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ETFRN NEWS

54

# Good Business: Making Private Investments Work for Tropical Forests

EUROPEAN TROPICAL FOREST RESEARCH NETWORK

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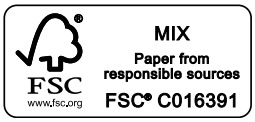

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Photo: Ivan Karnadi

## Preface

Private finance is currently the most significant source of investment for forestry. Estimated to total around US$15 billion per year in developing countries and countries in transition, private-sector investment in the forestry sector far outstrips the combined investments of governments and development agencies. Although broad sectoral investment parameters are generally well understood, the exact shape and weight of domestic and international flows remain to a large extent unclear. The United Nations Forum on Forests, among others, has called for better mapping of the forest finance landscape to create a clearer understanding of the types and potential impacts of complementary public and private investment on future forests.

With growing needs for forest products, there is increasing agreement that there is a significant gap between the levels of financing which are available from both public and private sources and the funding required to meet expected future demands. The private sector is well positioned to help fill this gap, and private flows are expected to continue to grow as investors explore new investment frontiers. The challenge for entrepreneurs will be to manage both the impact and long-term viability of their supply chains as competition over forest land for food, fibre and fuel production becomes increasingly critical.

Photo: Herman Savenije

While the availability of private money is good news, particularly when official development assistance is coming under increasing pressure, there is also cause for concern. Private-sector interests are often misaligned with local and global public interests, and social and environmental concerns are sometimes far less important to investors than their primary interest in profitability. A crucial challenge for policy-makers will be to somehow reorient, increase and incentivize private finance to make it flow in adequate amounts towards sustainable, environmentally sound, and competitive forest management practices that can support responsible and profitable forest entrepreneurship. Partnerships between public and private actors, various types of investors, communities and intermediaries can make a big difference by creating synergies that build on shared interests.

This issue of *ETFRN News* brings together 23 articles that present and analyze concrete examples of various private actors along the tropical forest-finance chain (small, medium and large forest entrepreneurs and intermediary and advisory organizations). The experience of these frontrunners — from medicinal plant cooperatives in China to good-practice credit schemes in the Peruvian Amazon — presents a compelling case for

revisiting business as usual. As policy-makers and private actors refine their strategy for seizing opportunities and managing the risks associated with emerging forest-related markets, these articles demonstrate that overall economic, social and environmental benefits can be reaped if investments are targeted correctly.

We thank all the authors for their contributions and the editors for reviewing, compiling and producing this issue of *ETFRN News*.

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# Making private investments work for tropical forests – a synthesis

ALEXANDER ASEN, MARCO BOSCOLO, TUUKKA CASTRÉN, HERMAN SAVENIJE, FABIAN SCHMIDT and KEES VAN DIJK

## Context

Tropical forests are at the heart of a green economy and fundamental to human well-being. When managed responsibly, they generate ecosystem goods and services that are essential to securing stable environments for people's welfare and for their economies to flourish. On a global scale, the renewability, recyclability and versatility of forest products make them a natural choice for a low-carbon future (UN/ECE 2012).[1]

Yet the future of tropical forests is under threat. Deforestation, forest degradation and unsustainable practices – both within and outside the forest sector – continue to put immense pressure on ecosystems, communities and economies. In the developing world, large areas of forests are being cleared and land is being converted to other uses in response to growing consumer demand for commodities such as beef, soy and palm oil, as well as timber and bio-fuels. As a result, tropical forests are worth more cut down than standing.

## The emerging role of private business and finance

Despite its reputation as an agent of deforestation and forest degradation, private business and finance is in fact emerging as an economic driver and support for sustainable forestry. Private financing, when done responsibly, can provide the necessary level of investment to help people and forest landscapes flourish. Although traditionally considered one of forestry's greatest threats, the private sector is, perhaps surprisingly, emerging as one of its most potent potential allies.

Forward-thinking private businesses and financial institutions are leading the way, fully aware that helping forests to survive and thrive holds significant benefits. These private-sector actors recognize that the preservation of forest goods and services opens new markets and business opportunities while helping to secure community livelihoods and safeguard a natural resource base that is dwindling fast. Corporate social responsibility (CSR), risk management and resource security strategies — as well as mounting public pressure — are other key factors that drive interest on the part of private investors.

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As a result, an increasing number of companies are now establishing specific "do-no-harm" policies to prevent or mitigate any negative effects on forests. They are also investing in sustainable solutions for preserving tropical forests.

## Current status of private business and finance

Traditionally, the overwhelming bulk of private investment into sustainable forest management (SFM) has been channelled to non-tropical and developed countries. It is estimated that to date, around US$ 50 billion[2] has been invested in forests by institutional investors (pension funds, insurance companies, endowments, etc.). Of this, 80% has been directed to North America.

Despite this overwhelming focus on the developed world, private money also represents the largest source of financing for SFM in the tropics, both in terms of investment and revenue streams. Indeed, US$ 15 billion is invested every year by the private sector in tropical forests, outstripping the combined investments of governments and development agencies by more than nine times.[3] It should also be noted that private forestry business is a massive employer; more than 160 million people worldwide find work through small and medium-scale forest enterprises, especially in developing countries.

Although forests and wood production are an established part of investment portfolios in the developed world, in the tropics this is still a new and unfamiliar asset class. Experience is still limited, markets are in the initial stages of development, and tools to assess and address opportunities and risks need to be developed.

Private investment in the tropics comes from a range of sources in both formal and informal sectors. Small and medium forest enterprises (SMFEs) are particularly prominent, often making up 80–90% of the initiatives and more than 50% of forest-related jobs in the tropics.[4] It is estimated that more than half of SMFEs operate informally in developing countries,[5] and therefore may not be included in official statistics.

## Emerging challenges

Currently, private funding is not always geared to sustainable practices, nor is it evenly invested among countries. This is particularly true in the tropics, where tenure insecurity, information gaps, informality, small scales of operation and lack of business organization and capacities present formidable barriers to securing financial investment.

This is compounded by a range of challenges that hampers business engagement and financing of SFM. Challenges include the current undervaluation of the multi-functionality of forests, which leads to dependence on a single revenue stream and product. They also include a weak enabling environment for investments (ineffective governance, policies and legislation); the long-term nature of forest production and subsequent high risk levels; lack of access to financial resources (e.g., efficiently priced and distributed loans for small and medium sized forest enterprises); and low profitability.

The crucial challenge is how to reorient, increase and incentivize private financing to make it available in adequate quantities for sustainable and competitive forest management practices and responsible and profitable forest entrepreneurship.

## Purpose of ETFRN 54

The purpose of this issue of *ETFRN News* is to share the compelling firsthand practical experiences and perspectives of innovative private actors who are engaged with sustainable forestry businesses and financing in the tropics and subtropics.

The issue provides new insights on the current status and trends of a range of private actors in the SFM finance arena, along with varied analysis of key barriers, opportunities and lessons learned. The 23 articles provide an overview of a diversity of experiences in and perspectives on enhancing responsible private financing and business for SFM, as well as private-sector perspectives on some of the key issues at stake and approaches and strategies for the way forward. It is hoped that the issues and lessons shared in this issue, will encourage national and international discussions on how key actors can effectively scale-up private engagement in SFM and can create the enabling conditions for this objective.

ETFRN 54 is targeted at engaging private-sector parties on how to improve their operations; and at government policy and decision makers who are interested in attracting more responsible financing for forestry business.

## Structure of ETFRN 54

Section 1 provides an overview of large-scale forest investments, with firsthand experiences provided by a broad range of stakeholders. It shows the considerations and risks that large-scale investors bear in mind when deciding whether to invest in emerging markets. It also demonstrates the mutual economic, social and environmental benefits that can be reaped if investments are targeted effectively.

Section 2 examines how small-scale forestry enterprises can help transform the livelihoods of local communities while creating viable and self-sustaining businesses. Diverse experiences from actors engaged in small-scale forestry are presented here, from the establishment of a joint wood products enterprise in Guatemala to a cooperative in China that has established a fair trade agreement with two major herbal product companies to sell organic berries to the market.

Section 3 looks at the role of intermediaries in triggering private sector engagement in forestry activities. It includes firsthand experiences of the key tools and techniques that are currently being used to help stimulate private investments. This includes the development of methodologies and strategies that aim to bridge the gap between financing and forestry, the elaboration of economic valuations that help make the case for why investment in sustainable forestry makes financial sense, and capacity-building measures that provide local actors with access to private investments.

Section 4 assesses the value of partnerships and coalitions between the private and public sectors in attracting private investment for responsible forestry. This section focuses on a breadth of experiences, including developing partnerships between the private and public sector, key principles for private investment in community forestry partnerships and benefit-sharing mechanisms for communities and companies.

Section 5 assesses the key tools and approaches that are being used in private forestry business and finance. These include integrated investment approaches for SFM, industry-level mechanisms to improve access to REDD+ financing, and the role of corporate social responsibility and transparency mechanisms in building investor trust and confidence.

## Main issues

Several key themes and observations emerge from the articles in this issue of ETFRN News.

### *Drivers of private investment*

Not surprisingly, the reasons why private businesses and financial institutions — both large and small-scale — choose to invest into SFM are broad and varied. Elson (2.2) suggests a useful way to summarize the motivations of private-sector investors using three different categories: value, social and conservation investors. By and large, value investors seek a high rate of return on capital. Social investors primarily pursue goals that are separate from the requirement to earn a return on their money. They may accept risks that are not usually justified by the rate of return. Conservation investors use capital to protect or restore a specific landscape, habitat or species. Like social investors, they are less interested in earning a financially profitable return on their capital than in having a positive environmental impact (4.3).

Whatever the driver of private investment, it is certainly clear that investing in sustainable forest management is becoming more and more attractive. This is due to competitive returns, inflation hedging and the low correlation of SFM compared to other asset classes (3.1). Institutional investors increasingly recognize forest assets as valuable long-term natural capital investments that complement their diverse portfolios (1.4). Such investors are interested in owning assets whose performance is not subject to stock market volatility, where sustainable returns can be achieved, and where the investment horizon is medium- to long-term (1.1).

Investor interest in SFM varies hugely according to the type of forest investment. The most popular type of investment in SFM is targeted to timber production. Reforestation projects also attract strong investor interest due to rapid rates of tree growth and the resulting potential for higher profits. Although water quality, biodiversity, carbon sequestration and other environmental services are gradually emerging as sources of potential value, investors still consider these to be secondary outputs to timber. This may be due in part to the fact that there are well-established and functioning timber markets; markets for environmental services by contrast are less developed (1.1).

The burgeoning markets of Latin America, Africa and Southeast Asia are emerging as key geographic areas of interest to investors. Many investor groups from the U.S. and Europe (including investment funds, endowment funds, foundations, banks, insurance companies and family foundations focusing on sustainable forest investments) recognize the higher returns these markets offer due to the comparatively higher forest growth rates and the lower costs of land and labour (3.1).

### *Considerations for private investors*

#### Managing risks

One of the principle considerations for private investors is the assessment, management and mitigation of risks.

Before investing, careful consideration is given to risk factors such as government policy and investment conditions at the country level; political stability; business practices; private property rights; functioning legal and banking systems; domestic consumption of forest products; stable tax structures; and acceptable currency policy/risks (1.1; 5.2).

Assessing risks at the operational, social, environmental and governance levels is often a particularly complicated challenge in developing countries (5.2), where forest investments are still at an early stage and therefore often offer no standardized risk assessment methodologies (3.1; 4.4). As a result, investors are impeded by their limited ability to accurately assess the associated risks of investment, which in turn reduces the scale of investments in forestry.

It is clear that progress is being made, however. Several risk assessment methodologies are helping investors tackle the complex setting of multiple risk factors through best-practice guidelines. For example, Face the Future and Thauris (5.1) are developing a single audit tool, which helps provide increased transparency for sustainable forest plantation (SFP) investments. The tool increases transparency in SFP investments for various interest groups, which benefits the investors who often provide capital to different actors in the same supply chain. Chain actors can improve their management based on more reliable and more easily available information. In addition, they are better able to comply with public and private standards; this provides them easier access to premium export markets for sustainably and legally produced products. Improved transparency also benefits the general public: it reduces corruption and tax evasion, and by supporting more sustainable timber production it contributes to a healthier environment.

Haas (3.1) presents a rigorous approach to risk assessment that was developed on the basis of practical experience with forest investments in tropical regions. The approach assists investors who intend to finance medium and large forestry projects (plantation forestry, natural forest management, agroforestry, REDD+) in emerging countries. It supports the decision-making process, from project screening and investment decisions all the way through to implementation. It is designed to minimize risks by guiding the management of information and resource allocation in an effective and cost-efficient way.

It is crucial that more and more policy-makers acknowledge the need to improve the general investment regime. They also must establish risk assessment mechanisms that align the financial power of institutional investors with the political goals of sustainable development. Until that is done, forest investors have to choose between waiting for better investment conditions or creating them through their own initiative. Using risk assessment toolkits will be of significant importance in these efforts (3.1).

