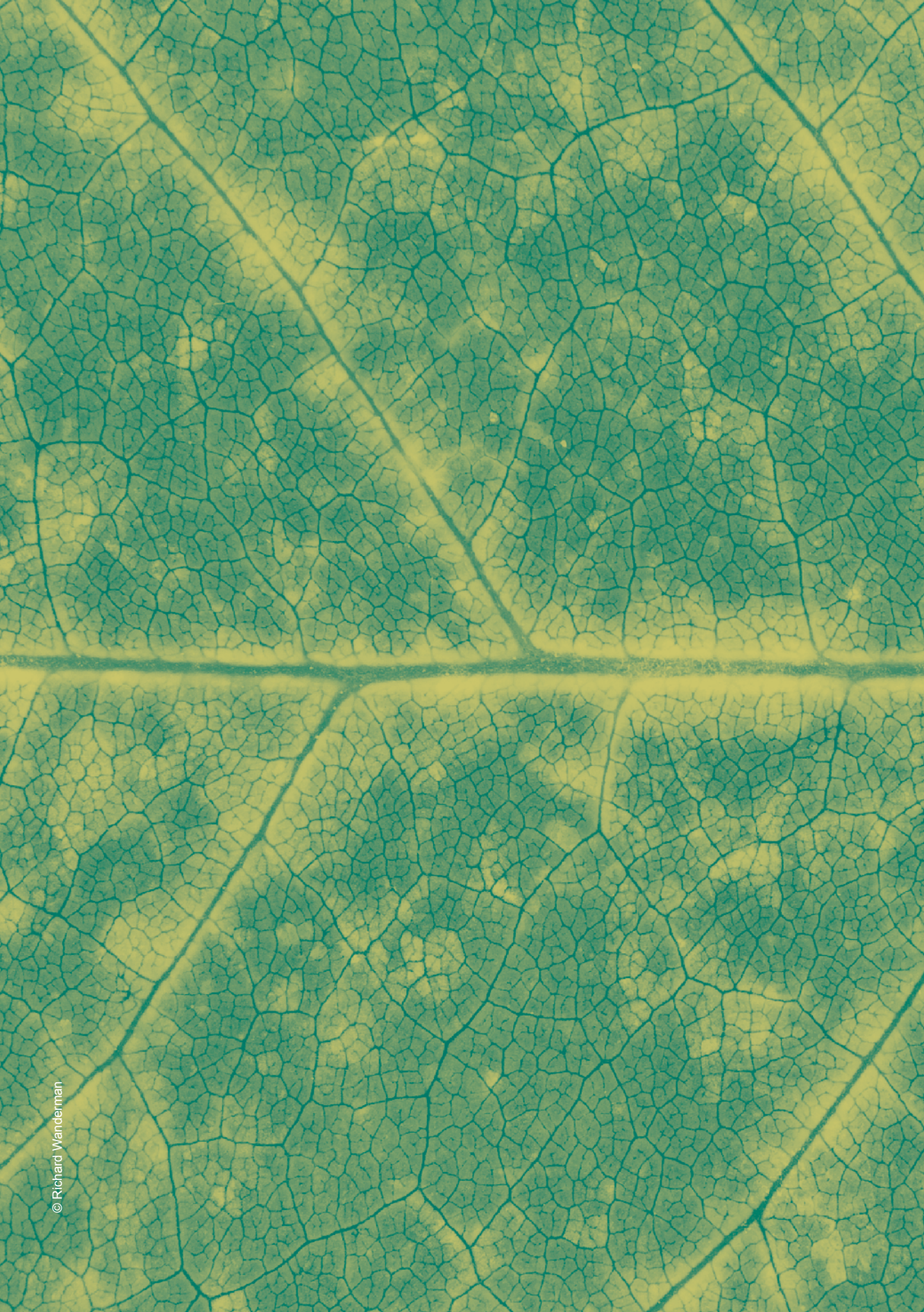
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CASE STUDIES



CASE STUDY 1

Short-term loans: The ‘Imdodi Rushd’ microloan foundation, Tajikistan

Description

The ‘Imdodi Rushd’ regional microloan foundation (MLF) was established in 2009 through the GEF Gissar Biodiversity project. The project aimed to strengthen protected areas in the Gissar Mountains of Tajikistan and increase the sustainability and security of local livelihoods. Private landowners and rural communities often lacked the funding and technical capacity to implement FLR activities. Microloans, delivered via *jamoat*³³ (municipality) resource centres (JRCs) supported rural smallholders and the development of local SMEs and livelihoods through seed funding and technical training.

Overview

Goal: Eco-agriculture microloans and technical assistance supported local landowners and small businesses to invest in sustainable agricultural practices, such as intercropping, receive training in agroforestry and agro-investment, and rehabilitate and reinforce slope lands. The eco-agriculture microloan system was designed to support small individual or group-based projects that generated income and increased the local population’s capacity to adapt to climate change and variability through agroforestry.

Location: Tajikistan, with a focus on rural community members in four target *jamoats*: Rabot (Tursunzoda City), Sabo (Shahrinaw District), Khonakoi Kuhi (Gissar District) and Romit (Vahdat City).

Timeline: 2009–2012.

Funder: The UNDP through its TRAC (Target for Resource Assignments from the Core) funding invested USD 80 000 in the ‘Imdodi Rushd’ MLF to stimulate the growth of microbusinesses in participating *jamoats*. The MLF was established through the GEF Gissar Biodiversity project.

Recipient: Landowners and SMEs supporting biodiversity conservation, afforestation, horticulture, beekeeping, eco-agriculture and environmental microprojects within the four target *jamoats*.

³³ The *jamoats* of Tajikistan are third-level administrative divisions, similar to communes or municipalities, in the Central Asian country of Tajikistan. There are approximately 406 *jamoats* in Tajikistan.

How the mechanism functions



Figure 8. How the microloan foundation funds flowed to support forest and landscape restoration activities

How do the funds flow?

The JRCs are non-governmental community-based organizations established by the UNDP. They design and deliver community-based programmes, community outreach and learning at the local-government level. They also facilitate collaboration between local-government bodies (the *nobiyas* and *jamoats*) and community members to address infrastructure, income generation and natural resource management issues. JRCs aim to promote local economic development, poverty reduction, transparent and accountable local governance and civic education. They use participatory decision-making open to all community members.

- The ‘Imdodi Rushd’ MLF established revolving funds from which microloans were disbursed to target *jamoats*. The funds were used for activities that improved community-based natural resource management and reduced poverty through community environmental learning and stakeholder involvement. The MLF has disbursed microloans for agricultural, SME, livestock, beekeeping, and horticulture activities linked to FLR. As well as providing financial assistance, the MLF has conducted educational activities and training among beneficiaries and rural communities, in close collaboration with

the JRCs and local forestry agencies, on the MLF's purpose and operations, as well as on loan management and modern agroforestry technologies.

- An NGO, Youth 21st Century, built the capacity of the participating JRCs in environmental learning.

What is the return? To whom?

- Landowners and smallholders took on the loan on a voluntary basis. The MLF's flexible and affordable lending conditions have allowed landowners to produce locally adapted quality seedlings and saplings, and increase livestock to improve economic independence.
- The 'Imdodi Rushd' MLF received interest from the loans, thereby enabling continuous lending.
- The entire community has benefitted from capacity building. In parallel with the loans, the JRCs, the MLF and local forestry agencies have conducted educational activities and training among beneficiaries and rural communities on environmental and natural resource management and financial management.

Who makes decisions? How?

- The 'Imdodi Rushd' MLF deployed credit officers in the *jamoats* who received and reviewed the microloan applications. After the procedure was simplified, applications were filed electronically, saving the credit officers considerable time and fast-tracking the process. The loan applications included environmental criteria, and the activities proposed needed to be aligned with proper natural resource management for the area. For example, applicants living in the Romit National Park area could not be granted loans for goat rearing as goats cause damage to protected plant species.
- The UNDP oversaw the programme.

Results and sustainability

Environmental results: In the Rabot *jamoat*, the MLF system has helped residents rehabilitate and reinforce slope lands, enrich the soil and maximize their yields by using improved practices and crop varieties. The residents also received agroforestry training in developing intercropping systems. This has reduced erosion events and produced additional forage for animals.

Socio-economic results: The UNDP/GEF review of the project reported increased incomes for rural communities, as well as improved health for women and children, a greater number of children attending school, and increased house construction/repair.

The MLF increased opportunities for income generation and sustainable livelihoods. This reduced the number of community members migrating to Russia to work. Neighbouring *jamoats* expressed interest in obtaining loans and benefitting from the MLF activities. By the end of 2010, the loan portfolio had reached USD 654 000, with 671 individuals directly benefitting from the MLF. By 2012, 66 villages had received microloans and no defaulted loans had been recorded.

Sustainability: Initially, the communities did not fully accept the MFL model. Repayment rates considerably improved after the communities received financial training and saw evidence of the impact the loans were having, and more loans could be made as a result.

Lessons learned from the case study

- Beneficiaries have reported that the scheme's **flexible and affordable lending conditions** were key to its success.
- Out of 671 beneficiaries, 17.3 percent were female. Analysis and reports from credit officers revealed that women demonstrated a higher sense of responsibility with regard to financial management. It is therefore important to ensure that there is a **gender balance** in technical as well as financial training to guarantee equitable access to microloans for men and women.
- **The combination of capacity building** in FLR issues and **technical assistance** in improved practices and financial management was key to the project's long-term success.
- It should also be noted that **loans can also be non-financial**. For example, in Rwanda, the Support Project for the Strategic Transformation of Agriculture (PAPSTA), funded by DFID, donates a pregnant heifer or three goats to a farmer selected by a watershed committee made up of local authorities and farmer representatives on the basis of good environmental practices. The first heifer calf is then shared with another farmer. For six months prior to receiving the heifer or goat, recipients are trained in compost production, organic horticulture and the cultivation of leguminous fodder species. Some participating rice farmers use manure and compost in conjunction with the system of rice intensification (SRI).