### Assessing returns

Given the high risks of forest investments — both real and perceived — in developing countries, both at project and political levels, it follows that returns also need to be relatively high to justify the investment. This particularly applies to investments in initiatives such as land and production facilities that cannot be relocated easily if the business environment deteriorates. Factors that reduce the returns or profits from the investment can act as a deterrent. Investors hold back if emerging forest investment markets cannot show a proven track record and early movers are discouraged by uncertain investment climate. Since forest investments are characterized by a long investment period, risks that are not eliminated at an early stage will result in high exit costs (3.1).

One of the key problems is that accurate assessments of the total economic values of forests are still lacking. There is little understanding of these values, which results in SFM being seen as a low priority by policy makers and taxpayers and a lack of interest by the finance and business community in managing, conserving and sustainably developing all types of forests. A variety of approaches can be used to overcome these challenges and trigger private-sector investments and financing for SFM. The Global Mechanism is working as part of a global partnership of leading research and academic institutions, international organizations and UN agencies to develop economic valuations that reveal the real values of natural resources, including forests and lands. Compelling data is already emerging; a recent valuation study commissioned by the Global Mechanism on the Central Cardamom Mountains in Cambodia estimates the natural values of the area to be worth US$ 3.7 billion. The values determined through this method are key in guiding decision-makers on the best way to use forests and lands from an economic perspective (3.2).

### *Securing land tenure*

Land tenure is one of the most important factors affecting private investments and financing. Secure tenure provides the foundation for forestry development and secure property rights are the foundation for competitiveness. Tomaselli (1.6) shows that having a steady source of timber supply from a legal origin was a crucial factor in allowing two forestry companies in Brazil to overcome the difficulties of competing with large-scale operations and illegal timber.

Forestry businesses must explicitly address land tenure if they want access to indigenous land. Purchasing land from indigenous peoples' communities is not an option if a communal land tenure system is in place. Any attempt to purchase land outright will likely cause mistrust and will damage any prospects of negotiating a deal. Since land

acquisition is both an important component of and obstacle to forestry investments, forestry businesses need to engage land-owners in ways that produce shared value, such as land-lease models (4.4).

## *Supporting a new level of investment*

### Building capacities

Intermediary organizations can provide key support to companies and countries in building sufficient capacities and creating suitable enabling environments for increased private investment. In the context of private investment, intermediaries can help manage risks, bridge the knowledge gap between the forest and finance sectors and provide key guidance in helping the forestry sector attract and obtain more private investments.

The current knowledge gap between forest investors and potential investment recipients in emerging economies is a major hurdle to attracting private investment. For forest companies and financial institutions to be able to work together, several issues need to be addressed, including a lack of mutual understanding; the quality of business proposals; and unsuitable financial instruments, products and guarantee systems.

One of the key issues is trust. Most financial institutions have a distrust of forest companies, often based on bad experiences in the past (3.3). In addition, many local representatives of global insurance companies, local pension funds and even private investors have no idea of what sustainable forest management is or what their potential role as an industry can be (1.3).

A joint initiative by The Amazon Alternative (TAA) and the Finance Alliance for Sustainable Trade (FAST) is making significant gains in bridging the gap between financial institutions and forest companies (3.3). They organize training for financial institutions on all components of SFM, including its financial aspects, and support them to develop specific products that meet the needs of forest companies. The selected companies then meet with the financial institutions during round table sessions at a FAST Forestry Financial Fair.

Another area where intermediaries can make an impact is helping to build capacities and support smallholder forest producers to move up the production chain. A project funded by the ITTO in Peru demonstrates how simple and practical credit schemes — along with small amounts of seed money and technical assistance — can make the difference for small and medium forest concessionaries in effectively managing their forest and increasing their income (3.4).

### Promoting small-scale forestry businesses

Small and medium forest enterprises (SMFEs) are the "missing middle" of many developing economies. They can provide improved access to goods, services, high-quality employment opportunities and markets (2.2). In fact, there are very real economic, social and environmental reasons for investing in locally controlled forestry.

However, despite the promise of substantial returns, locally controlled forestry has rarely fulfilled its investment potential. This is due to insecure commercial forest rights, lack of business capacity, insufficient organization and scale of return to offset risks, as well as a lack of trustworthy brokers (2.1).

The formation of a thriving SMFE sector, in which the rights-holders themselves have a meaningful stake, is increasingly vital. This is particularly true considering that locally controlled forests involve one billion people and a quarter of the world's forests. They also provide US$ 75–100 billion each year in goods and services and a broad range of other economic, environmental, social, cultural and spiritual benefits (2.1).

The isolation of smallholders is one of the key barriers to their broader influence in global markets. This isolation exists at a number of different levels, including from each other, from consumers/markets, from financial and business development service providers, and from policy-makers (2.5).

The self-organization of smallholders into cooperatives is a key way of breaking this isolation. It allows them to pool resources and strengthen the potential of small forestry businesses. The formation in China of a Traditional Chinese Medicine (TCM) cooperative — comprised of 150 households from the village of Daping — shows the impact that small forestry business can have when organized into a larger collective. The TCM cooperative, which has subsequently become a certified organic operator for the sale of wild berries to the global market, has been vital in boosting the income of villagers and linking the cooperative in a fair trade agreement with two herbal product companies (2.4).

The experiences of the EcoEnterprises Fund (2.3) in Latin America demonstrate the potential of investing in community-based sustainable businesses to bring about social, environmental and economic change. In order to make small forestry businesses thrive some key factors are apparent, based on country-level experiences. These include strong management in devising effective business arrangements, valuation schemes to assess the worth of natural assets, and the effective management of growth (2.3).

### Investing in commercial timber plantations

Sarshar (1.2) and King (1.3) discuss the value of investing in commercial timber plantations in emerging markets as a way of driving the transition of the industry away from extensive and destructive management of natural forests towards a more intensive, sustainably-managed plantation resource base. As well as taking the pressure off natural forests, sustainable forest plantations (SFPs) help sequester carbon emissions, enhance biodiversity and empower local foresters in developing countries to attract foreign investment (5.1). Investing in SFPs can also provide healthy financial returns. Investors benefit from appropriately risk-adjusted returns with low volatility and ability to hedge against inflation that at the same time deliver highly beneficial sustainable development outcomes (1.2).

King (1.3) shows how the business model of GEA Timber Ventures, a private company that establishes commercial plantation forests on private land, is helping to act as a

long-term economic driver for upland communities in the Philippines, benefitting land-owners, investors and forest managers. The investor/fund provider receives benefits when the timber matures at the end of eight years. The land-owner (people's organization/ indigenous people) benefits from lease payments, workers' wages, livelihood provisions of the project (such as water supply, schools and roads) and a share of timber revenue. The provider of management and technical services (in this case, GEA Timber Ventures, Inc.) benefits from the management fee and a share of timber revenue.

King (1.3) claims that this model can help establish a sustainable plantation forest industry that services the nation. At the local level the long-term impact of allowing indigenous people's groups to develop and manage their own future is profound. Employment and profit sharing encourage them to commit to the project and develop social, environmental, technical and political skills that are useful in the broader community.

### Certification schemes

Forest certification is a key tool for reducing risks, minimizing waste, improving sustainability, supporting other environmental and social services and improving business planning, monitoring and evaluation. Forest certification helps to strengthen the reputation of a company by showing it has the management competencies required to manage a business sustainably (5.3; 5.4).

Most efforts to tackle unsustainable forest management in the tropics are supported by forest certification schemes such as that of the Forest Stewardship Council (FSC). Despite ongoing criticism about control of some FSC auditors, these schemes have overall proven to be successful. FSC operates predominantly in developed and industrialized countries, however, and mostly in temperate forest areas where the production and use of timber and bioenergy are ecologically less challenging than in tropical forest regions. Latin America, Africa and Asia make up only 15% of FSC's total certified forest areas (5.2). Certification schemes are key to ensuring that responsible investment is scaled up into SFM.

### Building coalitions

A key theme in all the articles is the need for collaboration between different actors in the forestry world. One way to pool efforts is through the formation of coalitions or partnerships. As Behr (4.1) points out, partnerships are broad in the forestry context. They include the transfer of payments for ecosystem services (e.g., payment for watershed services); linking communities and companies (e.g., through an outgrower scheme or social agreement associated with a forest concession); jointly managing forest resources or participatory management of the resources (e.g., management of state forest reserves in Tanzania and Uganda); or conservation arrangements (e.g., sustainable use of wildlife).

The different types of partnerships provide incentives to achieve objectives. Incentives can come in many forms, including shared revenue, non-monetary benefits (such as technical assistance), or covering of costs of inputs. These are broadly considered arrangements for sharing in partnerships (4.1).

Schmidt et al. (4.2) look specifically at the formation of partnership arrangements between the public and private sector in German development cooperation. Forest-related development partnerships between GIZ and private companies are analyzed in the context of the develoPPP.de programme. It aims to mobilize development cooperation by involving the private sector in a way that allows partners to use their complementary skills and resources, and to share risks and benefits in a joint project.

Behr demonstrates how to set up partnerships between communities and external parties that provide support for sustainable forest management in situations where rights are both clear and unclear. This is based on 50 case experiences and analysis of primary data from nine cases in East Africa and Latin America. The article outlines how contracts can be a useful legal instrument for reflecting the roles and responsibilities of parties involved in partnerships and benefit-sharing arrangements when rights are unclear. It also discusses how good process and practices can help support durable partnerships and benefit-sharing arrangements (4.1).

## Scaling up private business and financing – the way forward

The collection of articles in this publication suggests that an increasing number of investors see engagement in tropical forestry as a unique opportunity for solid and sustainable business.

In particular, there is a burgeoning international interest in investment possibilities in developing countries and emerging markets, which are expanding rapidly. This is due to the prospects and expected longer-term market developments, and because the opportunities to expand in traditional western markets are increasingly limited.

At the same time, however, it is evident that the sustainable forestry business in tropical countries is very much at an early stage and that existing opportunities are largely untapped. The current scales of responsible private forestry investment are still nowhere near large enough; forestry-specific financial tools have yet to be developed; risk-return profiles need to be improved; and there are difficulties in measuring and evaluating non-financial assets. Questions also linger about how to adequately incorporate the People, Planet, Profit criteria[6] in the assessment standards of business and financing proposals.

Several actions must be taken in order to reach the market scales and credibility needed to help safeguard the future of the world's forests, in particular at the country level. Capacities must be built, networks of expertise and organizations must be expanded, and trusting relations, tools and standards, policies and institutions need to be nurtured.

This requires, among other things, joint endeavours through the development of new alliances and partnerships by key actors in forest financing. Financing institutions, forestry business (including smallholder forest producers), governments and intermediary organizations all have distinct but complementary roles to play.

In order to scale up responsible investments in SFM, these actors must jointly tackle some of the most pressing concerns identified in this publication:

- better management of risks and an improved operating environment for sustainable and high-quality investments;
- promoting enhanced cooperation between the private and public sectors; and
- providing the right incentives to attract the required levels of private investment in order to help safeguard the future of tropical forests.

Although concerted and coordinated actions are essential to address these challenges, each stakeholder group — financing institutions, private forestry businesses, national governments and intermediaries — can take the lead on specific actions, with input from other players.

### *Financing institutions*

#### Building awareness of forestry opportunities

Financing institutions (institutional investors, banks, funds, insurance companies, venture capitalists, etc.) can capitalize on emerging forest investment opportunities by becoming more familiar with the business of sustainable forestry. Currently, many financial experts do not have the necessary background in forests and forest management to be able to fully tap into the diversity of investment opportunities or to design tailor-made financing instruments in specific forest contexts. Understanding the extent and efficiency of the forest value chain is critical in assessing the risk of the forest investment. This understanding is valuable not only from a CSR perspective; it also lessens reputational and business risks, while providing local employment.

#### Learning to assess and manage forest-related risk factors

Together with forest producers, government agencies and intermediaries, financial institutions can be assisted to identify and assess the risks associated with forestry investments and to develop tools and strategies to manage them.

#### Developing better safeguards

Although efforts have been made to support national government and financial institutions in avoiding unintended social and environmental impacts, more work is needed. Stakeholders must ensure that deforestation policies and safeguards are in place to deter investment in unsustainable practices and to encourage responsible financing for SFM.

### *Private forestry business (including small-scale forest producers)*

#### Organization and planning of production (especially by smallholders)

The organization and planning of production through alliances and cooperatives is crucial in facilitating efficient interactions among state, industry and private companies. It is essential in the case of smallholders who are isolated from each other and from markets, policy influence and financial sources. The move towards a more inclusive and sustainable forest sector needs a better understanding of the functioning of small and medium forest enterprises (SMFEs), including how they finance themselves through formal and informal arrangements. Neglecting small-scale forest producers in policy-making and business

development is not only a missed opportunity, but also increases the risks of policy and market failures, since it may result in poorly designed instruments and regulations. A lack of knowledge of markets, understanding how to access them, and negotiation skills are critical weaknesses of most small enterprises. Another key consideration is how to link large-scale money to the needs and capacities of small enterprises.

### Enhancing transparency and entrepreneurial capacities

Although progress is being made, many companies still do not produce sufficient detailed public information about their impact and dependency on forests. Greater transparency on these matters will help companies and investors to produce sound business planning that promotes investment.

## *National governments*

Governments have the opportunity to be the instigators of change. Improving the operating environment, developing appropriate regulations and providing the rule of law and an efficient judiciary underpin sustainable and high-quality investments. It is important to seize the moment when political support at the highest level exists for rural development and to motivate increased political will where this support is absent.

### Setting safeguards, conditions and incentives

Governments are vitally important in setting the conditions for private investment. This is particularly urgent since the private sector will not invest in forestry without a clear signal of support from the public sector. This might come in form of a clear policy that provides a long-term vision for the sector, a commitment to reduce inefficient bureaucratic requirements, promotion of the vital role of forest users and producers, and the provision of timely and relevant information.

### Creating public incentives

Public incentives are also needed to stimulate private investments. There is an increasing awareness of this at the national level, but more work must be done to ensure that this awareness helps drive more private investment in SFM. In Latin America, for example, several development banks (which also use public money), have created credit lines for agro-forestry producers. However, the degree and the mechanisms by which public incentives can most effectively and efficiently stimulate private investments remains to be explored.

A recent study supported by FAO of an incentive programme in Guatemala[7] suggests that public incentive schemes are actually an investment from a public policy viewpoint, since the use of public resources leads to tax revenues, job creation, and overall increased economic activity. However, the size of the "multiplier effect" varies from case to case and in relation to other public factors such as industrial development, transport, trade, etc. Donor and development agencies and NGOs can catalyze these efforts. Among important public incentives are the establishment and implementation of guarantee funds for SFM. These can support investment where the perceived risks are hard to assess and manage. Evidence suggests that the effectiveness and efficiency of such incentive schemes will

benefit from clear targeting and prioritizing regions, ecosystems, and stakeholder groups, depending on the chosen development objectives.

### Removing disincentives

As much as incentives are needed to promote investments in SFM, the removal of disincentives is equally, if not more, important. Failure to anticipate and address increased investments in sectors such as infrastructure and agriculture may hinder the impacts of increased financing for forestry. What matters is the size of investments in forestry relative to other sectors. It is crucial that forestry stakeholders, as well as financial institutions, look beyond their traditional domains. Furthermore, without tackling illegal logging, sustainable forestry practices will never be able to compete, since illegal practices are characterized by lower production costs and higher returns.

## *Intermediaries, including development agencies*

The flow of financial resources from investment sources to forestry producers is almost invariably facilitated by intermediaries, including businesspeople along the value chain, investment advisors, NGOs, donor agencies, international organizations. These intermediaries have a number of key functions, including matchmaking, developing capacity and sharing information.

### Business "matchmakers"

Effective technical support is critical to increase access to private investments and build entrepreneurship. With their specific expertise and networks, intermediaries can assist in matching investors and projects. Large investors often lack the know-how and field experience to locate, evaluate and choose among various forestry investment options. NGOs can be important in linking small producers to critical markets. Intermediaries can also help build management capacity, providing the resources for the enabling investments in institutions that are often needed. They can also mediate between buyers and sellers and provide both parties with a trusted interlocutor.

### Developing capacities

One key task for intermediaries is to help increase the sometimes limited capacities of many foresters in presenting viable business cases to investors. There is a strong need for brokerage services that will connect forestry business to investment opportunities; connect forest and financing expertise, knowledge and networks; establish new partnerships and alliances between public and private parties; connect small- and large-scale producers; and connect national and international bodies. At the same time, foresters require more awareness of the need to minimize risks; one reason that many potential investors are hesitant to invest in forests is their inability to assess risks due to a lack of country information and forestry expertise.

### Sharing knowledge and build capacity in forestry valuation methods

This is crucial in promoting the use of forest assets as collateral and assessing a transparent asset value. Although rigorous methodologies exist to estimate forests' worth, they are largely not known by asset evaluators who work in financial institutions. Applying

globally accepted best practices for forest asset valuation would reduce uncertainty and due diligence costs for investors, increase market liquidity and consequently contribute to the growth of forestry as an asset class.

## Conclusion

While these actions are targeted individually at key stakeholders, they will be effective only if all participants are involved in their design and implementation. Strong alliances are vital to building on the growing momentum to promote and up-scale responsible private investment in tropical forests.

As this issue demonstrates, private businesses and financial institutions have growing interest in investing in the long-term sustainability of tropical forests. This is generating significant environmental, social and economic benefits that promise to transform local livelihoods, boost national economies and build resilience to climate change. Yet, the current scale of investment is only a fraction of what is needed. Responsible forestry business has a vast potential to positively influence SFM. Now is the time to take joint responsibility to unlock this potential and help safeguard the future of the world's tropical forests.

## Acknowledgement

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## Endnotes

1. See Economic Commission for Europe. 2012. Timber Committee Statement on Forest Products Markets in 2012 and 2013. Timber Committee 70th session, Geneva, October 16-19, 2012.
2. See Rinehart, J. 2010. U.S. Timberland Post-recession: Is it the same asset class? In: Maher, L. and A. O'Connor (eds.). *The Definitive Guide to Investing in Timberland*. London, New York, Singapore: PEI Media.
3. See World Bank 2008. *Forest Source Book: Practical Guidance for Sustaining Forests in Development Cooperation*. Washington, D.C.: World Bank.
4. See Macqueen, D. 2008. Supporting small forest enterprises: A cross-sectoral review of best practice. IIED Small and Medium Forestry Enterprise Series No. 23. London: IIED.
5. See www.inclusivebusiness.org.
6. The term "people, planet, profit" refers to three separate bottom lines. The first is the traditional measure of corporate profit: profits and losses. The second is the bottom line of a company's "people account"—a measure in some shape or form of how socially responsible an organization has been in its operations. The third is the bottom line of the company's "planet" account — a measure of how environmentally responsible it has been.
7. See Monterroso, O. and R. Vargas. 2010. *Análisis del impacto económico de las plantaciones forestales incentivadas por el PINFOR en la cadena productiva forestal y no forestal*. INAB/PFN Guatemala/FAO/GFP: Guatemala City, Guatemala, 2010.

# Section 1

## Large-scale investments

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# 1.1 Can timberland investments in emerging markets secure forest sustainability?

REINHOLD GLAUNER, JAMES A. RINEHART and PETER D'ANIERI

## Introduction

Timberland investments emerged as an option only about 20 years ago. Forests became subject to an industry that purchases, manages and sells forest properties at a commercial and business scale. Market participants are not primarily forestry professionals, but institutional investors; they include pension funds, endowments, foundations, insurance companies and families with high net worth.

These investors are interested in owning assets where performance is not subject to stock market volatility, sustainable returns can be achieved, and the investment horizon is medium- to long-term. Increasingly, these investors are providing financial resources for forests and forestry activities. It is estimated (Rinehart 2010) that around US$ 50 billion worth of forests is held by these institutional investors, most of it (80%) in the United States.

The outlook for forestry investments in emerging markets is positive but challenging.

Although data for the global market are vague, estimates suggest that the value is in the vicinity of US$ 300 billion (Maher and O'Conner 2010) to US$ 467 billion (IWC 2009). The trend to invest in forestry outside the U.S. is strong and KPMG (2011) suggests that major areas of interest are emerging markets in Brazil and New Zealand, attracting more than 50% of investors. Australia, Chile, China, India, Malaysia, Russia and South Africa also attract attention (more than 15% of investors, but less than 50%), while Uruguay, Indonesia and Vietnam receive less attention (cumulatively less than 33%).

Forests, particularly in emerging economies, are still dwindling at alarming rates and the international community is developing various regulatory systems to reduce forest loss and degradation. In addition to these efforts private or institutional ownership of forests can significantly contribute to sustainable management of forests. There are many practical examples of forest investments in emerging markets safeguarding sustainable

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management of natural forests (e.g., Precious Woods) or establishing significant areas of planted forests (e.g., the F.I.T. Timber Growth Fund). Moreover, an array of private investments, predominantly in teak, is important but also controversial; some are overpriced.

However, there is a wide gap between forest investors and potential investment recipients in emerging economies. On one hand, investors have due diligence requirements set out in financial terminology; on the other hand, recipients do not meet these requirements and they lack the funds and financial expertise to prepare for these processes. To improve understanding of forest investments, Tropenbos International, FAO and the National Forest Programme Facility commissioned a study to survey an array of investors and investment managers on their experiences and perspectives on investing in forest investments.[1]

## A study of timberland investors

The study assessed past patterns and sought to reveal barriers and opportunities for forest investments in emerging economies and identify ways to enhance new investments. The survey was carried out through structured interviews; respondents could provide their answers in writing or in a telephone conversation. In total, 78 persons/groups were contacted: 46% came from the investment manager group (referred to here as managers; Box 2) and 54% were classified as potential investors (referred to here as investors; Box 1). There were 43 respondents, of which 44% were managers and 56% investors.

The study was part of a broader effort to improve communication and mutual understanding between forestry and finance professionals and to identify additional sources of finance for forestry initiatives. The responses obtained represent approximately US$ 36 billion in forestry investments: 92% of capital was non-European, largely from North American institutional investors with median portfolios of approximately US$ 1 billion. European investors comprised the balance, with median portfolios of approximately US$ 100 million.

**Box 1. Definition of investors**

In the context of the study, "investors" refers to institutional investors. They are specialized financial intermediaries who manage funds collectively on behalf of small investors toward a specific objective in terms of acceptable risk, maximum returns and maturity. Institutional investors are constituted mainly of pension funds, insurance companies and mutual funds. Endowments and family foundations are often grouped in and treated under this category as well. For the G7 as a whole, the value of institutional investments rose from 23% of GDP in 1970 to 108% in 1998.

Source: Davis and Steil 2004

Globally, approximately 8% of funds invested by institutions is held as "timber" (Table 1). Stumpage-value investments — i.e., those without operational risks — are preferred.

**Table 1. Institutional investment (%) in various asset classes, 2010**

| Asset class | 2003 | 2009 | Asset class | 2003 | 2009 |
|---|---|---|---|---|---|
| Cash | 96 | 99 | Commercial real estate | 50 | 57 |
| Public equity | 91 | 95 | Hedge funds | 21 | 48 |
| Fixed income | 91 | 95 | Energy | 17 | 22 |
| Private equity | 58 | 78 | Timber | 2 | 8 |

Note: n = 206; Source: Houser and Tackett 2010

Most of the estimated US$ 50 billion in forest investment value is located in North America, followed Australasia and South America. Few managers have global portfolios; most of them concentrate on one or two continents (Table 2; Box 4).

**Table 2. Forest investment by selected investment managers and geographic regions**

| Investment Manager | U.S. | CA | LA | OC | A/S | WE | EE/R | A-P |
|---|---|---|---|---|---|---|---|---|
| Hancock Timber Resource Group | √ | √ | √ | √ | | | | |
| Global Forest Partners | | | √ | √ | | | | |
| GMO Renewable Resources | √ | | √ | √ | | | | |
| Brookfield Asset Management | √ | √ | √ | | | | | |
| RMK Timberland Group | √ | | √ | | | | | |
| Forest Investment Associates | √ | | | | | | | |
| Campbell Group | √ | | | | | | | |
| Four Winds Capital Management | √ | | √ | √ | √ | | √ | √ |
| Cogent Partners | √ | | √ | √ | | | | |
| Catella Real Estate | √ | | √ | | | √ | | |
| Cambium Global Timberland Limited | √ | | √ | √ | | | | √ |
| International Woodland Company | √ | √ | √ | √ | √ | √ | √ | √ |

U.S.: United States; CA: Canada; LA: Latin America; OC: Oceania: A/S: Africa south of Sahara; WE: Western Europe; EE/R: Eastern Europe and Russia; A-P: Asia-Pacific
Source: Modified by Glauner 2011, based on Chung Hong Fu in Maher and O'Connor 2010.

A study by KPMG (2011) came to similar conclusions (Figure 1).

**Box 2. Investment managers**

Investment managers control investment portfolio on behalf of clients. They make investment decisions on behalf of clients according to the parameters set by the client. Some investment managers have more autonomy than others; this depends on the client's needs and desires. Unlike brokers, investment managers are not generally paid by commission, but by a percentage of the value of assets under management. This gives the investment manager an incentive to work for the client's profit, since the more money the client makes, the more the manager makes.

Based on: http://financial-dictionary.thefreedictionary.com

The subjects of the KPMG study were investment decision-makers in North America and Europe, who are the primary source of capital for forest investing (Box 3).

**Box 3. Study question 1**

*Question: Are you already investing in forestry or do you plan to invest in forestry?*

Findings: All North American investors surveyed were already invested in forests, although some of the capital they have allocated to invest in forests has not yet been invested. The European investors surveyed were only partly invested in forests; those already invested planned to increase their amount. Those not yet invested plan to do so in the near future (less than three years). This can be partly attributed to the type of subjects contacted; since they are forest investment specialists, most of them are with organizations that have invested in forests or plan to do so. Some of the subjects who haven't yet invested in forests felt that the survey was meant for institutions already invested in forests.

## Investor and investment manager responses

Diversification and a hedge against inflation were the primary reasons respondents mentioned for investing in forestry. They consistently cited research indicating low or no correlation between timberland and mainstream assets. The lack of correlation provides the opportunity for higher risk-adjusted returns to portfolios containing timberland. Respondents also frequently cited positive correlation between inflation and timberland investment return as contributing to their decision to invest in forests.