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CASE STUDY 2

Medium- and long-term loans: Specialized credit line providing loans to community forest enterprises, Maya Biosphere Reserve, Guatemala

Description

To improve the competitiveness of CFEs, a credit mechanism tailored to their needs has been developed in the Maya Biosphere Reserve, Guatemala. Designed by the Rainforest Alliance, the State Government and the Multilateral Investment Fund (MIF, a member of the Inter-American Development Bank (IDB) Group) and executed by FIDOSA (a Guatemalan private bank), loans and technical assistance are provided to CFEs involved in sustainable forestry within forestry concessions. Loans aim to quick-start and/or scale up their businesses, with finance to cover harvesting expenses and investment in new infrastructure.

Overview

Goal: This new credit line was created to provide capital to support the quick-start and/or scaling-up of CFEs involved in sustainable forestry. Typically, financing for CFE operations comes from two or three sources: buyer advances, and development aid and/or government



subsidy. Buyer advances can be risky as they can constrain a CFEs' ability to turn a profit and invest in enterprise development. While government support and development aid are recognized as fundamental to CFE establishment and early growth, an over-reliance on them can limit entrepreneurial vision and the prospects for self-sustaining enterprises. Loans adapted to CFEs are therefore an important tool for local development and FLR.

Location: Guatemalan departments of Petén (community concessions inside the Maya Biosphere Reserve), Alta Verapaz, Baja Verapaz and Izabal.

Timeline: Since 2012.

Funder: A Guatemalan private bank (FIDOSA), the MIF (a member of the Inter-American Development Bank (IDB) Group), and the Guatemalan Government created a USD 3.5 million credit line, to be paired with technical assistance from the Rainforest Alliance.

Recipient: The credit line is specifically geared towards rural forestry producers.

How the mechanism functions

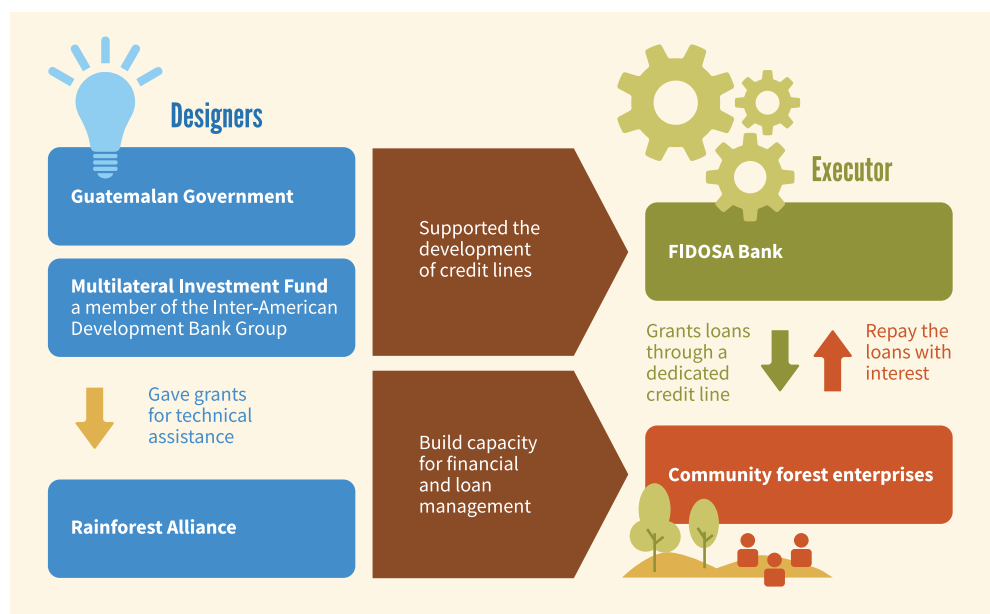


Figure 9. How the IDB Multilateral Investment Fund helped create a blended financial mechanism

How do the funds flow?

- The Guatemalan Government and MIF supported the development of credit lines with the FIDOSA bank and provided grants to the Rainforest Alliance, which provides technical assistance to build the financial and loan management capacity of CFEs.
- Two types of credit lines for CFEs were established:
 - loans of USD 2 500 to USD 250 000 for medium- and long-term investments (5–7 years);
 - loans of USD 2 500 to USD 250 000 for working capital, for up to 60 months, depending on the size of the areas under sustainable forest management.
- Annually renewable lines of credit (fixed in USD) have an interest rate of 10 percent, to which a disbursement fee of 0.5 percent is added when the timber buyer deposits payment into a FIDOSA account, and an additional 0.5 percent if the buyer makes a payment directly into the account of one of the concessions.

What is the return? To whom?

- The CFEs get credit for their development and for achieving the benefits illustrated below.
- The FIDOSA bank receives funds back with interest.

Who makes decisions? How?

- CFEs and cooperatives representing varying groups among the wider communities (dependent on each concession) request the loan. They have their own structure (governed by bylaws) and management board with positions, and are required to inform the wider community assembly about finances and major decisions, including accessing credit.
- The FIDOSA bank decides on loan allocation.

Results and sustainability

Environmental results: Over 350 000 ha of community concessions in the Maya Biosphere Reserve are certified by the FSC. These concessions have been proven to conserve forests better than adjacent strictly protected areas.³⁴

Socio-economic results: The concessions create hundreds of jobs – temporary and permanent – during an average year.³⁵ Five loans (ranging from USD 100 000 to USD 500 000) have been granted to CFEs and have all been repaid. The CFEs are now accessing more loans, and the model is being expanded to other regions of Guatemala and in the Meso-American region as a model for CFE finance (Honduras, Mexico and Peru).

³⁴ <http://www.rainforest-alliance.org/publications/deforestation-trends-maya-biosphere-reserve>

³⁵ <http://www.rainforest-alliance.org/publications/forescom>

Sustainability: Sustainability of the credit line itself is based upon loan performance, which, to date, has been positive. For CFEs, the benefits are considerable. They receive significant support in the form of technical assistance to apply for, execute and repay loans, making foundational improvements in the areas of legal compliance, transparency, accounting systems and overall financial administration. Since demonstrating compliance in such areas is a requirement of financial institutions, applying for loans has catalysed fundamental change in CFE administration, motivating leadership to invest in key areas like financial planning, bookkeeping and administrative control. The successful execution and repayment of loans also enable additional opportunities for credit and further investment in CFE growth.

Lessons learned from the case study

- This credit line and the associated loans have proven successful as they **consider and address the key needs of the target audience**. First, the credit line was made available to address the key needs of CFEs, such as accessing working capital, which are typically not covered by loan deals. Second, the interest rate was fixed at a relatively low level (accessing a loan directly from a commercial bank would incur much higher rates, at approximately 25 to 35 percent). Third, a purchase order for wood – essentially standing timber and a harvest permit as collateral – was made eligible as a guarantee. Finally, the longer time horizon was more appropriate for forestry operations.
- **It is important to ensure that the beneficiaries have sufficient capacity to access and manage loans.** The Rainforest Alliance has been providing support for the whole CFE development model for 15 years, in the form of training and monitoring in all areas – forest management, monitoring, enterprise development, finance, markets, legal compliance, transparency, accounting systems and overall financial administration. Access to credit has been achieved on the back of this support, but has also catalysed improvements with internal enterprise administration, which technical assistance on its own had difficulty achieving. **Technical assistance for financial competency therefore needs to be continual and should be developed.**
- **Secure land tenure rights** are an important factor for investor security. The concession model introduced in the Maya Biosphere Reserve grants communities the legal rights to harvest and sell timber and NWFPs from high-value natural forest and allows the establishment of locally run enterprises. These are 25-year concessions allocated by the State. Secure tenure rights are key, but they are also supported by forest management plans, sustainable harvesting (i.e. cash flow), responsible buyers and a solid community enterprise governance.
- While CFEs are often viewed as risky investments due to their complex governance systems, lack of collateral and limited experience with credit, this case study illustrates how, with **support in financial management** (legal compliance, transparency, accounting systems and financial administration), they can successfully apply for, execute and repay loans.
- **Blended mechanisms can reduce investment risk.** Because of the involvement of the MIF,

the finance is a ‘blended’ product, which spreads the burden of risk and allows FIDOSA to be involved. Public finance was key for securing the private bank’s willingness to participate, as well as for funding the technical assistance required to prepare the CFEs to access and repay the loans (Figure 5).

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CASE STUDY 3

Equity mechanism: Moringa and Cafetalera Nica-France Out-growers, Nicaragua

Description

Moringa,³⁶ an investment fund that targets sustainable agroforestry, has invested equity in Cafetalera Nica-France, which has successfully supported the development of one of the largest independent coffee farms in La Cumplida, Matagalpa Department, Nicaragua. The farm is an agroforestry system of coffee plantations under ten high-value, native tree species. Moringa's equity investment in a joint project with the coffee company has marked the beginning of a long-term partnership, known as Cafetalera Nica-France Out-growers. This five-year programme aims to build a coffee cluster to reinvigorate neighbouring small- and medium-scale farms, which have been severely affected by coffee rust and the effects of global warming, so that they can provide a sustainable supply to Cafetalera Nica-France. Moringa takes an active role in the programme, as the financial return to its investors is linked to the project's success.

Overview

Goal: To provide financial returns for local communities and Moringa's investors while contributing to building environmental and social resilience through land use. Reinvigorating the medium- and small-scale plantations around La Cumplida will allow Cafetalera Nica-France to develop its activities.

Location: Matagalpa Department, Nicaragua.

Timeline: Since January 2015.

Funder: The Moringa Fund.

Recipient: Cafetalera Nica-France, Moringa's investors and local communities all benefit from this partnership.

³⁶ <https://www.moringapartnership.com/>

How the mechanism functions

How do the funds flow?