**Box 4. Study question 2**

*Question: Is your allocation to forests done geographically, and if yes, can you describe it?*

Findings: Investors were split between i) allocation by geography in a very broad way (such as U.S./ex-U.S., or North America/other OECD (Organization for Economic Cooperation and Development)/ex-OECD); and ii) primarily focused on best opportunity, with geography a factor in screening for best opportunity or a secondary consideration to prevent excess exposure to a geographic category. Most investors subscribe to a manager's fund or hire managers who then have discretion regarding investment geography. Therefore, investors who allocate by geography should have the resources to search for managers and monitor investments accordingly. Investors who retain discretion over investment decisions are a smaller but growing proportion of forest investors. This type of investor is waiting for opportunities in countries where they are already invested in other sectors, or where their business partners are invested. A number of countries were mentioned by European investors as "no go" areas (negative selection). Most of these countries are affected by war or other social instabilities.

**Figure 1. Countries where investors have significant timberland interests**


Note: Results of a KPMG survey (2011) to the question "In which countries do you have significant timberland interests outside North America?"

Investors generally do not invest in forest-based businesses such as processing and manufacturing. They cite a lack of expertise in managing operating and labour risks, and prefer the investment attributes of forests themselves to value-added returns from processing.

Although water quality, biodiversity, carbon sequestration and other ecosystem services may well be emerging sources of potential value, investors consider them to be secondary outputs. Forestry for timber production was the survey participants' primary reason for investing and therefore was the focus of the survey. Despite the focus on forestry, investors also placed great importance on several related factors:

- political stability;
- established private property rights;
- well-functioning legal and banking systems;
- a stable tax environment;
- acceptable currency policy/risk; and
- proven management.

Investor satisfaction with the performance of their forestry investments has been mixed. The rate of satisfaction is strongly related to investment timing. Investments made between the two most recent recessions, in 2001 and 2007–09, have not yielded the anticipated returns.

Scope for increasing forestry investments will likely come through new investors. Although several investors cited potential forest allocations of 5–10% of their total portfolio, actual allocations rarely exceeded 2%.

Investors prefer planted forests. None of the North American respondents reported specific allocations by forest type (plantations vs. managed natural stands). Some were concerned about type diversification and intended to monitor performance on this basis. Nearly all investors considered natural stands in tropical forests unsuitable for investment. Management of natural tropical forests was seen negatively as "forest clearing," "illegal logging" and "conversion," while investing in natural forests in temperate regions was acceptable. In general, planted forests are more likely to be of institutional quality, and to have a history of professional management and availability of forest information (inventories, maps, silviculture treatments, etc.) Plantations are seen as more manageable and more predictable and thus a better investment.

Investors generally seek forests that can be certified as sustainably managed. Survey respondents seldom explicitly address sustainability in documented investment policy, but they do cite it as an important requirement of their managers. The majority of respondents expressed a requirement for acceptable certification, although they expressed no preference for a specific certification standard.

There is scope for attracting further interest by investors in forestry in developing regions. The number of investors interested in forestry is growing and developing regions have the potential to meet this demand. The survey revealed that several investors, primarily European, are in the process of developing forest portfolios. North American and European investors differed in their responses. Few North American investors anticipated major new investments in forestry, while European investors had plans for new or expanded forest portfolios.

Sound government policy and investment conditions at the national level are highly important to investors. Important country factors cited were political stability, established private property rights, well-functioning legal and banking systems, strong domestic consumption of forest products, a stable tax structure, acceptable currency policy/risk and availability of proven management. Most investors cited ten years of stability as being necessary as a pre-condition for investing in a developing country. The most prominent negative condition noted by managers was the prevalence of corrupt business practices.

Intermediaries with experience in forestry investment and country conditions are particularly important in emerging markets. Specific means of gaining expertise included relationships with local partners, internal in-country staff, hiring local industry dconsultants with a good reputation and having strong professional networks.

Knowledge of forest investing among investors remains limited. Specific recommendations made by respondents as to how governments can help included advocacy for financial instruments that reduce risk; support for research and publication of market and technical information in emerging markets; discussions of timber attributes and product uses in emerging regions; reliable site-specific growth information; improved property rights and

land tenure systems; provision of log tracking systems and other impediments to illegal logging; and basic law enforcement and impediments to corruption.

## Conclusion

The outlook for forestry investments in emerging markets is positive but challenging. Survey respondents were optimistic when asked about their outlook on forestry investments. They cited increasing confidence in the ability of the southern hemisphere and Asia — particularly in China and India — to provide increasing demand for forest products. There is a sense that over time wood use follows wealth development and that processing will move closer to end-use markets. Wood for energy also has a future.

Expected returns from developed markets are low and investors seek higher returns from markets where risk can be managed. This provides an opportunity for developing regions to meet the increasing demand for sound forest investment.

Nonetheless, investors have doubts that emerging markets will thrive and concerns that risk will not be compensated. The study also clearly identified the wide gap between investors who provide capital and those who expect benefits from their businesses in emerging markets. Forestry remains a niche market for investors. Natural forests in tropical countries in particular are so far removed from the standard investment screening process that it will take either decades or concerted efforts to bridge this gap.

Investment opportunities can be found in a number of countries, including non-traditional forest investment countries (e.g., teak on Fiji, above) through a wide range of stumpage investments to those where the downstream-processing component is fully included.

## Endnote

1. See www.fao.org/docrep/015/an901e/an901e00.pdf. The study was commissioned by FAO and Tropenbos International, with support from the Canadian Forest Service.

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# 1.2 Responsible investment in emerging timberland markets

DARIUS SARSHAR, MARYKATE HANLON, DAVID BRAND and RADHA KUPPALLI

## Introduction

A rising global demand for wood products — along with environmental and social pressures to conserve natural ecosystems — suggests that timber will increasingly come from managed plantation forests. Natural forests are complex to manage, have relatively low timber productivity over the long term, and, if managed sustainably, must carry the cost of conserving ecosystem services.

The only viable alternative, in order to meet the projected global demand for timber, is to shift the forest product industry from being based on extensive, low-productivity harvesting of natural forests to intensive, high-productivity plantations or semi-natural forests, which produce more timber on a much smaller land area. Independent third-party certification of sustainable forest management and supply chain traceability can support the management and mitigation of environmental and social impacts.

Sustainable timberland investments in emerging markets are resilient to climate change risks and can deliver tangible positive social and environmental impacts.

New Forests[1] believes that the expansion of forest plantation area will take place mostly in tropical regions or the Southern Hemisphere, where growth rates are faster than in the traditional temperate and boreal forest regions of North America and Europe. This process is already underway; in recent years plantation area has expanded in Latin America, Asia and Africa, as well as Australia and New Zealand, which supply timber to East Asia. As a result, institutional investors who want to buy in to the timberland asset class will have to consider investing in timberland in emerging markets.

For those investors who consider environmental, social and governance (ESG) risks as integral to investment strategies, portfolio construction and asset management, sustainable timberland investment in emerging markets can be very attractive. Such investments can meet investors' financial objectives in an environment of rising climate change risk

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and can contribute to an industry-wide transition to a more sustainable future. This in turn can generate tangible positive environmental and social impacts.

Investors will therefore need to understand both the risks and opportunities involved in investing in emerging timberland markets. This article helps investors understand what those risks and opportunities are and how they can be measured, priced and managed.

## Managing investment risks in emerging timberland markets

Investment risks in mature timberland markets such as North America are generally well understood by institutional investors. These risks generally relate to timber markets and pricing, production, regulation and liquidity. Investment in emerging timberland markets is relatively new, however, and involves country and currency risks as well as ESG risks. Chief among these additional ESG risks are climate and biodiversity risk, land tenure risk and operating risk. Each risk requires context-specific management strategies that will be unfamiliar to investors in more mature timberland investment markets.

### *Climate and biodiversity risk*

The degradation of tropical and subtropical natural forests through unsustainable logging or conversion to agricultural land — with its associated carbon emissions and loss of ecosystem services — is a key risk across the forestry asset class in emerging markets. Regulatory sanctions on unsustainably sourced wood products, along with shifting market preferences for sustainably sourced products are just two ways in which these risks can affect revenue from forestry assets. Other risks include supply disruption or insecurity as raw material sources are depleted and increased costs of capital and reduced asset liquidity as lenders, investors, and buyers reduce their exposure to the affected assets.

Commercial and regulatory pressures to increase the supply of forest products that have been certified by an independent third party as sustainably managed have grown over the past decade. This is largely a response to the risks associated with investments in natural forest operations or in plantations developed on land cleared of natural forest.

The Forest Stewardship Council (FSC)[2] has the most widely accepted forest certification scheme. Its rigorous standards require demonstration of sustained yield of timber over the long term and preclude the certification of plantations established on previously forested land after November 1994 unless there has been a change of ownership. The sale of FSC-certified tropical hardwoods can attract significant price premiums that more than compensate for the costs of certification.

However, using FSC as the benchmark for an investment can also limit the pool of investable assets in some emerging market countries where forest conversion has recently taken place and the existing owners want to retain an ownership stake in the company. In such situations it may be necessary to seek certification through alternative schemes, such as the FSC's Controlled Wood Standard for forestry operations. FSC-certified Controlled Wood can be combined with fully FSC-certified timber or fibre into FSC mixed products bearing the FSC label, although it is unlikely to attract the same price premium as fully FSC-certified material.

In some cases, even where the existing owners are willing to sell their full share, FSC certification can restrict the number of transactions that an investor can make. For example, where natural forest conversion is legally sanctioned and there are areas of natural forest within the licence area that remain unconverted, the existing owners may place a commercial value on that forest. An incoming investor intending to get the asset FSC-certified is going to have to set aside the forest for conservation. This makes agreement on price much more difficult.

In such situations it may be necessary to monetize the natural forest's carbon and ecosystem services (e.g., through the production of voluntary market carbon credits) and pay the existing owner something for this. For example, New Forests has identified a plantation and natural forest asset in Malaysia that is approximately 55% established timber plantation and 45% natural forest, with rights to harvest and undertake land clearance in order to expand the planted area. Because of investment restrictions, the natural forest cannot be harvested and converted to plantation. In developing an investment model for the asset, the bid price is likely to differ significantly from that of a buyer without such environmental sustainability restrictions, as such buyers would place higher value on the natural forest land. Instead, New Forests has considered the commercial value possible through forest carbon and biodiversity projects, which would preserve the natural forest and its ecosystem services.

Another alternative is to develop greenfield[3] sites on land that ceased to be forest several decades ago, such as abandoned former agricultural land. In many forest-rich emerging-market countries where there is a history of slash and burn agriculture, such areas can be quite extensive. According to the IFC, for example, there are 96 million hectares (ha) of degraded land in Indonesia, at least 8 million ha of which is abandoned agricultural land that is now covered with coarse *Imperata cylindrica* grassland (IFC 2010).

The IFC's Performance Standards[4] are another set of environmental and social criteria that can be applied to timberland investments in emerging market countries. The IFC recently adopted a more flexible solution to managing deforestation risk. Applying this framework, a plantation company could convert areas of natural forest so long as it was able to demonstrate no net loss or a net gain of biodiversity through the use of approved mitigation measures.

There are, however, several challenges to this approach. Its methods and approaches require expert input and can be time consuming. In addition, the IFC's Performance Standards are not a recognized timber market standard and do not support any form of product label. Potential price premiums, such as those possible for FSC-certified timber, are therefore not an incentive. Further, there is a lack of understanding and acceptance of biodiversity offsets among environmental NGOs active in the forest sector, which generates potential reputational risk.

### *Land tenure and licensing risk*

One of the most challenging aspects of investing in forestry, particularly in emerging markets, is understanding the context of land tenure, licensing and forestry rights. This understanding is essential for investors to navigate the regulatory and institutional framework that provides investment security. Land tenure and licensing require careful attention when investing in land or natural resources in any market. In Southeast Asia, the institutions supporting the forest industry vary from country to country, and in some cases regulatory frameworks vary within each country. Investing in a country will require familiarity with key issues:

- relevant land and forestry regulations that affect forestry investment, including foreign investment rules;
- customary use regulations and/or how forestry regulations incorporate customary use;
- incentives and structures for encouraging forestry investment; and
- licence provisions.

Unclear land tenure, overlapping rights and the possibility of contested or revoked licences are risks that could jeopardize the stability of investments in forestry plantations. Clarity of land tenure should be addressed as part of any due diligence process.
New Forests' analysis of such incidents in Southeast Asia indicates that licences are revoked only in cases where the licensee has materially failed to undertake agreed activities. For example, if a licence is issued for plantation establishment and minimal or no planting occurs, the issuing authority may revoke the licence for failure to comply. Across the region governments are keen to expand the area of forest plantations to supply their domestic wood-based industries. They recognize that foreign institutional investment will be a key part of this.