- As part of the partnership between Moringa and Cafetalera Nica-France, the fund has invested USD 13.3 million in equity in the Cafetalera Nica-France Out-growers programme. Moringa's investment aims to promote the take-up of production techniques used by Cafetalera Nica-France in La Cumplida by neighbouring farms. To move ahead with the strategy, it was essential to bring the small and medium producers together and convince them of the benefits of adopting new methods. The process was facilitated through a partnership with CIRAD, which has developed rust-resistant coffee varieties.
- With the creation of this cluster of producers using new varieties and farming techniques, Cafetalera Nica-France will eventually be able to provide an estimated 5 000 tonnes of high-quality, certified coffee to roasters in Europe, the United States of America and Asia. These farms are also beginning to produce mahogany and other high-quality timber species.
- Significant investments of up to USD 4 000 per ha were required to start this sustainable agroforestry production scheme. Production from the new coffee plant varieties and timber species is not expected to begin until year four or five. The producers are therefore guaranteed an income by Cafetalera Nica-France during the coffee plant maturation period. The financial return for Moringa will be linked to the success of the programme.

What is the return? To whom?

- By investing in the Cafetalera Nica-France Out-growers project, Moringa is strengthening the company's forestry activities and financing the development of a cluster of small- and medium-scale coffee farmers.
- Moringa investors earn a financial return from the activities under the Cafetalera Nica-France Out-growers project.
- The Moringa Fund's Agroforestry Technical Assistance Facility (ATAF) is providing technical assistance to small producers around La Cumplida so that they can rehabilitate coffee production. It is also providing training support in state-of-the-art agroforestry techniques and helping farmers benefit from high-yield rust-tolerant coffee varieties developed by CIRAD and ECOM.
- Local communities are improving their income through improved plantations.

Who makes decisions? How?

- Cafetalera Nica-France submitted their request for development financing to Moringa, together with a business plan.

- As well as providing financing, Moringa is offering advice as a board member and strategic partner.
- Local farmers remain owners and decision makers on their lands.

Results and sustainability

The impact of the programme is demonstrated by the results and sustainability of the equity mechanism:

Environmental results: By using agroforestry techniques, the Cafetalera Nica-France Out-growers programme will enable the sequestration of more than 500 000 tonnes of CO₂ and the rehabilitation of 2 000 ha of degraded land as part of Nicaragua's national contribution to restore 2.7 million ha under the 20x20 Initiative. The programme also helps farmers obtain UTZ, Rainforest Alliance and Forest Stewardship Council (FSC) certification, broadening their market reach and improving their income.

Socio-economic results: The economic resilience of smallholders is improving through risk mitigation. The Cafetalera Nica-France Out-growers programme is improving farmers' economic resilience. Its agroforestry system mitigates risk in the short and long term. Since the farmers are also producing timber, they are less vulnerable to market price volatility. In the long term, diversification and improved coffee prices through certification will lead to higher profitability. Six thousand local jobs have also been created, which is enhancing the area's economic vitality.

Sustainability: In a competitive context, sustainability remains a focal point of the Cafetalera Nica-France Out-growers programme. During the pre-investment phase, Moringa identified and measured the environmental, social and governance risks and opportunities. During project implementation, activities to enhance the investment's positive impact were implemented. Environmental and social monitoring was set up with assistance from ONF International to avoid any negative impacts using state-of-the art techniques, such as satellite imagery. Third-party certification through FSC, Rainforest Alliance and UTZ ensures external advice is received. All these steps support the scheme's performance and generate benefits for all stakeholders over the long term.

Lessons learned from the case study

- The Cafetalera Nica-France Out-growers programme illustrates that it is possible to achieve both **profitability** and positive **social and environmental impacts**.
- **Technical monitoring** remains key to the programme's success, as it is introducing farmers to new practices.
- Equity investment in such programmes requires **strong technical assistance**. This aspect should not be underestimated.

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CASE STUDY 4A

Guarantee mechanism: The Multilateral Investment Guarantee Agency and EcoPlanet Bamboo

Description

In Central America and Southern and West Africa, EcoPlanet Bamboo³⁷ has undertaken the restoration of degraded lands, using a landscape approach to turn them into commercial bamboo plantations. EcoPlanet Bamboo is financed by debt investors. Some projects, however, occur in countries with high perceived political risk from an investment perspective. To ‘de-risk’ these investments, MIGA is providing a USD 48.8 million guarantee against EcoPlanet Bamboo’s current investment in Nicaragua and a USD 8.6 million guarantee against its current investment in South Africa. The 15-year policy covers the project against political risk including expropriation, war and civil disturbance.

Overview

Goal: To develop a sustainable, alternative fibre source to timber for manufacturing industries through the industrialization of bamboo while also restoring lands. The guarantee enables EcoPlanet Bamboo to develop an investment that aligns with MIGA’s objective to promote economic growth.



³⁷ <http://www.ecoplanetbamboo.com/>

Location: El Rama area of Nicaragua’s Atlantic Coast, Eastern Cape agricultural belt in South Africa and Ashanti Region in West Africa.

Timeline: Since 2010.

Funder: N/A.

Recipient: EcoPlanet Bamboo is benefitting from the guarantee scheme by ensuring a low-risk investment to its investors.

How the mechanism functions

How do the funds flow?

EcoPlanet Bamboo has requested MIGA’s political risk coverage for equity investment to work in Nicaragua and South Africa. The investment includes the purchase and development of approximately 600 ha of land, the construction of pre-processing and processing facilities, the acquisition of machinery and vehicles, and road construction. In exchange for annual payments, MIGA covers EcoPlanet Bamboo’s political risk in sensitive countries where it owns land. This reassures debt investors financing EcoPlanet Bamboo.

What is the return? To whom?

- Through the guarantee, EcoPlanet Bamboo and investors were able to triple their original investment in Nicaragua and move forward with their international expansion plans in other regions, such as Southern and West Africa. They were also able to invest significantly in research and development.
- For MIGA, this project is consistent with its objectives to support projects that are financially and economically viable, environmentally sound, and consistent with the labour standards and development objectives of the country. This provides a good basis to simulate private investment in sustainable agriculture through a non-direct investment approach.
- For local populations, this alliance brings employment and social benefits, while also restoring degraded land.

Who makes decisions? How?

- EcoPlanet Bamboo submitted a preliminary application to MIGA. Once investment and financing plans had been drawn up, EcoPlanet Bamboo submitted a final application together with relevant project documentation.

- MIGA agreed on the guarantee allocation and was also able to influence project design and execution. Once a guarantee is issued and effective, MIGA may not terminate the contract unless a default occurs, but the guarantee holder may reduce or cancel coverage without any penalty on any contract renewal date.

Results and sustainability

Environmental results: The project has already restored over 3440 ha of degraded land, including old pineapple plantations in South Africa and deforested lands in Nicaragua. The rhizome system of bamboo has increased the soil's biodiversity and litter level, and increased its carbon level. The plantations have also improved overall biodiversity by developing fully functioning bamboo ecosystems, and providing a forest canopy that can support many species currently under pressure. Waste products from plantations are used by EcoPlanet Bamboo as green charcoal, reducing pressure on surrounding forests. The company has gold-level validation by the Climate, Community, and Biodiversity Alliance (CCBA). As a result of bamboo growth, the EcoPlanet Bamboo Group has also received validation of 1.5 million tonnes of atmospheric CO₂ capture under the Verified Carbon Standard by the Rainforest Alliance as well as its first verification of these climate change benefits.

Socio-economic results: EcoPlanet Bamboo has locally sourced and created hundreds of jobs in Nicaragua, a region with a high unemployment rate. Its corporate philosophy ensures local communities benefit by fostering good relations, supporting education, and improving livelihoods. The EcoPlanet Bamboo Group and its projects have received several awards, including the Nicaraguan Ministry of Health's Award for Best Company in Occupational Health and Safety and the IAIR Award for the Best Sustainable Company. The EcoPlanet Bamboo Group also received the prestigious United States Secretary of State's Annual Award for Corporate Excellence in 2014.

Sustainability: Because they are indirect, guarantee mechanisms provide a way of reducing sustainable investment risk. The sustainability of projects is also considered seriously by the guarantee agency as security for their investment. EcoPlanet Bamboo plantations have also been proven not to be in competition with food production by being established on degraded lands.

Lessons learned from the case study

- While they are often key for investors, guarantees and insurance policies are expensive and can represent a significant burden for companies.
- A major challenge is the need to **calculate the appropriate cost of insurance by carrying out a pertinent risk evaluation** of the investments.
- For the project's sustainability, it is important to ensure that the investments covered by the **guarantee involve local communities and have local development impacts.**

- Where sustainability standards are obtained, the project must be **regularly evaluated by an independent agency** in relation to the guarantee/insurance investor. In the EcoPlanet Bamboo example, several certifications have been obtained to provide assurance of the project's sustainability.
- In the EcoPlanet Bamboo case, the guarantee mechanism is on the FLR operator, but in other models, banks may be issuing insurance to cover the risk taken by granting a loan to a company with a risky return on investment.

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CASE STUDY 4B

Guarantee mechanism: The Swiss Lumber Company out-grower scheme, Ghana

Description

The Swiss Lumber Company out-grower scheme in Ghana provides guarantees to farmers for investment in FLR on the ground. The company lacks access to forests for wood supply, and the plantation on its own land is insufficient to meet the capacity of its sawmill. Incentive strategies have been developed to attract out-growers to produce indigenous trees on land that was degraded or producing only marginal agricultural yields. The company provides cash and in-kind rewards to landholders and farmers³⁸ to develop plantations. Farmers and landholders are allocated land and other resources to support the production and management of trees to supply the sawmill, while the company provides a guaranteed market for the wood produced.

Overview

Goal: To increase timber production on degraded land to enable sufficient wood supply for the Swiss Lumber Company's sawmill while providing secure and fair contracts to the plantation holders. Upfront cash allows smallholders to invest in start-up capital to restore land and plant indigenous trees.



³⁸ Farmers are landholders who are also growers on their lands.

Location: 150 ha around Wassa Amenfie in the Western Region of Ghana.

Timeline: Since 1991.

Funder: The Swiss Lumber Company.

Recipient: The Swiss Lumber Company, landholders and local farmers.

How the mechanism functions

How do the funds flow?