In some cases a further risk can arise: it may be possible to secure controlling rights to the tree crop but not the underlying land. This can be resolved through an appropriate investment structure, the selection of reliable parties and the use of political risk insurance, such as that provided by the Overseas Private Investment Corporation in the United States. Funds that include development finance institutions or state-linked sovereign wealth funds as limited partners, particularly with access to high levels within government, can provide additional investment security. As a protection in the event of legal action, independent arbitration clauses that specify more established jurisdictions as the seat for any arbitration process can also help to keep parties honest, and to resolve disputes if they arise.

Land tenure also involves important social and ethical aspects of forestry investment; many tropical timber plantations have indigenous or local communities living in or near them. Investment due diligence should include detailed legal review and stakeholder consultation with all relevant indigenous peoples groups and NGOs. This is in line with activities required for FSC certification and IFC Performance Standards.

Best practice includes the process of obtaining free, prior and informed consent (FPIC) from affected communities. Indigenous peoples' right to FPIC is recognized by a number of intergovernmental organizations, international bodies, conventions and international human rights laws and a number of FSC-certified forestry operations in emerging markets have obtained community consent. IFC Performance Standards also provide guidance on community resettlement and appropriate compensation mechanisms.

Some successful examples of land tenure arrangements use a combination of measures:

- set-aside sites of special community significance;
- compensation arrangements for use of land; and
- assistance in mapping and formalizing customary land rights through local government decree and forest delineation.

In several cases, New Forests' due diligence has identified discrepancies between vendor statements regarding resettlement or occupancy of licensed areas and the actual status of local communities across assets. In some instances, communities may be largely comprised of recent economic migrants, and local government may have plans to resettle communities or excise occupied land from the land available for plantation management. Undertaking a community resettlement programme — with indirect control over how the process is conducted — is likely to be tortuous and high risk. Wherever possible, it is advisable to agree on and formalize existing settlement boundaries and/or negotiate compensation or outgrower schemes that can help to stabilize the forest frontier, align interests and provide clarity on future arrangements. It is critical that such issues be identified early on through the use of experts in stakeholder engagement. Community engagement should also be integral to ongoing forest operations. Active engagement and the use of transparent and clear mechanisms to resolve grievances can promote healthy relationships between plantation companies and local communities.

### *Operating risk*

Operating risks — particularly forestry, biophysical and technical risks — are well known in established markets. Where there is a long history of plantation management, factors such as species choice, silviculture and presence of experienced professional managers encourage forestry investment.

In emerging markets, this knowledge base is generally not as well established. An exception to this is the agricultural sector, such as oil palm and rubber in Malaysia and Indonesia. Rubber cultivation in Southeast Asia began over a century ago and there is significant body of local expertise and managerial capacity in establishing and operating forest plantations.

New Forests seeks to combine this local operational expertise with specific international forest plantation experience in the management of its rubberwood plantation assets. Such situations require managers to have sufficient in-house technical expertise to build operating teams for assets and ensure adequate levels of supervision and support. FSC certification and independent verification of compliance with IFC Performance Standards, combined with regular management audits, can also help provide the framework for a high quality of management.

This type of holistic sustainability approach incorporates ESG management and allows for third-party verification, providing investors with additional assurance that their assets are being managed responsibly. By using an appropriate combination of certification, investments can demonstrate that high standards for operating practices are being met for forestry and technical areas and for matters relating to business and employment practices.

## Measuring risk

The measurement of risk is an important component of any timberland investment. Although investors have a number of tools to help manage financial risk, emerging markets typically have fewer mature forestry investments, making it more difficult for investors to ensure they are estimating risk accurately. Country and sovereign risk primarily relate to business culture, legal system effectiveness, government policy environment and regulatory stability. Considering these factors is important for any investment in emerging markets. A growing body of investment tools is available to asset owners and managers to improve their management of country risk, including qualitative and quantitative methods.

Qualitative analysis relies on subjective analysis of risk factors and investment climate, such as significant political events or market information. Forestry investment in emerging markets requires keen consideration of these risks, particularly since corruption and the ability to protect property rights may affect an investment's performance. Sophisticated investment will require the use of good judgment to evaluate country risk for the forestry sector, land and natural resources rights, and foreign investment.

From a quantitative perspective, country risk can be incorporated into the investment process by including a country risk premium on expected returns and in discount rates used in asset valuations. Country risk may be estimated in a number of ways; some service providers now provide country risk indexes and other tools. One approach is to look at yields on the country's sovereign bonds compared to the rate on "risk-free" government bonds such as U.S. treasuries (Damodaran 2012). This needs to be combined with an estimated risk premium for timberland investment in the selected country.

Another approach is to compare implied discount rates used in purchases of timberland assets in the country with the U.S. market, which is the most mature timberland investment market. The premium derived in this way will include sector-specific and operating risks associated with timberland assets. In Southeast Asia, for example, unlike in the U.S.,

forestry land is leased to private companies and cannot be freeheld by an investment fund or trust. This generates a private equity element to timberland investments in the region that presents its own risk premium.

The equation to calculate discount rates for potential assets becomes (in real terms): Asset-specific discount rate = U.S. timberland discount rate + country risk premium + sector/operating risk premium.

There is also likely to be an additional currency risk premium. Even while new approaches allow an increasing number of risk factors to be measured, a combination of qualitative and quantitative risk assessment is required; this will make pricing of risk more accurate. Active risk mitigation during acquisition and asset management processes is also important. For example, establishing partnerships with international agencies and groups operating within an area can enhance an investor's ability to conduct business effectively in emerging markets.

## Environment and social opportunities

By investing in plantations in emerging markets, investors can help drive the transition of the industry away from extensive and destructive management of natural forests — with its associated carbon emissions and other social and environmental costs — and towards a more intensive, sustainably-managed plantation resource base. In the process, investors can benefit from appropriately risk-adjusted returns with low volatility and a strong inflation link that at the same time deliver highly beneficial sustainable development outcomes.

Sustainable forest management practices and the use of environmentally sensitive forestry practices will produce direct local benefits, such as maintenance or enhancement of high conservation values and biodiversity. On a larger scale, well-managed plantations can reduce net greenhouse gas emissions and relieve pressure on native forests, particularly where combined with monetization of the carbon and other ecosystem services that natural forests provide.

The social benefits of sustainably managed plantations and responsible investment include improvements in local livelihoods and safe and healthy working conditions for people living and working in plantations. There may also be scope to support the improved recognition of customary land rights.

Responsible investment will also drive improvements in governance. Private-sector development is a key goal for many emerging economies. By bringing foreign capital to support business development, there are direct economic benefits. Institutional investors are also likely to require corporate governance measures that demand a high standard of accountability and ethics in business practices. At the same time, there is further incentive for the government to maintain stable institutions and economic conditions

that support investment in local industry. These factors combine to provide momentum for ongoing improvements in business culture and economic development based on a local renewable industry.

New Forests believes a responsible investment approach to tropical timber plantations will have multiple commercial and ESG benefits. Traditional risk management in forestry focuses on the areas of biophysical, regulatory, financial and operating risks. As investment capital moves into less mature forestry investment regions, such as Southeast Asia, Africa and Latin America, investors will encounter a growing number of ESG risks. If these risks are effectively managed, however, investment objectives can be met and substantial and long-term sustainable development outcomes can be delivered. This includes the successful transition of the forest industry as a whole to a more sustainable model.

## Endnotes

1. New Forests manages investments in sustainable forestry and associated environmental markets, such as carbon, biodiversity and water, for institutional and other qualified wholesale investors. The company is based in Sydney, Australia.
2. See http://fsc.org.
3. Greenfield land is undeveloped land in a city or rural area used for agriculture, landscape design, or left to naturally evolve. These areas are often agricultural properties being considered for urban development.
4. See www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Sustainability+Framework+-+2012/Performance+Standards+and+Guidance+Notes+2012.

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# 1.3 Plantation forests: an economic driver for upland communities in the Philippines

DAVID KING

## Introduction

The development model described here is based on the collective experience of the founders of GEA Timber Ventures Inc.[1] in the forestry, agriculture, natural resource and rural development sectors. This article focuses on experience in the Philippines, but is applicable to many tropical Southeast Asian countries. The model has four key components:

- Sustainable development needs a long-term economic driver to remain viable. For many upland areas of Southeast Asia commercial forest plantations can be this driver.
- Integrated land use is an essential part of the process. With plantation forest as the primary long-term economic driver, other critical issues — such as establishing conservation forest and enhancing remnant natural forest; planting agriculture crops and other types of land use, such as housing and sacred sites — can be identified.
- Most forestry development projects channeled through government agencies have had difficulties in implementation. There are a number of reasons for this but prime among them are (a) a lack of long-term funding meant that one cycle of plantation could not be completed; (b) the project scope far exceeded the capacity of government; (c) the project design included NGOs and consultants whose inputs and timing were not conditional on baseline work being completed; and (d) de facto forest ownership remained with government.[2]
- Governments are unskilled at managing natural resources and generally do not distinguish between land ownership and usufruct rights. Tree growers are not rewarded for commitment and competent management; i.e., they do not "own" the project. Ownership of the land and the resource (tree crop) must be treated as separate components, with a legal agreement covering planting to harvest. Agreements of this nature have not been used in most countries in Southeast Asia.

A significant plantation-based timber industry can provide commercial, social and environmental benefits.

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## Why plantation forests?

Most of the land in question was originally natural forest. It is generally rolling to steep, with some slopes exceeding 18 degrees. In this tropical environment rainfall exceeds 3,000 mm, most of which falls as rainstorms lasting an hour or two but of high intensity. Any land-use based on annual agricultural crops leads to soil erosion and land degradation. In many of the areas remnant forest roads still exist, which provide access to re-establish plantations.

Environmental lobby groups have for many years opposed the cutting of natural forest. This view has been widely known and has created a commonly held public opinion that the cutting of forest trees is environmentally damaging and should not be allowed. There has been little if any public presentation of options outlining the role of plantations. The existence of plantations also reduces the need to harvest old-growth forest. New Zealand and Australia, for example, have strong, viable forest product sectors based on plantation forests.

The Food and Agriculture Organization (FAO)[3] highlights the strong demand for forest products, citing an expected annual growth of 26%. Asia is predicted to be a net importer of forest products for the next 20 years.

Plantation-sourced lumber is predicted to exceed native forest-sourced lumber by 2040. Plantations have more uniform yield and higher quality while native forests have increased cost and access restrictions.

Tropical environments have ideal conditions of moisture, temperature and soils for rapid woody biomass growth. This allows plantation forests to be established and harvested about 2.5 times faster than plantations in temperate environments. From 1992 to 2000 the Australian Centre for Agricultural Research (ACIAR) undertook a series of trials to evaluate species suitable for use in plantations in the Philippines, assessing their nutritional needs, growth habits and fire resistance. Although this research provides a comprehensive technical base to support a plantation industry,[4] only 300,000 hectares (ha) of plantation forests have been established in the Philippines.

## The decline of natural forests

Like most of Southeast Asia, the Philippines was richly endowed with over 15 million ha of closed canopy (mainly Dipterocarp) rainforest. The regalian doctrine introduced during the 1600s under Spanish colonial rule and continued under American commonwealth governance placed all natural resources, including forests, under government control.

Commercial exploitation of the forests began with the Spanish. It provided materials for housing, religious structures and the construction of ships. With the transfer of colonial power from Spain to the United States in the early 1900s a number of American companies began logging and milling operations across the archipelago. Timber licence agreements (TLAs) allocated large tracts of forest (each TLA covering between 50,000 to 200,000 ha) to these companies for the extraction of commercial lumber.

In the four decades after World War II there was a massive increase in the exploitation of primary forest. As late as 1975 the gross value added (GVA) of the forestry sector was 1,265 or 1.85% of the Gross National Product (GNP), which was then 68.28 billion pesos (see Endnote 8). Since then, the forestry sector's share of GNP has consistently decreased; in 2008 it was only 0.09%.[5] In 2011 the government, through Executive Order EO23, imposed a ban on the exploitation of natural forest.

Although TLAs required a forest management plan, weak government oversight led to overcutting and the opening up of the canopy. This extended the time required for natural regeneration. The access roads built by the foresters allowed landless lowland groups to invade many of the upland areas. These groups used slash-and-burn techniques to clear the remaining trees and planted agricultural crops such as upland rice, maize, ginger and vegetables. The tilling of crops on steep slopes and the lack of appropriate land conservation practices has caused a rapid increase in land degradation. It has also led to a constant need to clear new areas with better natural fertility in order to shorten the rotation cycle. The combination of these factors has reduced the closed canopy forest cover from 15 million ha to 2.5 million ha. The balance of the previously closed canopy forest now comprises 5.0 million ha of open secondary forest and more than 7.0 million ha of grass and shrubland.

## The *Indigenous Peoples Rights Act* of 1997

One major effect of the regalian doctrine was to marginalize many indigenous people (IP) living in upland regions of the Philippine archipelago. Indigenous communities traditionally occupied or used approximately ten million ha of land,[6] much of which was affected by the logging practices undertaken under TLAs. This had a major impact on the IP communities, leaving many of them without recourse to their traditional sources of food, shelter and non-timber forest products. These IP groups occupy the lowest percentiles in all socio-economic statistics related to health, education and access to clean water. A World Bank Study[7] found that 41% of indigenous people had no access to schools or health facilities and 77% of them had to get water from open non-potable sources.