The Swiss Lumber Company pays an annual rent to farmers for keeping land under plantations and gives them an advance payment, which can be as high as USD 400 000 to USD 1 million. It also provides seedlings and equipment for establishing plantations, and employs growers, where needed, to complete tree planting and maintenance. At harvest, the company buys 50 percent of the wood volume produced at market price. The growers and landholders then share the remaining 50 percent between them. The growers are also allowed to keep any remaining low-grade residual wood.

The 25 growers involved have planted between 4 and 10 ha each. The company aims to expand the area by 25 ha per year on average.

What is the return? To whom?

- Farmers get a guaranteed market for products and fair prices, which reduces market risks. Wood production also provides an alternative, additional source of income.
- The Swiss Lumber Company increases and secures its supply of timber, access to productive land and resources without the need to purchase land. This diversifies its supply and increases cooperation with local communities.

Who makes decisions? How?

- The varying responsibilities of each partner are defined by individual contracts.
- The company has a significant influence on decision-making with regard to the technical approaches and species used, as it provides the seedlings and technical advice and is the main buyer.
- Guaranteed prices are in line with the market rate.

Results and sustainability

Environmental results: The focus on tree planting and management on degraded land increases carbon sequestration in the soil, while also reducing erosion by using contour planting across degraded hill slopes.

Socio-economic results: This scheme is a form of integrated value-chain financing; a buyer higher up the chain provides financing to a producer lower down the value chain. It also allows smallholders to access finance for investing in plantations, as well as input supplies. Local employment opportunities are also created by these joint ventures and by the company, which employs growers. The Swiss Lumber Company has received several ‘best practice’ awards for its management of the out-grower scheme.

Sustainability: Land ownership remains with the local population under this out-grower scheme as the company is renting the plantation land. This way it secures its long-term timber supply. Out-grower schemes offer a potential solution to the constraint of long maturation periods faced by the forest sector, as the financing comes in the form of loans (cash advance payments, or in-kind loans, with or without interest), which are repaid upon harvest.

Lessons learned from the case study

- **Policies** that **support out-grower schemes** (e.g. policies providing security of tenure) are important to mobilize resources for smallholder farmers.
- **Arrangements** should be appropriate for the **local context** to enable partners to have a reasonable likelihood of **deriving benefits**.
- Arrangements and forestry practices should be consistent with the principles of **sustainable forest management** at the local and regional level and contribute to **wider community well-being**.

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CASE STUDY 5

Public finance instrument: The Brazilian ‘Ecological ICMS’, a fiscal transfer to enhance ecosystem protection

Description

The Brazilian tax on the circulation of goods and services, ICMS, represents the largest source of state revenue in Brazil. It also constitutes an important source of income for municipalities, since state governments are required to share 25 percent of this tax, levied at the national level, with municipalities, according to indicators they define. These indicators usually include population number, geographical area size and primary production levels. The Paraná State was the first to include ecological indicators to compensate municipalities for undertaking environmental protection measures. The ‘Ecological ICMS’ is a good example of fiscal policies being used to influence investment decisions towards environmental protection and restoration.

Overview

Goal: Through the E-ICMS, tax funds are redistributed locally according to the level of local and global environmental benefits that the municipalities support. Municipalities having part of their land under protection status receive a higher share of the tax funds.



Location: In 2012, 14 of the 27 Brazilian states had adopted some form of Ecological ICMS criteria.

Timeline: Since 1991.

Funder: Taxpayers.

Recipient: Municipalities with sites under protection.

How the mechanism functions

How do the funds flow?

- The ICMS is an indirect tax levied on products and services at the national level. It accounts for over 90 percent of state governments' fiscal revenues in Brazil. Under the Brazilian Federal Constitution, state governments are required to share 25 percent of ICMS receipts with municipalities according to criteria defined by each state. The E-ICMS is the proportion of the municipal tax share that is reallocated depending on the environmental protection measures taken by municipalities. In Paraná, the first state to implement the E-ICMS, 5 percent of the total funds shared with municipalities is dependent on the number of hectares they have under protection (and the type of protection) (see section below for more details).
- The ICMS funds can be used as the municipality sees fit: for improving drinking water supply and garbage collection, or for the enforcement of land-use controls in parks and so forth, or other activities such as the acquisition of tractors and construction of industrial facilities.

What is the return? To whom?

- Municipalities deciding to set land under protection status within their jurisdictions are compensated for the possible loss of revenue. In some states, this financial instrument also encourages the protection of sources of water supply, the improvement

Management category	Conservation weight
Ecological research station	1.0
Biological reserve	1.0
Park	0.9
Private natural heritage reserve	0.8
National, state or municipal forest	0.7
Indigenous area	0.5
Environmental protection area I	0.1
Area of relevant ecological interest	0.1
Special, local areas of tourist interests	0.1
Buffer zones	0.1

Figure 10. Conservation weights for different management categories of protected areas in Paraná (Greig-Gran, 2000)

of sanitation and the treatment of solid waste and sewage, which improves water quality. This is a way of encouraging municipalities to commit to long-term sustainability.

- Local communities benefit from land protection as this avoids land grabbing and generates environmental benefits. The protection of indigenous lands is also considered in areas eligible for E-ICMS.

Who makes decisions? How?

- Municipalities apply to receive E-ICMS funds allocated by state governments.
- The share of E-ICMS funds received by each municipality is calculated at the state level by state environmental agencies according to ecological criteria (Figure 10). Different management categories are given a score or conservation weight. The scores reflect the protected area or indigenous land status. Protected areas placing greater restrictions on land use have higher scores while areas with less strict protection have lower scores. This weight system allows the states to encourage the establishment of certain types of protected areas more than others.
- Municipalities must fulfil the legislation criteria to benefit from the allocation of tax revenues – the greater their compliance, the more revenue they will receive. However, they are under no legal obligation to directly use the revenue received for environmental protection. Municipalities are free to use these resources for public services in general, such as education, health and infrastructure, and these include environmental protection.
- Local communities are required to be fully involved in the process. In the Mato Grosso State, for the Enawenê-Nawê tribe, the distribution of E-ICMS revenue is discussed with the entire community. Usually it is used to support ethnic customs and monitor indigenous land, which requires travelling throughout the territory to prevent intrusion and resource extraction by non-indigenous persons. For some other tribes, such as Cinta Larga, however, the decision-making process is less participatory due to distance constraints.

Results and sustainability

Environmental results: In the Paraná State, between 1992 and 2006 these measures have increased the number of protected areas by 158 percent. The quality of protected areas has also improved following increased channelling of public funds. There are multiple environmental benefits to protected areas, for example, forest protection results in carbon sequestration, but also produces positive impacts on water quality and biodiversity.

Socio-economic results: It is estimated that over the last 14 years in Paraná this financial instrument has redistributed about USD 170 million to communities living in protected areas. In the Minas Gerais State, in its first three-year period, the E-ICMS generated about USD 17.4 million for about 217 municipalities. Additional socio-economic benefits include

increased income generation and food security in rural areas and the promotion of sustainable development through the integration of protected areas in development plans. E-ICMS funds can also be a tool for improving conditions for indigenous people. For example, the municipality of Juína in the Mato Grosso State transferred USD 34 000 to two indigenous tribes for maintaining the monitoring of illegal activities and improving livelihood activities within their lands.

Sustainability: This mechanism internalizes positive externalities generated by protected areas. As a result, it has increased acceptance of protected areas by rewarding those who protect them and illustrating the benefit of protection to those who do not. By demonstrating the economic value of ecosystems and biodiversity within protected areas, investment in their protection and enhancement can be encouraged. In some states, such as Mato Grosso, the E-ICMS legislation itself also requires municipalities to engage in environmental education initiatives to obtain any E-ICMS funds. E-ICMS also encourages coalitions between municipal leaders and the owners or managers of protected areas. Since the beginning of the programme, 133 local governments have developed their public–private partnerships, building solid foundations for future conservation efforts. Monitoring the number and quality of protected areas requires skills. The process of administering the E-ICMS will therefore likely provide training and knowledge to professionals working within state environmental agencies. The awareness and capacity building brought by the E-ICMS are key factors of sustainability for this financial instrument that aims to create new protected areas and ensure their sustainability.

Lessons learned from the case study

- Despite its success, the E-ICMS has still not been adopted in several states which contain some of Brazil's richest and most threatened biodiversity, and where the livelihoods of poor rural communities are integrally bound with the conservation of these ecosystems. The primary reasons that these States have not adopted the E-ICMS are **the lack of technical, quantified information about the specific benefits of E-ICMS adoption and, therefore the lack of sufficiently strong political support for the instrument.**
- As each state is responsible for the criteria for tax allocation and monitoring, there is a danger that the ecological fiscal transfer system could be used to justify the sharing of tax revenue with no incremental improvement to environmental conditions. The **adoption of a quality index which is sensitive to the efforts of municipalities towards protected area establishment and maintenance** is therefore essential. This could incentivize the municipalities to dedicate more resources to protected area management. In the current system, municipalities are free to use the benefits in the way that suits them. For example, in the Cotriguaçu municipality local environmental council members were more interested in using E-ICMS revenue to keep roads open in the rainy season to promote agricultural marketing than in improving protected area management.

- It is important to recognize that land or resource managers may undertake measures to protect and enhance services where this is in their best interest. **Respect for the land rights of local people, consulting them and allowing them to participate in management is therefore critical for success.**
- The implementation of the E-ICMS **requires extensive institutional organization,** which states must be prepared to implement.

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CASE STUDY 6

Grants: The GEF Small Grants Programme, Peru

Description

Lima's El Agustino District is a densely populated hillside of approximately 180 000 inhabitants. High population pressure has degraded the landscape through deforestation and illegal solid waste disposal, which have caused extensive degradation of slopes and river banks, soil erosion, high landslide risks and pollution, all accentuated by climate change impacts.