In 1995 *Republic Act No. 8371*, commonly known as the IPRA law, introduced land rights based on ancestral domain of indigenous groups. Ancestral domain claims, where proved, can be delineated and issued a Certificate of Ancestral Domain Title (CADT). CADTs have been granted for approximately 1,700,000 ha of IP land. This gives indigenous groups ownership of their land with the right to develop it in accordance with the IPRA law. It also gives investors security of land tenure. This allows long-term, legally binding development plans to be negotiated between investors and land-owners.

## The development model

GEA Timber Ventures was established in April 2010 to establish commercial plantation forests on private land, Initially GEA partnered with private-sector groups and individuals, but expansion required additional capital and it added joint venture and service agreements (Box 1). Lessons from several forestry programmes and land covered by the IPRA law influenced the design:

- active participation by all stakeholders is imperative;
- reward sharing must be equitable and transparent;
- sustainability relies on sequential planting; and
- well-managed plantations can fund long-term land-use and development plans that include regeneration of natural forest, livelihoods and social development.

**Box 1. How the process works**

1. Initial discussions determine group interest and establish a framework for subsequent actions.
2. A copy of the CADT is obtained by the community elders and forms the basis for all following transactions with GEA.
3. A comprehensive land-use plan is developed in consultation with community elders. It delineates areas for agriculture, agro-forestry, commercial plantation forest, protected native forest areas, rehabilitation of remnant native forest, and sacred sites.
4. A sharing agreement and management plan is prepared and approved by the council of elders. This usually comprises a long-term lease on the land (25 years, with an option to renew; payment for planting and maintaining the forest, and establishment of a social development fund to provide short-term income. The social development fund will be used to develop livelihood projects approved by the council of elders.
5. Institutional capacity and capability is built in the community. This requires considerable time and expertise to develop and in the long term will cover management and business skills. Short-term skill training includes cloning and potting, maintenance of nursery products, planting and maintenance, preparation of potting mix, basic bookkeeping and record keeping.

The strategy is to sequentially plant commercial forest plantations of sufficient scale to provide employment and income in perpetuity. Sequential planting is key to sustainability. Once the first planting is mature at the end of the eighth to tenth year then each subsequent year the harvest will be repeated. In the case of many fast-growing trees, the second crop can be harvested by coppicing and requires no new planting.

The model operates as a partnership between landowners, investors and managers. Titled land is preferred because it provides the legal basis for lease, harvesting and profit-sharing agreements. The government focus is on policy and regulation.

Partnership with IP groups on CADT-designated land is worthwhile for the following reasons:

- IPs are minorities who previously had no formal rights to their land. The IPRA law provides the opportunity for these groups to develop sustainable economic options on their own land.
- Most of these areas are open grassland and degraded forestlands, with remnants of indigenous forest in steep valleys.
- CADTs cover extensive areas (5,000 ha to 70,000 ha), making them suitable for commercial forests.
- Plantation forest introduces a technology compatible with IP cultural values.

The income is held in trust for the IP communities. It is used to meet development needs; expand the plantation; protect and interplant remnant areas of natural forest; maintain the forest as a registered carbon sink; and restore the landscape and reduce runoff, erosion and downstream sedimentation.

The tasks carried out in Box 1 result in an Ancestral Domain Sustainable Development and Protection Plan. Copies of the plan are sent to government agencies and the community and are the basis by which progress can be monitored.

## Cost/benefit sharing for stakeholders

Plantation forests in the tropics are capital intensive and most of the capital is required at the beginning of the project. The cost to establish and maintain one hectare of forest from planting to harvest, a period of nine years, is approximately US$ 5,972. This comprises all costs, including labour, management, maintenance, silviculture, fertilizer, insurance and fire protection. Using current prices and a conservative yield for trees cloned from superior germplasm, gross revenue is estimated to be US$ 33,445 per ha.[8]

### *Benefits*

These stakeholders share the benefits of the project:

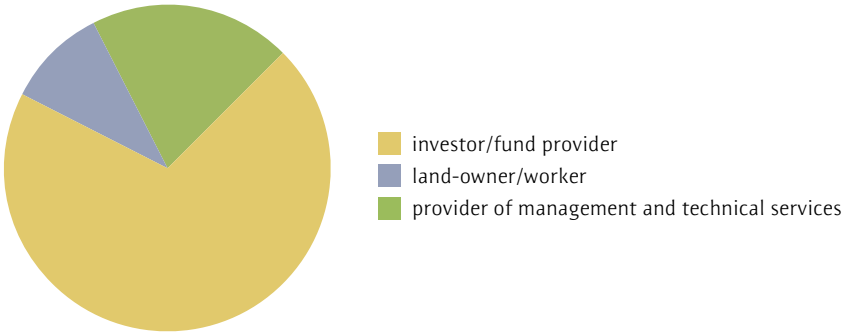
- investor/fund provider — benefits are received when the timber matures (at the end of eight years);
- land-owner (people's organization/indigenous people) — benefits consist of lease payments, workers' wages and livelihood provisions of the project, (such as water supply, schools and roads) and a share of the timber revenue; and
- the provider of management and technical services (in this case, GEA Timber Ventures, Inc.) — benefits consist of the management fee and a share of the timber revenue.

The costs of plantation development and provision of technical and management services are shared as follows: 85% to land-owners/workers and 15% to the service provider.

### *Revenue*

Trees will be planted at the rate of 556 per ha and are expected to yield at least 400 $m^3$ of millable timber at the end of eight years. The timber will be valued at US$ 84/$m^3$ at stump, but harvest and transport costs of 15% will be deducted to determine the value at roadside. Of the total revenue, 70% goes to the investor/fund provider; 10% goes to land-owners/workers; and 20% goes to the provider of management and technical services (Figure 1).

**Figure 1. Revenue sharing of stakeholders**




Note: Because the stakeholders receive revenue at different times, the revenue stream has been discounted and expressed as Net Present Value (NPV). The discount rate used in computing NPV is 10%.

The distribution of benefits is shown in Table 1.

**Table 1. Total benefits expressed as Net Present Value**

| Stakeholder | Benefits (US$)* | Percent of total |
|---|---|---|
| investor/fund provider | 8.938 | 50.9 |
| land-owner/workers | 5,518 | 31.3 |
| provider of management and technical services | 3,161 | 18.0 |
| total | 17,617 | 100.0 |

*Note: Benefits are discounted at 10%.

## Implementation

To demonstrate the effectiveness of the development model GEA Timber Ventures invested with IPs on a CADT to plant 50 ha of plantation at Bamban, Tarlac Province, Luzon Region. Funding was sourced internally by GEA directors. GEA also established a ten-ha clonal nursery using material sourced from strains identified from the ACIAR research programme. Following the successful establishment of the first 35 ha of plantation several new investors committed to invest in the model. The plantation of each investor surveyed and mapped within the CADT using GPS coordinates. GEA provides

information to the investor on the species, date and number of trees planted. Photo points are established to demonstrate growth over time. Details of annual planting programmes are provided to the relevant government agencies.

Small-scale private investors seek a reliable investment over ten years, usually as an education or retirement fund. These investments typically cover an area ranging from 1 to 15 ha. The Manila office of Capgemini, a French IT company, has negotiated to plant one ha annually as part of its local Corporate Social Responsibility (CSR) program. When the timber is harvested the revenue can be used by Capgemini to fund new or existing CSR programmes or expand its existing forest.

Mining companies have been increasingly interest to invest. A nickel mine in Zambales province has commenced a trial planting of ten ha at its mine site as a land rehabilitation trial.

Oceanagold Philippines Inc., operating in Nueva Viscaya, has committed to invest in 2,000 ha of plantation with local communities affected by mining activities. The plan is to establish a parallel economy so that when mines close the local communities have an alternative sustainable source of revenue. The funding is sourced from the mining group's environmental compliance programme. GEA is currently planting the first 100 ha of this initiative.

## Risks

### *Political*

There is a risk to working directly with community owners rather than government. There is a long history of rent-seeking behaviour to overcome. Other issues include obtaining permits for harvest and transport and checkpoints from many agencies during transport. Establishing chain of custody (CoC) documentation from planting to harvest is one way to minimize these issues. GEA prepares these documents with each planting and provides copies to all agencies who will be involved in the process. Links with local government are important to that ensure the plantation has a development goal in common with the government.

### *Marginalized IPs*

Many IP groups have had little if any political representation and remain largely invisible to government agencies and programmes. Developing their capability is an essential component of the development process. Comprehensive plans for land use, agriculture, conservation and commercial forestry must be developed and agreed to.

A range of activities is needed as part of the development process. Activities include training across a range of skills and support for social infrastructure such as schools, health centres and water storage. This is an added project cost.

## Opportunities

### *Short-term*

In the short term the main opportunity is to create awareness of the potential for plantation forests in the Philippines. There is a lack of industry promotion and a huge knowledge gap by investment groups who should be considering forestry. For example, local representatives of global insurance companies, local pension funds and even private investors have no concept of plantation forests and their potential.

When forests are established employment creation is immediate and obvious. This is especially the case where sequential annual plantings allow for the building of experienced teams, long-term employment and economic activity in the IP community.

### *Long-term*

A sustainable plantation forest industry that services the nation can be developed. GEA's experience suggests that this must be established primarily through an involved private sector. Government will be involved through policy and regulations, but experience indicates that the Philippine government is ill equipped to plant and manage forests.

At the local level the long-term impact of allowing IP groups to develop and manage their own future will be profound. Employment and profit sharing encourage IPs to commit to the project and encourages them to develop social, environmental, technical and political skills that are useful in the broader community.


## Future prospects

Can the Philippines become an exporter of high-quality timber? The once vibrant forestry industry has not met the challenge of investing in plantations. Harvesting from indigenous forest or importing from other countries in the region remains the default thinking of the wood-processing industry. GEA believes that a significant plantation-based timber industry can provide commercial, social and environmental benefits over much of the seven million ha of degraded upland areas. The southern island of Mindanao — with a double monsoon climate, no typhoons and basaltic volcanic soils — is a particular area of opportunity.

Government has established policies for industrial tree plantations and community-based forest management that give potential investors the right to establish large areas for plantations. The Public Private Partnerships (PPP) policy of the current government, which promotes funding for long-term projects, is another support for plantations.

During the U.S. commonwealth government period all the state and national universities in the Philippines received land grants ranging from 5,000 to 70,000 ha. Generally, these areas were forests but they have not been managed as intended. GEA is currently

exploring the use of the PPP programme to fund the planting and management of tracts of land-grant forestlands owned by several of the state universities.

Globally, pension funds are the major owners of many plantation forests. For example, Manulife Financial of Canada owns a 245,000-ha forest in Victoria, Australia. Pension funds of the California Teachers Union, Harvard Business School and Ontario teachers' union own substantial forests in New Zealand. Many of the major insurance companies and fund managers — such as Manulife, Sunlife, Axa, Generali, Prudential Life and Philam Life — have offices in the Philippines. GEA believes these groups could provide leadership in the future funding and expansion of forest plantations.

Philanthropic organizations such as the Buffet Foundation, Bill & Melinda Gates Foundation and several similar bodies will be approached by GEA in the coming year. The attraction for these groups is that once the investment is made it can be managed by the country or region to fund future programmes with the income derived from the plantations.

## Acknowledgements

David King was assisted by contributions from fellow directors Oscar Gendrano, forester; Marcus Napud, economist; and Dr. Antonio Perez, agricultural scientist.

## Endnotes

1. For a more complete description see www.geatimberventures.com.
2. See Evaluation Report, Forestry Development Loan 1997;Evaluation report, Forestry Sector Loan 889/890, 2001; Evaluation Report, Forestry Sector Project 1192,1193, Nov 2003, ADB.
3. See FAO Forestry Paper 163. Main Report, Global Forest Reserves Assessment 2010.
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5. Forest Management Bureau. 2008. Philippine Forestry Statistics. Quezon City: Forest Management Bureau, DENR. http://forestry.denr.gov.ph/stat2008.htm.
6. Rovillos and Morales, Indigenous peoples/Ethnic minorities and Poverty reduction, Environment and Social Safeguards Division,RSDD, ADB, 2002.
7. See World Bank, 2001, *Filipino Report Card on Pro-Poor Services.* Washington, D.C.: Environmental and Social Development Unit, East Asia and Pacific Region, World Bank. www.siteresources.worldbank.org/../14875_FilipinoReportCard-web.pdf.
8. As of July 2012 the exchange rate of the Philippine peso to the US dollar was 41.86:1.

# 1.4 Private equity investments in forestry: overcoming barriers

MARKUS GRULKE, TIMM TENNIGKEIT, CHRISTIAN HELD, FRÉDÉRIC BRODACH and CLEMENS HÜTTNER

## Forestry investment background

As the world's population increases, the global demand for timber products rises steadily. Meeting this increasing demand will require an increase in reforestation activities and timber production. Without this increase, the pressure on natural forests will increase, leading to harvesting rates that greatly exceed forest growth rates.