The GEF Small Grants Programme (SGP), facilitated by the UNDP, provides funds in six work areas, including for addressing land degradation. Grants from GEF SGP are given directly to grass roots and community-based organizations or local NGOs to implement local projects. A GEF SGP grant of USD 50 000 has provided financial support to initiate training and capacity building for a group of women, Promotoras Ambientales, in sustainable land-use practices, as well as to develop livelihood opportunities through the development of organic fertilizer and the planting of tara trees (*Caesalpinia spinosa*), medicinal plants and other NWFPs. This aimed to rehabilitate slopes and river banks, as well as create an artificial wetland to act as a biofilter to reduce the impact of solid waste pollution. Key to the initiative were capacity building and the empowerment of women.

Overview

Goal: To train Promotoras Ambientales in SLM to improve the resilience of the El Agustino District to natural disasters, and improve livelihoods for poorer households within the community.



Location: El Agustino District, Lima, Peru.

Timeline: 2008–2013.

Funder: GEF SGP.

Recipient: Central Distrital de Bancos Comunes de los Distritos de El Agustino y Santa Anita.

How the mechanism functions

How do the funds flow?

- In El Agustino, the GEF SGP was given directly to 100 women organized into the Promotoras Ambientales group within the Central Distrital de Bancos Comunes de los Distritos de El Agustino y Santa Anita.
- The funds directly financed the group to receive training in the production of organic fertilizer, nursery and reforestation techniques to restore soil fertility, as well as rehabilitate the landscape through increased vegetation cover.

What is the return? To whom?

- Women within the Promotoras Ambientales group diversify their livelihoods through sustainable production of tara, aloe vera and other medicinal plants, as well as sales of organic fertilizer, which has doubled their income. They also revived traditional knowledge surrounding medicinal use of the tara tree.
- The community benefits from the biofiltering of water for improved irrigation (quantity and quality), as well as from cheaper and more accessible medicine.
- The project has empowered women within the group to lead environmental activism, with families now also joining in activities. This has improved their social standing and reduced discrimination.
- Additional communities are now benefitting from the scaling-up of this approach in other districts to build capacity and restore degraded forested hillsides to increase resilience of communities and landscapes.

Who makes decisions? How?

- The GEF SGP decides the outcome of each grant application according to whether recipients are a grassroots, community-based or NGO organization.
- The Promotoras Ambientales designed and implemented the project themselves, making decisions within the group on how to rehabilitate the landscape, which tree species to plant (to have the greatest livelihood potential). The group chose to plant tara trees, a native species, due to its suitability in the landscape, resilience to pests, dry weather, high altitude and low soil fertility, as well as its deep root system, which would also support soil structure.

Results and sustainability

Environmental results: Since the project began, 17 900 m² of sloped degraded land at risk of landslides have been reforested with over 2 500 tara trees. This includes 7.89 km² along the river banks and the remainder along residential hill slopes. Tara trees have multiple benefits. Their deep root system helps improve soil structure, and thus prevents landslides. Tara pods are used for medicinal purposes, with potential for commercialization. Tara trees are also a source of natural dyes and gum and they are an agroforestry species. The tara tree is also an endangered species and its cultivation has substantially contributed to its conservation in the area. Additional planting of aloe vera and other medicinal plants for commercialization has also contributed to increased vegetation cover. The creation of the artificial wetland and its 'biofilter' have become integral to the district's irrigation infrastructure. The biofilter is able to remove solid waste, while plants within the wetland, such as water lilies, papyrus and cane, further decontaminate the water. The wetland is now also providing habitat for frog and fish species.

Socio-economic results: Of the 100 women involved in the Promotoras Ambientales group, 30 have created an SME to sell organic fertilizer (2 tonnes per month), tara and aloe vera products. This livelihood diversification has substantially increased the income for the women, doubling it to USD 370 per month. In addition, as these medicinal plants are now more readily available and cheaper to purchase, they are providing alternative treatment options for poorer households in the community. The Promotoras Ambientales group fully designed and implemented this project, which has empowered women within the community, improving their social standing. Over time, it also has encouraged other families to participate in the project, scaling up activities, as well as supporting community cohesion.

Sustainability: Through the project's implementation, the Promotoras Ambientales have built their capacity to develop and manage stakeholder agreements and effectively and sustainably manage the environment, with appropriate land-use practices that can also support increased income. The initial SGP funding provided technical assistance, enabling activities to be kick-started and, by making activities profitable and socially supportive in the long

term, had a long-term impact on environmental and socio-economic outcomes. Several other districts of Lima (Jatari Lacta, Comas and San Juan de Miraflores) have already begun to replicate the project's approach and activities, scaling up its impact to reduce the effects of deforestation and landscape degradation in peri-urban areas around Lima. Its promotion of landscape management and waste removal around schools also contributes to Lima's safe-school programme. The women are also seeking additional funding to develop the project further by establishing a learning centre for children to raise awareness about environmental degradation and the importance of conservation activities.

Lessons learned from the case study

- Despite setbacks (theft of irrigation equipment, destruction of tara plants by criminals), the Promotoras Ambientales were sufficiently empowered to mobilize the community to understand the importance of the project, which in turn strengthened and united their organization.
- **Linking restoration activities and sustainable production approaches** to improved livelihoods empowered project participants to take **ownership** of the project implementation and develop it beyond the focal district.
- **Building SMEs** to develop the income potential of these livelihoods can make these activities profitable in the long run, improving the **long-term sustainability outcomes** of restoration implementation.
- The central role of the Promotoras Ambientales highlights the **importance of motivation and social cohesion** for successful outcomes of community-based projects. Through replication in other communities, these can have a wider impact in addressing large-scale landscape issues.
- The organization of individuals into **cooperatives** or **community-based organizations**, or links with NGOs are likely to be a required criterion in grant applications, and this **increases the likelihood of funding for FLR** activities. Different grants may be available for different landscapes, activities or outcomes, and for kick-starting FLR readiness. This should be a key consideration when seeking the most appropriate grant to finance FLR.
- While the SGP grant was small scale and short term (four years), this example highlights the **role of grants in supporting start-up costs** and the **initial transition** to implementing FLR approaches. It also highlights the importance of local community participation in the design and implementation of grant-funded projects, building on existing institutions and in-building **long-term change through improved livelihoods** and by providing an economic incentive to sustain activities.

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CASE STUDY 7

Payments for ecosystem services: Pagos por servicios ambientales in Costa Rica

Description

Some countries, such as Costa Rica, have established national funds dedicated to supporting the implementation of FLR activities, such as reforestation. Since 1997, the PES programme has been implemented to protect primary forests, enable growth of secondary forests and promote plantations for meeting the demand for timber and NWFPs. Market-based incentives provide payments for environmental services, including biodiversity, landscape and hydrological services, and carbon storage.

Costa Rica had one of the highest global rates of deforestation, forest cover having fallen to just 20 percent in the 1980s. In 1996, the Forestry Law 7575 introduced two main legal instruments to address these deforestation rates: i) a ban on the conversion of primary forests, and ii) PES schemes to provide compensatory finance for private landowners to reforest, protect and manage existing forests outside national parks. The programme is managed by Costa Rica's National Forest Financing Fund (FONAFIFO) within the Ministry of Environment and Energy.

Overview

Goal: The PES programme aims to reduce the rate of deforestation and protect standing forests, while also indirectly conserving wild species, regulating river flows and storing carbon.

Location: Costa Rica.

Timeline: 1996 to date.

Funder: National fossil fuel tax, with funds managed by FONAFIFO, Ministry of Environment and Energy.

Recipient: Individual rural households, cooperatives, indigenous communities and enterprises can benefit from the payments. The enterprises include SMEs and larger companies.

How the mechanism functions

How do the funds flow?

- Revenues from a national sales tax (3.5 percent) on fossil fuels predominantly finance PES for a range of environmental services. Some additional funds are negotiated from water users, such as hydroelectric power producers, for upstream management.
- Funds are managed, and payments distributed by FONAFIFO through signed contracts agreeing land use with forest owners and the monitoring of compliance through forestry technical facilitators.
- The programme focuses on five different private land uses: 1) forest protection, 2) commercial reforestation, 3) agroforestry, 4) sustainable forest management, and 5) regeneration of degraded areas. Payments are fixed (or very slightly differentiated) and are made according to a payment matrix to enable transparency and cheaper implementation.
- The PES programme is accessible to any private landowner who has a property title or ownership rights, with a minimum land area of one hectare. These include: 1) legal entities (microenterprises, family businesses, SMEs, large companies and their subsidiaries, 2) individuals, 3) indigenous communities, and 4) development or conservation entities. In 2011, the PES payment matrix was revised to use national-level priority-setting criteria. This selects contracts that are aligned with conservation policy objectives, favouring indigenous territories, small properties (<50 ha) and areas with low social development.
- In exchange for the payments, the landowners transfer 'rights' to ecosystem services within their property to FONAFIFO, where they make up the wider portfolio of approved ecosystem services credits. Some of these credits are sold by FONAFIFO to buyers, such as international banks, bilateral agencies and private sector companies. Credit purchase from the private sector (around 3 percent of the programme area) is predominantly made through voluntary deals with private and semi-public companies (such as hydroelectric companies), as well as international sales of carbon and biodiversity-protection credits.
- As well as receiving direct payments, private forest owners managing their forests through PES are also exempt from property taxes. In this way, the PES scheme is therefore not just a single economic instrument, but rather a 'policy mix'.

What is the return? To whom?

- Landowners engaged in the PES scheme are contracted to adopt land uses and forest management practices that restore forest cover, protect primary forests and establish forest plantations in exchange for direct cash payments, tax exemption and strengthened land tenure.

- There are three different types of PES contracts with specific financial returns:
 - Forest conservation contracts: payments over a 5-year period for forest easements in primary and secondary forests; 85 percent of all contracts. Can be renewed.
 - Sustainable forest management contracts: payments over a 5-year period for sustainable forest management easements, to be maintained over 15 years; 9 percent of contracts.
 - Reforestation contracts: payments over a 5-year period for reforestation easements for degraded and abandoned agricultural land; landowners must maintain the reforested area for 15 to 20 years, depending on tree species; 6 percent of contracts.
- More recently, agroforestry contracts have been introduced to increase the participation of smaller properties.
- The restoration and protection of forest cover provide multiple benefits to taxpayers ‘buying’ the services, including enhanced water and air quality, biodiversity conservation and the protection of scenic landscapes. They have also indirectly provided returns through the improved provision of ecosystem services, including enhanced climate change resilience, the generation of hydroelectricity through improved water flows, and a sustainable tourism industry.
- Overall, the scheme has enabled an increased understanding of the economic and social value of natural ecosystems, slowing deforestation and providing an economic value to standing forests and biodiversity.