Establishing new forests at the scale required — several million hectares per year — calls for substantial private capital. Forest investments are economically attractive: they offer a balance between risk and revenue, provide critical additional climate benefits, and foster socio-economic development in rural contexts. An average of 75 qualified forestry and timber-processing jobs are created for each 1,000 ha of forest established (Grulke, Tennigkeit and Vogt 2010).

Institutional investors increasingly recognize forest assets as a valuable long-term natural capital investment that complements their diverse portfolios (Box 1). Institutional investors have already devoted an estimated US$ 50 billion to this asset class globally, of which approximately US$ 40 billion is invested in U.S. forests (Brand 2012).

FOREST INVESTMENTS HAVE TO BALANCE INVESTOR EXPECTATIONS WITH ECOLOGICAL AND SOCIAL BENEFITS.

The main benefits and risks of forest investments are listed in Table 1.

Natural forest management cannot sustainably satisfy timber demand; there is also a need to establish new forests. This raises a number of questions about feasibility:

- Is enough non-forested land available?
- How can a project avoid conflicts related to food security?
- How can a project balance production with ecological and social impacts?
- How can a project ensure that the value derived from large-scale forest projects is shared equitably with local communities and indigenous people?
- How can private investors be attracted in order to raise the private capital required to finance the establishment of new forests at scale?

**Markus Grulke**, **Timm Tennigkeit** and **Christian Held** work for UNIQUE forestry and land use, Freiburg; **Frédéric Brodach** and **Clemens Hüttner** work for Plus Ultra Asset Management in Munich.

**Table 1. Pros and cons of forest investments**

| Pros | | Cons | |
|---|---|---|---|
| Annual IRR | Attractive return on investment (between 8 and 12%) | Cash flow profile | High initial investment; relatively long time lag for returns |
| Conservation of value | Long-term maintenance of value; low volatility; very low risk of complete loss of investment | Long running nature of the investment | Long-term capital lock-up; difficulties regarding early exit (difficult valuation of assets) |
| Diversification | Highly recommended for portfolio diversification; not correlated to other products/ asset classes of capital market | Track record | Relatively young asset class; limited experience with product |
| Positive external effects | Positive ecological and social impacts; "charismatic" asset | Risk assessment | For outsiders, risk assessment is very difficult |

Source: Unique

**Box 1. The *Forestería Certificada en Paraguay* project**

The *Forestería Certificada en Paraguay* project shows that natural forest management based on the most rigorous Forest Stewardship Council (FSC) standard can generate an attractive return for the investor while restoring biodiversity and providing rural employment. The project covers 5,650 ha: a 4,000-ha production zone and a 1,650-ha conservation zone. It has been managed in a joint venture between a local company and UNIQUE[1] for more than ten years. The project could be scaled up and replicated in many tropical forest regions. It has an annual turnover of US$ 1 million, generates after-tax earnings of US$ 70/ha, provides 50 qualified jobs and has an established and formalized relationship with adjacent indigenous communities based on a spirit of mutual respect. This type of close-to-nature forest management contributes to restoring the biodiversity of the Mata Atlántica Forest corridor. Investing in capacity and empowering the local management team was key to the project's success.

## Barriers to investment

### *Early exit vs. production cycle*

Forest investment could raise more capital through direct investment or funds if certain barriers were removed. This would allow an "early" exit for investors after six to ten years.

### *Long production cycles*

In many cases the production period (from tree seedlings to mature trees of a targeted dimension) is longer than the preferred life of the investment or its vehicle. In general, new forests do not generate significant positive cash flows from timber sales before investors wish to exit. As a result, when investors exit, the investment, rather than timber product, is often only the production asset that can be sold.

### *Lack of liquid trading markets*

In general, the forestry asset class is not liquid. In other words, there aren't enough investors in the market to absorb assets being sold without having an impact on the price of the asset. There are only a few transactions per year outside North America and a limited number of experienced investors. Consequently, there is no transparent trading market for forest assets that could allow prices to be standardized.

### *Lack of standardized valuation methods*

There is no common method to value forests (PWC 2009 and 2011). Most investors apply the discounted cash flow (DCF) method,[2] but it is challenging to obtain reliable data on timber stocks, increments, production costs and markets in order to project these factors into the future. This makes the valuation and transaction of forest assets — and the due diligence of forest companies — a complex, lengthy and expensive process.

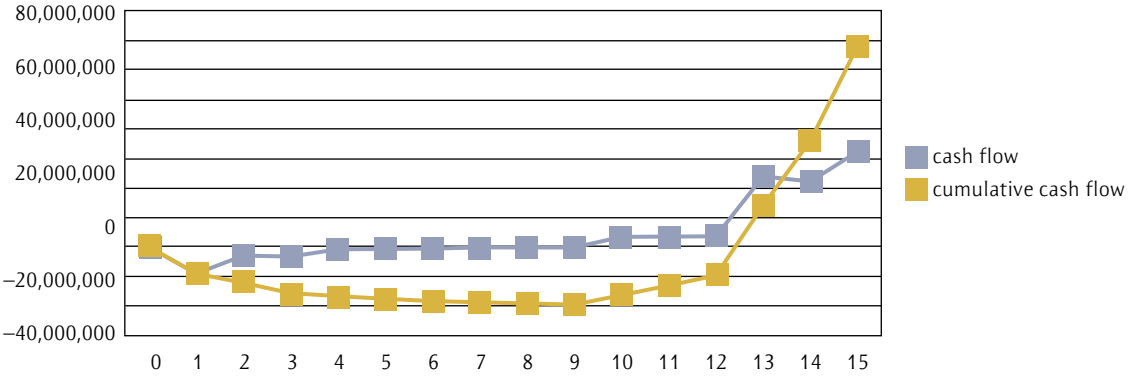
## Addressing exit difficulties for forest fund investments

### *Long production cycles and lack of trading markets*

A number of closed-end forest funds are investing substantial amounts of capital in new forests. As mentioned above, the first tree rotation usually cannot be harvested before the end of the investment term, commonly 10–15 years. As a result, the fund has to sell a number of premature forest assets at the end of its term. Depending on the fund's term, cash flow generally remains negative before the end of the investment term. This means that asset valuation is particularly important to the investor's yield and to the fund's management.

In order to avoid sales at low prices, management looks for early agreed exit opportunities that reflect the real value of the asset. Figure 1 illustrates a typical cash flow profile of a greenfield[3] reforestation project.

**Figure 1. Typical cash flow profile of a greenfield investment in new forests**




Source: UNIQUE

A secondary market for forest investments (selling and buying young plantations) is slowly emerging. As yet, however, these transactions do not make use of hedging instruments commonly applied in other asset classes, such as options to sell or buy assets at a fixed time, or the use of an agreed valuation standard. They also lack a price indication for long-term forward products or asset sales and investments. This makes it difficult for managers to hedge their positions.

As a response to this exit challenge, some forest fund managers have started a second fund or a fund family where they could reinvest the forest assets from other funds. However, the forest assessment prior to the reinvestment contains a significant potential for conflicts of interest. In addition, this approach misses the opportunity to determine the asset's market value.

Widely accepted forest valuation standards and option contract terms, including risk assessment procedures, would help create a liquid secondary market for young/immature forests and help reduce transaction costs; this would in turn reduce valuation and due diligence costs. Standard terms would also allow forest funds to specialize along the production cycle and value chain. Some funds could specialize in early greenfield establishments, with their respective risk and return profiles; others might specialize in investing in young established forests or in mature forests, including timber processing and value adding.

## *Valuation standards for forest assets*

### The International Accounting Standard (IAS)

One problem facing forest investments is the lack of widely accepted best practices related to the implementation of accounting standards. Valuing a forest asset at the fair market price is an essential step for any institutional investor. With the new Basel III international regulatory framework for banks, financial institutions have to measure liquidity risk; any asset that is not liquid increases the amount of capital required.[4] This

new compliance obligation may reduce the appetite for forest investments unless the industry improves its valuation standards and thereby its liquidity.

Methods for the valuation of biological assets, including forests, generally follow International Accounting Standard 41 (IAS 41).[5] The IAS standards are widely used to establish the fair value of forest investments. Forest and other biological assets are measured at fair value less the cost to sell them, except in cases where the fair value cannot be reliably measured. IAS 41[6] sets out three methods to establish the fair forest asset value:

- Market-based valuation: If an active market exists for a forest asset in its present location and condition, the quoted price in that market is the basis for determining the fair value of the asset. If an active market does not exist, then a) the most recent market transaction price; b) market prices for similar assets with adjustment to reflect differences; or c) sector benchmarks can be applied. As explained above, this method is often limited by a lack of markets and the consequent missing price information. PWC (2011) emphasizes the lack of active markets for large plots of forests lands and implies that there is a lack of reliable quoted market prices for standing timber.
- Net present value (DCF/NPV): The net present value of expected discounted cash flows can also be used to determine the fair value of a forest asset in its present location and condition. Future cash flows have to be predicted and an appropriate discount rate must be defined. The DCF method is the most common method used to calculate the fair value of forest assets. The challenge is obtaining reliable data on the main assumptions driving the asset's value: production costs (including land development costs), forest growth and yield and timber prices.
- Cost-based valuation: This approach is used when the price or value of an asset cannot be determined in the market. In such cases, the biological asset is measured at its cost less any accumulated depreciation and any accumulated reductions in capital. Once the fair value of such a forest asset can be measured accurately, its fair value (less costs to sell the asset) can then be established according to the market-based approach, above. The limitations of this method are evident. Forest assets that are managed cost-efficiently have a lower value than companies with high production costs because their value depends directly on the accumulated costs of plantation establishment.

### Addressing problems of forest asset valuation

Outside North America market-based valuation is hampered by the lack of liquidity in the forest asset market and the resulting lack of consistent prices. The DCF/NPV calculation by far the most common, and is the most appropriate approach to determine the fair value of forest assets. The main challenge for calculating discounted cash flows is obtaining reliable data. The model strongly depends on long-term predictions of underlying input assumptions (biological growth and yield, market prices and costs). Inputs are subject to increasing insecurity. Furthermore, defining the input parameter is highly subjective and can be manipulated by the company (e.g., an optimistic valuation to attract investors), and by financial considerations (e.g., conservative valuation to avoid taxes).

Both market-based and DCF/NPV valuations require high-quality forest inventories with precise data on forest stocks and growth in order to estimate the standing timber and the related timber value. Independently of the valuation approach, it is difficult to make a fair calculation based on reliable data related to natural factors (forest stocks), market forces (production costs, timber and land prices) and financial aspects (discount rates).

Since the growth and yield of forests can be predicted more precisely than either costs or prices, particularly when prediction schedules exceed five years, forest asset valuation should focus on natural production data and market access (infrastructure and distance to markets), rather than on uncertain changes in costs and prices. Further, fair value calculations should be based on current market prices rather than adjusted future prices.

## Conclusions and recommendations

Forest investments have to balance investor expectations (stable, inflation-hedged returns, moderate to low risks) with ecological (climate, water, biodiversity) and social benefits (employment, local community participation in business activities). Development banks that focus on the private sector show a strong interest in forest investments[7] in emerging markets. They may want to initiate a forest investor roundtable with the private forest sector and international accounting firms in order to standardize transaction terms. They may also wish to consider investments in buy and sell for forestry assets as a catalyst for more liquid forest asset markets and to mitigate the exit problem.

This creates an opportunity for substantial growth of the forest asset class. Capturing this potential requires a joint effort by forest investment funds and forest asset developers in order to agree on best practices for forest valuation standards, thus increasing market liquidity and attracting more investment. The following actions are recommended.

Establish a forest investor round table (including forest investors, IAS and valuation experts, forest management companies) to agree on best forest valuation practices.

Develop standard industry guidelines for determining and modeling biological performance, including these definitions:

i. inventory standards (determination of stock, quality and assortments);
ii. standards for forecasting growth;
iii. standards for timber assortment;
iv. default values for the ratio of standing timber volume to marketable timber volume (considering harvesting losses, roundwood damages, timber theft, etc.); and
v. standards to integrate and establish the non-timber values of forest assets (carbon sequestration, biodiversity, etc.)

Develop standard industry guidelines for determining and modeling economic performance, including these factors:

- using the DCF/NPV approach as the standard method when there is no active local/regional market for large areas of forest land;
- input data (current or adjusted prices and production costs, land price appreciation);

- common standards for price and cost projections (e.g., current market-based value plus inflation);
- specification of the weighted average cost of capital to derive discount rates (mix of capital costs, risk assessment and investors' expectations); and
- how to reflect sustainability (e.g., DCF with/without replanting after clear felling).

Classify forest investments according to related risk/return profiles. The following classes are recommended:

- establishment phase: planting, tending, thinning without generating revenues;
- development phase: tending and thinning, with revenues; and
- harvesting phase: harvesting of mature trees with/without replanting.

Defining common forest inventory standards — including the determination of future growth and yield — is feasible, but would require the industry to agree on the valuation procedure. A forest investor roundtable could facilitate such a consensus-building process. Major forest funds and the forest industry would have to commit on how to apply the different forest valuation approaches and how to deal with long-term predictions of production costs and market development.

Applying globally accepted best practices for forest asset valuation would reduce uncertainty and due diligence costs for investors, increase market liquidity and consequently contribute to the asset class's growth.