Who makes decisions? How?

- The PES programme is managed by FONAFIFO, a semi-autonomous agency of the Ministry of Environment and Energy. The agency is responsible for managing and prioritizing contracts based on national-level priority-setting criteria. It is also responsible for creating and selling carbon emission reduction credits, including certifiable tradable offsets (CTOs) (representing a certified carbon emission reduction of one net tonne), and, negotiating payments from large-scale water users.
- Landowners’ participation in the PES programme is voluntary.

Results and sustainability

Environmental results: Numerous studies have evaluated the impact of Costa Rica’s PES programme on environmental services. Identifying the specific results of this PES scheme is, however, difficult as a number of policy changes were introduced simultaneously. Nevertheless, since 1997, the programme has helped to conserve nearly 1 million ha of forest through payments for protection (90 percent), reforestation (6 percent), sustainable management (3 percent) and, more recently, regeneration (1 percent). Forest cover has returned to over 50 percent of the country’s land area, from a low of just over 20 percent in the 1980s. Moreover, there are also significant biodiversity benefits associated with forest conservation for watershed management.

Socio-economic results: The PES programme benefits people directly, through direct payments and the potential for new jobs within the forestry sector, and indirectly, for instance,

as a result of promoting healthier ecosystems. Better provision of ecosystem services is also essential to improving resilience to climate change, as well as for agricultural inputs, the generation of hydroelectricity, and the ecotourism industry. Participation in the programme has increased for indigenous communities (from 3 to 26 percent of the PES fund budget allocation between 1997 and 2012) and female-headed properties (from 16 percent to 23 percent in the same period). While criticism of Costa Rica's PES has focused on its bias towards larger landowners, more recently, the participation of small-scale farmers has significantly increased, thanks to the introduction of agroforestry contracts. The PES scheme has also helped to gradually regulate property ownership among smaller landowners, as the Forestry Law and the PES scheme support landowners to evict squatters. The PES programme has also encouraged compliance with social security obligations towards farm employees. Remaining socio-economic challenges include the identification of valuable beneficiaries. For example, it has become clear that using the Social Development Index as a criterion to give priority access to low-income areas has not been effective and has in fact given indiscriminate priority to relatively well-off landowners in these areas.

Sustainability: The number of PES schemes in Latin America is growing, which suggests there is scope for replicability when there are clearly identifiable suppliers, buyers and intermediary institutions to facilitate payments. Costa Rica's PES scheme has been studied in detail and is often imitated. Many countries already have similar schemes in place, and these have often been introduced following policy reform, which has shifted the focus from subsidies to PES. There are, however, some roadblocks to sustainability. In selecting beneficiaries – which can be individual rural households, enterprises including SMEs, cooperatives and indigenous communities – and evaluating small farms, it can be difficult to balance environmental effectiveness and positive social impacts, while also ensuring that the programme continues to be manageable. Beneficiaries that are larger enterprises may, for example, be better placed to invest in improved management techniques for reforestation, regeneration and forest management, and have a better grasp of marketing, which increases the chances of reinforcing the benefits of sustainable forestry activities and creating more jobs. Promoting the participation of one group without negatively affecting access by another also remains a key challenge. While a PES scheme can boost the regional economy, there is also a risk of a potential negative impact on jobs if forest protection results in the abandoning of agricultural land that could have generated jobs. One of the main challenges for the PES scheme in Costa Rica is having a clear understanding of how the programme operates within a wider mix of policies affecting conservation so that the PES scheme can be aligned with the country's overall conservation policy. Moreover, it is crucial to understand its effectiveness in achieving its environmental objectives, beyond simple indicators like 'hectares under contracts'. The use of better indicators for ecosystem services is, however, likely to result in more expensive monitoring systems.

Lessons learned from the case study

- The PES objective – to provide ecosystem services through conditional, compensatory payments to small- and medium-sized landowners to offset their lost opportunity cost – should remain at the forefront for PES programme managers. Whether a compensatory payment scheme is the best instrument to achieve that objective therefore needs to be evaluated and existing **PES schemes** should be **flexible** and **adapt to lessons learned** and constantly changing circumstances.
- Programme managers need a clear **understanding of the opportunity costs** of forest activities to determine the revenue and benefits that the landowner foregoes by implementing sustainable land and forest management through PES. This requires an understanding of profits from forest activities, regulations regarding land use, the drivers of land-use change, and the cost of transitioning to more sustainable practices.
- Payments for ecosystem services schemes are easier to introduce if they **build upon existing systems of payments**. In fact, Costa Rica's PES scheme was developed from the reform of an existing forest subsidy programme.
- Payments for ecosystem services schemes need to have **adequate monitoring and documentation** of impacts on environmental services to ensure conditionality of payments and to attract buyers. This is particularly important for carbon sequestration projects intending to sell carbon offsets in the global carbon market.
- During the first years of the programme (1998–2002) many contracts were handled as group contracts. These 'umbrella' projects pooled together groups of (usually small-scale) farmers in one collective contract, to minimize transaction costs. In practice, however, problems emerged, including the inability to enforce compliance among all members of a group. This led to the **abolition of a single collective contract in favour of individually signed contracts** with group monitoring.
- **The short-term nature of contracts and voluntary participation can also create challenges**, as this can conflict with the long-term management needed for biodiversity conservation. A purely voluntary approach may not create the continuous blocks of protected forest necessary to provide biological corridors, buffer zones for protecting key water sources, or forest cover on slopes for reducing the risk of erosion. Spatial targeting of PES activities can, however, **support the long-term objectives of biodiversity conservation**, by prioritizing high-risk/high-biodiversity areas, engaging with landowners or providing special incentives.
- **Some ecosystem services**, such as payments for scenic beauty, are **difficult to promote**. Users of landscape services are numerous and fragmented, and problems of collective action make implementing PES for landscape beauty difficult. In Costa Rica, negotiations with hotels and rafting companies to develop payments for scenic beauty have not led to useful agreements.
- **Challenges for PES** in Costa Rica thus include:
 - **tenure issues**, weak enforcement of conditionality and high transaction costs, which limit PES participation and effectiveness, as landowners must have property paperwork in order to access the programme;
 - a **bias to larger landowners**;
 - the **recent introduction of agroforestry**.

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CASE STUDY 8

Market development for secondary tree and non-timber forest products: Acacia and agroforestry through the Mampu project, the Democratic Republic of the Congo

Description

Deforestation in the Plateaux Batéké near Kinshasa is driven by traditional charcoal production and slash-and-burn cultivation. This has reduced soil fertility and degraded savannah habitat. Kinshasa consumes up to 6 million tonnes of bioenergy equivalent per year, mainly as wood fuel (charcoal and firewood) from non-renewable sources.

The Mampu project was initiated in 2004 by the Hanns Seidel Foundation to restore the landscape, and improve livelihoods and food security. The project aimed to develop agroforestry with *Acacia auriculiformis* plantations alongside food crop (cassava and maize) rotations in a 12-year cycle. The introduction of nitrogen-fixing acacias aimed to restore soil fertility and produce fertilizer for cassava from potash. While the acacia plantations grow, additional crops are planted. On maturation, the acacias can be harvested to provide charcoal to sell in Kinshasa. The development of a market for Mampu secondary tree products is therefore a real opportunity for restoration in agricultural and natural areas.

Overview

Goal: To develop a sustainable alternative to traditional charcoal, a key driver of deforestation, while restoring soil fertility. Market development for acacia as a secondary product can supply Kinshasa with charcoal from a peri-urban sustainable source. In the process, local producers increase their revenue by selling charcoal and improve their crop yield as a result of the nitrogen-fixing properties of acacia.

Location: 8 000 ha on the Plateaux Batéké, 140 km from Kinshasa, the Democratic Republic of the Congo.

Timeline: Since 2004.

Funder: Hanns Seidel Foundation with support from the European Union.

Recipient: Rural producers of the Plateaux Batéké.

How the mechanism functions

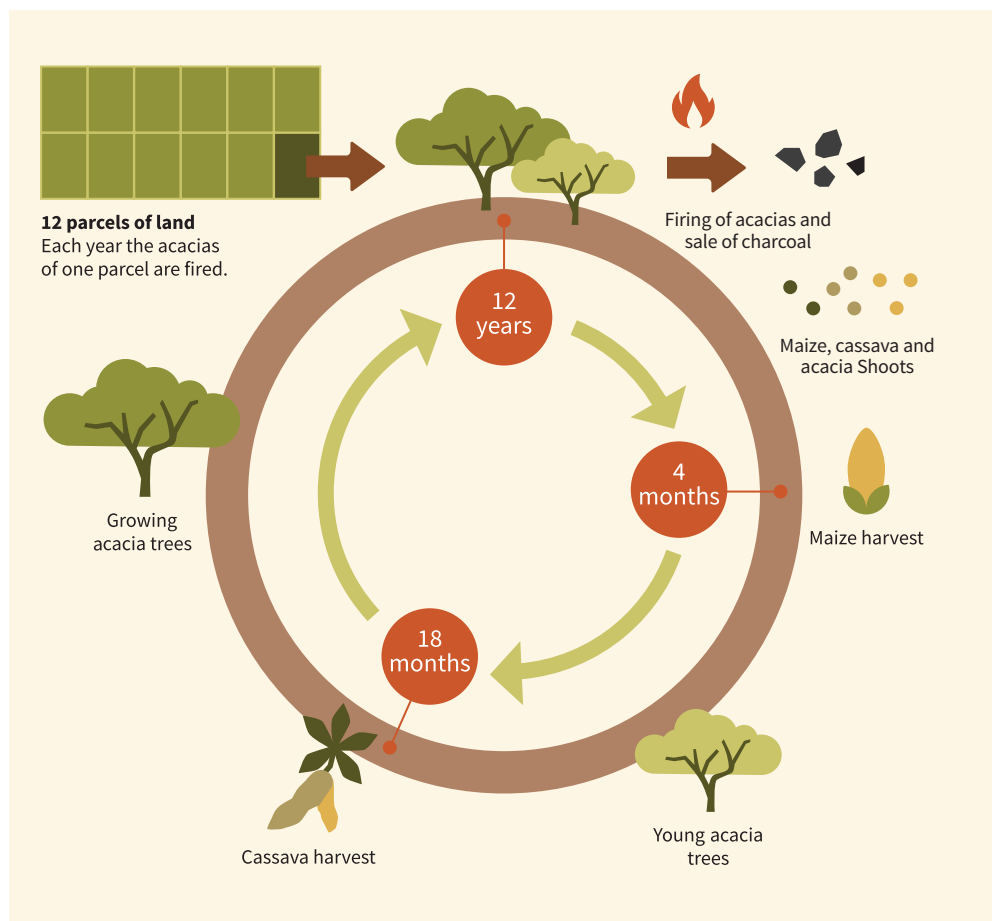


Figure 11. Rotational scheme for each parcel and land use and organization of a 25 ha plantation over the course of a year (each square represents one month)

How do the funds flow?

- In 2004, following on the efforts led by the Centre forestier de Kinzono since 1987, the Hanns Seidel Foundation and the EU supported the settlement of 320 farmer families on over 8 000 ha in the Plateaux Batéké. Each family received a small farm attached to 25 ha of land. The cost of a 25 ha plantation was estimated at around USD 12 000. The farmers were expected to repay the cost of the farm, approximately USD 4 340. Each 25 ha plantation is divided into 12 parcels of around 2 ha each. Each year, the acacias of one parcel are processed into charcoal through carbonization. On the remaining parcels within the acacia plantations, farmers plant a mix of maize and cassava.
- The dormancy of acacias seeds is broken by fire. Four months after slash-and-burn, the acacias growing alongside crops reach 1 m high and the farmers can harvest maize. Eighteen months after slash-and-burn, the acacias reach 3 m high and the farmers can harvest cassava. The acacias continue to grow for 12 years before being harvested through carbonization.
- This agroforestry system with acacias incorporated into rotations of cassava and maize (Figure 11) provides an overall annual production of 11 200 tonnes of food crops and between 8 000 and 12 000 tonnes per year of charcoal across the Mampu plantation. The charcoal is mostly transported, marketed and sold by women. It is estimated that for one bag of charcoal sold for USD 18 in Kinshasa, USD 4.5 are for the producer, USD 9 for the workforce and USD 4.5 for transport and taxes. Buyers are in Kinshasa and in the villages around the plantations.
- The coordination between different actors along the value chain (e.g. transport and sales) is organized by a producer association founded in 2009, the Union des fermiers agroforestiers de Mampu (UFAM). This association is also responsible for developing infrastructure, including water and electricity supply, roads, fire breaks, schools and health centres, financed through a subscription paid by producers.

What is the return? To whom?

- Producers benefit from the charcoal sales as well as from increased food crop yields through improved soil fertility. Acacia roots combine with microorganisms to fix atmospheric nitrogen, increase organic matter and nitrogen storage in the soil, which improves productivity.
- The city of Kinshasa secures a share of its wood fuel supply by buying this local and sustainable charcoal.

Who makes decisions? How?

- The Hanns Seidel Foundation defined the main project principles in 2004 and has been supporting this project since 2009.

- UFAM represents communities in the area. The Mbankana Centre for Integrated Development (CADIM), a Congolese NGO for rural development, provides training, which has enabled producers to make decisions concerning the development of their businesses.

Results and sustainability

Environmental results: In DRC, wood fuel represents 85 percent of the domestic energy supply. The production of wood fuel, combined with slash-and-burn shifting cultivation and the carbonization of patches of forest and tree savannahs are the main causes of deforestation in peri-urban areas. Acacia plantations are a sustainable way of relieving natural forest ecosystems. The Mampu project agroforestry system avoids the destruction of 500 ha per year of bushland and forest. The project is also carbon neutral, sequestering 113 000 tonnes of CO₂ per year from the acacias' natural growth.

Socio-economic results: The 8 000 ha of land under the agroforestry system provide an economic output equivalent to 30 000 ha of shifting cultivation fields as a result of charcoal sales and improved soil fertility. As the landscape matures, the initial investment in the Mampu project will allow a turnover increase of 10 percent annually. For individual farmers, the income from charcoal and crops is about USD 9 000 per year (USD 750 per month). In comparison, a taxi driver in Kinshasa earns between USD 100 and USD 200 a month. The charcoal produced by the Mampu project represents 5 to 10 percent of Kinshasa's charcoal needs. The development of sustainable wood fuel from the Mampu plantation provides a significant source of employment in Kinshasa and its peri-urban areas, as personnel is required on the plantations, and for transport and marketing. Agroforestry creates renewable resources and new opportunities for rural populations, while limiting rural depopulation. In areas with insecure land tenure, the planting of tropical species like acacias creates added value and is a marker of increased land tenure security among village producers.

Sustainability: This type of agroforestry is considered 'climate-smart agriculture' and is a sustainable alternative to slash-and-burn for avoiding deforestation and regenerating degraded savannah habitat. The project allows farmers to gain formal land ownership under the Mampu project's farmer-owner system. Such ownership is a guarantee of sustainable management by farmers, as preserving soil quality makes business sense. Standards of living are much higher in Mampu than anywhere else in the region as a result of infrastructure development and higher average wages. The project is now considered to be a model of suburban reforestation in savannah habitats and has already spurred the development of similar projects in other regions.

Lessons learned from the case study

- Investors interested in secondary tree products must be mindful of the **plantation environment and the available demand/market for such products**. One of the keys to the Mampu project's success is the proximity to a main road and its peri-urban setting, with a high demand for charcoal.
- Agroforestry systems are complex and usually not well understood among local producers. It is therefore important to ensure that producers receive **training and technical assistance** from qualified experts, potentially through farmer field schools.
- Producers may be tempted to shorten the time between acacia harvesting cycles to maximise charcoal sales. To remain sustainable, however, this **interval must be maintained to allow acacias to regenerate**. If the regeneration period is too short, the enhancement of soil fertility remains limited, and will even reduce. Efficient training and good parcel rotation management are therefore essential.
- Farmers often need initial investment and technical support to be able to take on the risk associated with adopting new techniques. **Initial support** from the Hanns Seidel Foundation and the EU has been **crucial to finance the start-up of the project**.

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CASE STUDY 9

Certification scheme: Rainforest Alliance Certification™ of banana farms – Global

Description

Rainforest Alliance certifies agricultural products (such as bananas) and associated production systems to meet a Sustainable Agriculture Network (SAN) standard. The standard prohibits conversion of forests or other natural ecosystems to cropland, protects workers and wildlife, and regulates the use of chemicals and other farming practices. Today the standard covers more than a million farmers on Rainforest Alliance Certified™ farms, most of them smallholders, cultivating 100 crops on a total of 3 million ha (about the size of Switzerland) across 42 countries.³⁹

Overview

Goal: Through certification, businesses go through transformations to achieve improved environmental and social standards. In return, as a result of certification, the operational and reputational risk is lowered, and new markets open up. For this reason, several banana farms have decided to become Rainforest Alliance Certified™.



³⁹ <https://www.greenbiz.com/article/are-sustainable-farming-certificat38ns-making-difference>

Location: Several countries in South America, Africa and Asia.

Timeline: Since 1990.

Funder: N/A.

Recipient: Banana farms

How the mechanism functions

How do the funds flow?

The banana farms invest in their own improvements on environmental and social aspects to be able to reach the certification level. Once they are certified and their products are reaching the market with the new Rainforest Alliance label, they can hope to benefit through having a larger consumer base and getting a potentially higher market price. Through this process, companies can also hope to improve their image for their consumer base.

What is the return? To whom?

- Certified banana farms can benefit from commercial and other advantages stemming from being environmentally proactive, such as by gaining a competitive advantage for market access, achieving a higher market value or higher productivity.
- Banana farm workers benefit from improved working conditions and livelihood options.
- Consumers benefit from having the choice to consume in a more ethical way by purchasing products from companies with high environmental standards and procedures. They may be willing to pay a higher price for the product to support ethical and sustainable production.
- Globally, sustainable practices help reduce carbon emissions and the use of natural resources.

Who makes decisions? How?

- To become certified, farms must meet criteria set by the Sustainable Agriculture Network (SAN), a coalition of leading conservation groups working to promote sustainable agriculture. The SAN standard encompasses all three sustainability themes: social, economic, and environmental. Rainforest Alliance Certified™ farms are audited annually

to verify that farmers are complying with the SAN standard's comprehensive guidelines, which require continual improvement on the journey to sustainable agriculture. The SAN standard is built on these important principles of sustainable farming:

- biodiversity conservation
- improved livelihoods and human well-being
- natural resource conservation
- effective planning and farm management systems.⁴⁰
- Rainforest Alliance works with banana farms to help them conserve their natural resources and promote the well-being of workers and local communities, with certified farms meeting rigorous social criteria designed to protect workers, families and nearby communities. The farms are supported during the transition period towards more sustainability with adapted measures. For example, Rainforest Alliance certification requires the phasing-out of dangerous pesticides. In the transition while they are still in use but to a lower extent, farms must provide extensive safety training, protective gear, and washing stations for workers handling agrochemicals, in order to prevent workers, and their families and communities, from being exposed.

Results and sustainability

Environmental results: The banana industry was once infamous for clear-cutting rainforests, polluting waterways and using dangerous agrochemicals that workers carried on their backs. Pesticide-impregnated plastic bags, which farms use to protect bananas as they grow, littered riverbanks and beaches near banana farms, while agrochemical runoff and erosion clogged rivers, choked the region's stunning coral reefs and killed marine life. Today, Rainforest Alliance Certified™ banana farms are forging a path to sustainability. They recycle plastic bags and other waste; restore and protect land around their banana trees; plant vegetation along waterways to create buffer zones and reduce erosion; eliminate the most dangerous agrochemicals and tightly control the application of those they do use; reduce water consumption; and install filtration systems to treat water used in processing. An independent study of banana farms in Ecuador showed that Rainforest Alliance Certified™ farms perform significantly better than non-certified farms in responsible land management.

Socio-economic results: The Rainforest Alliance provides banana farms with the tools for cultivating their crops more efficiently. By conserving water, composting and decreasing their use of agrochemicals, farmers not only safeguard the health of their land, but they save money. The Rainforest Alliance also helps farmers to negotiate better prices and manage their farms more efficiently, which helps them boost the bottom line. By paying decent wages – and treating their employees with respect and dignity – certified farms also decrease turnover and maintain a productive, efficient workforce. This cycle is supported by the growth in demand for certified bananas by large companies such as Chiquita and Favorita. Sales have increased within targeted consumer bases for certified products and have resulted in greater income.

⁴⁰ <http://www.rainforest-alliance.org/faqs/what-does-rainforest-alliance-certified-mean>

Sustainability: Once the certification system is part of the business model, constant efforts are needed to keep the certification and the market opportunities attached to it. Producers effectively organized with relatively high yields will be more likely to meet or exceed the break-even point increased by certification costs. Depending on the level of implementation costs, small producers must achieve better performance for certification to be profitable.

Lessons learned from the case study

- In some cases (e.g. Tested Green),⁴¹ certification has been seen as a form of greenwashing from companies. It is therefore important to ensure that the **certification process is accompanied by strong, independent and transparent auditing**.
- Some obstacles still exist for companies to embark on becoming certified. At an organizational level, firms with no environmental management system and no interest in introducing one will have little incentive to join an environmental certification scheme. This may leave landscapes affected by these companies unprotected and liable to degradation. If the customer base of the company is not prepared to pay more for environmentally friendly products or if regulations do not require higher environmental standards, there can be little incentive for a company to implement environmental certification.
- Companies investing in and producers wanting to obtain certification need to have several **environmental and social motivations, not only economic ones**. Often the decision to certify is primarily motivated by the possibility of gaining access to markets that give preference to certified products, but sometimes price fluctuations and market crises may influence a lesser commitment towards certification.
- Smallholders and other landscape actors may face difficulties in achieving certification standards, which may require substantial financial and technical input in transitioning to sustainable practices that comply with prescribed standards. Additional incentives (financial and non-financial) are therefore required to support this transition and make sustainable practices profitable in the long term.

⁴¹ <https://www.ftc.gov/news-events/press-releases/2011/01/ftc-settlement-ends-tested-green-certifications-were-neither>

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CASE STUDY 10

Ecotourism: The Olare Orok Conservancy, Kenya

Description

The Olare Orok Conservancy (OOC), Kenya has been created to prevent land degradation and overgrazing, and promote tourism through the leasing of community land for tourism. It is a private sector-driven initiative, where individual landowners are paid directly for a collective action and which aims to conserve wildlife habitat and boost tourist activities without compromising the livelihoods of pastoral landowners.

Overview

Goal: Through institutional arrangements, Maasai landowners are paid USD 41 per ha per year by a consortium of five commercial tourism operators. In return for the payment, the landowners are expected to voluntarily move their settlements outside the conservancy land and prevent livestock from grazing inside the OOC. Through this PPP, the conservancy is now exclusively reserved for wildlife tourism.



Location: The Motogori, the Mara North, the Naboisho and the OI Kinyei Conservancies, Kenya, close to the Maasai Mara National Reserve.

Timeline: Since 2006.

Funder: A consortium of five commercial tourism operators: the Porini Lion Camp, Kicheche Bush Camp, Mara Plains Camp, Olare Camp, and Virgin Camp.

Recipient: The land lease is specifically geared towards the 217 Maasai landowners whose lands cover a total area of over 100 000 ha.

How the mechanism functions

How do the funds flow?

The rates in the OOC scheme are calculated based on the opportunity cost, considering the expected returns, and negotiations between the tourism investors and the landowners. The initial annual payment rate agreed between the tourism investors and the landowners in 2006 was USD 33 per ha. This rate has since been adjusted in 2009 and 2011 to USD 36 and USD 41, respectively. For example, in 2012, the conservancy land lease payments amounted to USD 426 400 or an annual average of USD 2 000 per family.

Two intermediary institutions support the agreement:

- The Olare Orok Wildlife Conservancy Ltd is a shareholding company belonging to the conservancy member landowners, which is guided by a land committee formed by their representatives.
- Ol Purkel Ltd is a non-profit company formed by five tourism partners, which independently manages the conservancy by paying landowners directly in order to increase transparency and minimize the mismanagement of funds. Ol Purkel Ltd signs a land management agreement and pays a land management fee to the Olare Orok Wildlife Conservancy Company. In 2012, they incurred USD 150 165 in transaction costs to cover administration, staff emoluments, the monitoring and enforcement of contracts, transport and communication, food, equipment and road maintenance.
- Local scouts are employed by the OOC to monitor livestock infractions, provide security for tourists and prevent unauthorized infractions. A penalty of roughly USD 66 per infraction is charged both to the conservancy members and non-members violating this rule. A self-monitoring process has also emerged where members of the conservancy themselves also check and report any observed grazing infractions in the conservancy, and this has been made much easier with the use of mobile phones to alert the conservancy scouts.

What is the return? To whom?

- Landowners are paid directly and individually to collectively set aside their land for wildlife tourism. They receive a fixed annual land lease fee regardless of the number of tourists.
- The five tourism operators benefit from non-degraded land and the presence of wildlife species to support their tourism business. This model ensures the protection of the environmental values upon which the tourism industry relies on.

Who makes decisions? How?

- The Ministry of Tourism grants licenses to establish tourism operations and businesses.
- The overall conservancy management lies with the Conservancy Management Committee, which is comprised of the representatives of the Olare Orok Wildlife Conservancy Ltd land committee, Ol Purkel Ltd and the Olare Orok Conservancy Trust (OOCT). The latter was constituted as a conduit for donor-supported projects that are independent of the PES scheme land rent payments.
- The Narok County Council (NCC) is responsible for the management of the Maasai Mara National Reserve jointly with the Trans-Mara County Council (TCC). They are responsible for wildlife protection inside the park and coordination with the conservancy to ensure wildlife protection on conservancy land outside the reserve (as is the case for these conservancies).
- The Kenya Wildlife Service (KWS) is charged with the protection of all wildlife in Kenya and the conservation of their habitats. KWS also protects wildlife against poaching and provides wildlife veterinary services.
- The National Environment Management Authority (NEMA) grants Environmental Impact Assessment (EIA) licenses to the tourism operations and approves land-use plans for conservancies.
- The Ministry of Lands provides the title deeds to the landowners⁴² and registers the lease contracts between the landowners and the tourism operators.

Results and sustainability

Environmental results: The protection of land against over grazing allows the ecosystem to regenerate naturally. Wildlife benefits are realized through the conservancy provision of migratory corridors (ensuring the contiguity and connectivity of wildlife habitats) and dispersal areas, as well as the security provided against poaching. Crucial buffer areas have been formed for the Maasai Mara National Reserve minimizing the threats to wildlife dispersal areas, but also reducing pastoralist land.

⁴² For those that go under private lands now, though until recently they were also given to those under the Group Ranch Act (repealed in 2016).

Socio-economic results: Pastoral landowners used to be excluded from the benefits, due to mismanagement and lack of transparency by the local elites. Now, landowners receive benefits through the guarantee of direct payments leading to stable and predictable income and which also promote equity and ensure transparency in the operations of the conservancy. This provides income security to households, which are often severely affected by drought such as in 2008 and 2009. The co-benefits of the OOC include the creation of employment opportunities in the conservancy and the provision of social services.

Sustainability: The OOC model enhances tourism operations and is financially sustainable, even though it does not exclude the risk of local and global economic and environmental shocks. To guide the establishment of wildlife tourism operations in conservancies in Kenya, a subsidiary legislation for wildlife management and land use is about to be developed and adopted. This legislation will ensure that conservancies are recognized in law as a land-use category, taking into account ecosystem management plans and creating incentives such as exemption from land tax.

Lessons learned from the case study

- The OOC institutional model represents an **innovation** that has yielded benefits to both wildlife and the pastoral landowners. Since both operators and landowners are **confident** in the system, lease contracts are being renewed for increasingly longer periods. **Building trust is key but takes time.**
- This type of leasing appears to be a better alternative to land uses such as livestock grazing and farming because it leads to income diversification for the pastoral households, and provides a more **regular** and relatively stable income from one season to the next.
- Communities are, however, faced with a trade-off resulting from the conservancy land-use regulations because of the **reduction in the area available for livestock grazing and the displacement of settlements. This directly affects both the poor and non-poor households** by potentially amplifying their vulnerability to recurrent droughts in the area. Payments should, therefore, be **complemented with investments and support** for improvements in livestock breeds and market access to enable pastoral families to earn a higher income from fewer high-producing breeds. Communities should also be supported to engage in alternative economic activities. A national-level plan should be drawn up to understand how much land can be put under conservancy without threatening pastoralism. If the balance between the land needs of conservancies and pastoralism is not maintained, there is a high risk that the system will become unsustainable (as shown by the drought and invasion of conservancies in certain counties in Kenya in 2017).
- Until 2013, there has been a lack of proactive government engagement in the process of conservancy development, which has resulted in the unregulated development of tourism infrastructure in ecologically sensitive areas in the absence of a comprehensive land-use plan. Under the new Wildlife Act, however, the government recognizes the significance of emerging conservancies and the role of the private sector in developing ecotourism potential. The conservancies themselves are getting more and more organized, for example, with community conservancies in Kenya coming together to form the Kenya Wildlife Conservancies Association (KWCA).

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