## Endnotes

1. UNIQUE forestry and land use GmbH is a leading forestry and land-use advisory and forest investment company based in Freiburg, Germany, with regional offices in Uganda and Paraguay and representatives in China and Argentina.
2. Discounted cash flow (DCF) analysis uses projections of future cash flow and discounts them to determine a current value. That value is used to assess the potential for investment.
3. This is an undeveloped site, particularly one being considered for commercial development or exploitation.
4. See www.bis.org/bcbs/basel3.htm.
5. There are also country-specific forest valuation standards, e.g., in the U.S. (Uniform Standards of Professional Appraisal Practice) or Germany (Waldwertermittlungsrichtlinien 2000 - WaldR 2000). The different standards require the use of different parameters, including inflation rates and regional risk adjustments; therefore, the results are not comparable.
6. See www.ifrs.org.
7. According to the authors' information, IFC, EIB, CDC, DEG, FMO, Finnfund and Proparco have invested in institutional forest funds.

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# 1.5 Ecosystem restoration in Indonesia's production forests: towards financial feasibility

THOMAS A. WALSH, YOPPY HIDAYANTO, ASMUI and AGUS BUDI UTOMO

## Introduction

In 2004 the Government of Indonesia took a new approach to the management of logged-out production forests. For the first time, production forests could be managed for restoration instead of logging. Ecosystem restoration licences[1] would support efforts to return deforested, degraded or damaged production forests to their "biological equilibrium,"[2] through logging bans[3] and other initiatives. The logging ban regulation establishes a de facto moratorium on conversion of degraded forests to timber plantations or other uses. Ecosystem restoration licences are a strategic way to reverse the deforestation and degradation of Indonesia's production forests. These forests constitute approximately 80 million hectares (ha) of a total of 133 million ha of the country's forest estate. Presently, 25 million ha of production forest estate is not covered by any kind of licence, making it prone to illegal exploitation (Ministry of Forestry 2012).

Ecosystem restoration is a policy innovation that paves the way for a multi-product forest management business.

ER licences must be held by an Indonesian business entity; this confirms the central role of the private sector in restoring logged-out natural forest concessions. While restoration activities are underway, ER licence holders may commercialize non-timber forest products (NTFPs) and ecosystem services such as biodiversity protection, ecotourism, water resources and carbon sequestration (Zaini 2010). The businesses must be financially and economically feasible and cannot conflict with restoration objectives. Furthermore, there should be an equitable sharing of benefits through job creation and other economic development activities with local communities.

The first ER licence was issued in 2008 to a joint initiative of Burung Indonesia, the Royal Society for the Protection of Birds and BirdLife International. Known as Hutan Harapan or the "Rainforest of Hope," the concession covers just over 98,000 ha of Sumatran lowland rainforest.

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Since 2008, interest in ecosystem restoration concession (ERC) licences has increased steadily; as of March 2012 there were 44 applications from private companies (Ministry of Forestry 2012). In spite of this interest, only two other licences have been granted — in addition to *Restorasi Ekosistem Indonesia* (REKI), which manages Hutan Harapan by means of two licences — for a total of 198,350 ha.[4] At this rate, it will be very difficult for the Ministry of Forestry (MoF) to achieve its target of 2.5 million ha for ERCs by 2014 (Ministry of Forestry 2010). Further, the interest of the early entrants into this new forestry sector may wane due to the long wait for licences.

The ER initiative has been well received, as evidenced by the private sector interest and a growing network of both national and international stakeholders. Nevertheless, two areas of concern may inhibit the financial feasibility of ERCs and ultimately their contribution to sustainable forest management: the ER licensing process; and business permits for non-timber commercial activities.

## Sustainable forest management and ecosystem restoration business models

Ecosystem restoration in production forests is an innovative policy option that restores large forest areas, conserves biodiversity and develops a multi-product approach to forest use and management. ERC managers have the legal authority to manage the concession for habitat management, protection and restoration of the forest ecosystem. Although ER emerged in a context of addressing deforestation and forest degradation, Indonesia's national REDD+[5] strategy recognizes the potential contribution of ER in REDD+ programmes and the co-benefits it provides from ecosystem services (UKP-PPP 2011).

Ecosystem restoration is a long-term process that will require sustained funding. Applications for an ER licence must include a business plan that outlines how revenue will be generated over the life of the concession licence, which may exceed 100 years. Business plans must take into account factors such as forest typology, flora and fauna, land tenure, economic development in the surrounding communities, and market opportunities.

Given the site-specific nature of ER a number of potential businesses can be developed. In the past four years alone three types of businesses have emerged: 1) restoring degraded ecosystems and biodiversity conservation; 2) carbon businesses; and 3) NTFP businesses and ecosystem services. This recognizes the multi-functionality of the forests and indicates a range of business opportunities offered by an ER licence (Table 1).

To date, three of the four licences issued have been to companies established by conservation organizations. *Hutan Harapan* was set up by a consortium of domestic and international conservation NGOs to halt the degradation and deforestation of the biodiversity-rich but threatened lowland rainforests in Jambi and South Sumatra. *Restorasi Habitat Orang Utan Indonesia* (RHOI) was established by a conservation NGO, the Borneo Orangutan Survival Foundation Indonesia (BOSF), with the support of its international network. RHOI's primary objectives are to return rescued orangutans to their natural forest habitat and generate income from carbon markets. The fourth licence was issued to *Ekosistem Katulistiwa Lestari* (EKL), a private company that targets NTFPs and ecosystem services as sources of income.

**Table 1. Selected ecosystem restoration companies and their types of business**

| Name of company | NTFPs | Wood* | Conser-vation | Eco-tourism | Carbon | R&D |
|---|---|---|---|---|---|---|
| *Ekosistem Katulistiwa Lestari*** | √ | √ | X | √ | X | — |
| *Indo Carbon Lestari* | √ | X | X | X | √ | — |
| *Restorasi Habitat Orang Utan*** | X | X | √ | √ | √ | X |
| *Restorasi Ekosistem Indonesia*** | √ | √ | √ | X | X | — |
| *Rimba Makmur Utama* | √ | √ | X | √ | √ | √ |
| *Rimba Raya Conservation* | X | X | √ | X | √ | — |

Source: Ministry of Forestry, 2012; PT REKI 2006; PT RHOI, 2009; PT EKL 2009 and personal communications.
* Note that timber may be cut after the forest has reached its biological equilibrium.
** Companies that have already been issued licences.

In addition, at least eight companies have business plans based on generating revenue from the carbon markets. From a REDD+ perspective, ERCs are a viable business model for several reasons:

- management of the concession is based on habitat restoration and rehabilitation;
- with secure land tenure, the concession has a legitimate authority to effectively manage the area;
- monitoring and safeguarding an area from illegal exploitation can be conducted more effectively; and
- there is the potential to obtain financing through a carbon credit (REDD) project (Mazars Starling Resources 2011; Madeira et al. 2010), although all of these companies are still waiting for their applications to be approved.

Whether the motivation is philanthropic or purely commercial, ER licences are in demand. Companies have been successful in attracting investors despite numerous risks: land tenure conflicts, volatile markets, uncertain viability of the restoration strategy and lack of long-term funding from commercial banks. Nevertheless, aside from the four licences already issued, only seven applications are being processed by the MoF. The remaining applicants have been rejected or have not yet met administrative and technical requirements (Ministry of Forestry 2012). Based on the experience of the companies that have received an ERC licence, the process took from 14 to 36 months. The slow process is best illustrated by the six ERC applications submitted in 2009 that have yet to be finalized.

ERCs are relatively new and as yet there is no evidence to indicate that they are financially viable (Box 1). Nevertheless, a study by Bogor Agricultural University (2009) indicates that ERCs are viable over the long-term if multi-product businesses are developed. Subsequent studies have found that a multi-product approach is necessary to ensure financial viability, but the start-up costs are high; one study estimates that US$ 14–18 million is needed in the first six years of operation (Idris 2010; Idris 2011). Unnecessary delays in processing licences will contribute to higher costs since these delays may limit opportunities to secure long-term financing for the concessions.

**Box 1. Creating a financially viable ERC**

Hutan Harapan's business model is based on funding from international donor organizations. A portfolio of diversified income sources is being developed, but this will take time. The initiative has already attracted financial support from Singapore Airlines through a trust fund, indicating that there are possibilities for developing innovative funding sources. Efforts are being made to develop markets for a number of NTFPs, but their viability will not be apparent for a number of years. Carbon markets are another potential source of income.

In addition to delays in obtaining an ERC, the licensing fee is another barrier. RHOI, for example, argued that it should not have to pay to pay the US$1.4 million fee[6] for its concession because ER is designed to restore forest ecosystems, not to exploit timber. This position was rejected by the MoF, however, and RHOI eventually paid. The licensing fee is part of a larger debate over the need for a comprehensive economic incentive package for ERCs that will allow them to be competitive with other types of land uses.

Licensing delays also put at risk forests ecosystems and their biodiversity since the 25 million ha of production forest estate are not covered by any kind of forest licence. In the case of the Hutan Harapan Rainforest ER concession, there was a gap of two years between the time it received its first licence for 50,000 ha in South Sumatra and its second licence, for a forest block located in Jambi. During that time, an estimated 3,318 ha was occupied and illegally converted to other uses such as palm oil plantations and agriculture. Encroachment creates additional costs for both restoration and resolving land conflicts.

According to Forestry Law 41/1999, the exploitation of Indonesia's forests resources is commodity-based: there must be a permit for each commodity to be developed for market. ERCs are no exception. Under the ER policy the MoF must prepare a financing scheme to allow the ERC holders to generate revenue while forests return to their biological and ecosystem equilibrium (Zaini 2010).

As a result, in addition to the ERC licence, other permits may be needed, depending on the business activities that will be developed. While restoration activities are underway, ER concession holders can be given three categories of permits: area use; environmental services; and NTFPs (Table 2). These permits allow the concession holders to generate revenue while carrying out restoration activities. At the same time, the requirement that every commodity, including carbon, must have a separate licence ignores the costs involved in processing applications.

**Table 2. Summary of potential forest utilization businesses in an ERC**

| Environmental services | Area use | Non-timber forest products |
|---|---|---|
| water<br><br>nature tourism<br><br>protection of biodiversity, saving and protecting the environment<br><br>carbon storage | cultivation of medicinal plants<br><br>cultivation of ornamental plants<br><br>cultivation of mushrooms<br><br>beekeeping<br><br>raising animals | rattan, sago, palm, bamboo (includes planting, harvesting, enrichment, maintenance, security and marketing)<br><br>sap, bark, leaves, fruit and grain<br><br>Gaharu wood (includes harvesting, enrichment, maintenance, security and marketing) |

Source: Zaini 2010

A viability analysis found that ER businesses are much more financially sensitive to revenue decreases than to cost increases. Developing a mixture of commodities that have market potential will increase business viability. An enabling environment that supports revenue generation will ensure greater viability of the ER business model (Bogor Agricultural University 2009). Although government regulations recognize the importance of a multi-product model for ERC businesses (see Table 2), little attention has been paid to increasing revenue streams for ERCs. Supporting regulations have yet to be developed for NTFPs, ecosystem services and area use that would allow ERC holders to generate revenue from these alternative sources.

## Lessons learned

ER has the potential to make a significant contribution to SFM. Although it has made possible multi-product forest management, ER regulations alone are insufficient. The still dominant timber forest approach must give way before multi-product forest management becomes a reality. This will necessitate changes in attitudes, behaviour and institutions.

As a new forest business opportunity, ER has attracted investors. In the course of the application process, however, it has become apparent that ERCs are burdened with initial costs (including the licensing process), which are structured the same way as those for a timber-logging company.

The greater challenge is yet to be met. ER is sensitive to revenues rather than costs, which can best be addressed by developing a multi-forest product business. Unfortunately, under the current regulation scheme there are multiple commodity-based permit costs. The business case for multi-forest products must be studied further. In addition, supporting regulations are

needed that will promote income generation for a range of ecosystem services without creating an additional cost.

Not all of the constraints in the ER regulations can be reduced to technical issues such as the need to speed up the application process or creating incentives. There are political issues that can be better facilitated through engaging stakeholders in formulating policy recommendations. The ER constituency — licence holders, applicants and supporters — may need to create legal associations that can make representations to the government and develop broader public support.

## Conclusion

ER is an ambitious initiative that promises to restore degraded and deforested areas, conserve biodiversity, improve forest management and provide a multi-product approach to forest resource use while simultaneously contributing to reducing carbon emissions. With 44 applications, investor interest is strong and there are a number of business models ready to take advantage of this new opportunity. Nevertheless, the long application process for obtaining licences, along with the lack of incentives and difficulties in pursuing alternative revenue streams, are potential barriers to the financial feasibility of ERCs and ultimately to their long-term development. Experience with developing ER regulations indicates that the shift to a multi-product approach is far from complete.

Overcoming the challenges facing ER development requires concerted action by the various stakeholders. An ER association could increase bargaining power, foster alliances with key actors in the finance sector and link with other business groups in the forest supply chain. An ER forum could work with stakeholders at the district and national level to increase knowledge of the benefits of ER to the local economy and ecosystem. In addition, the government needs to further strengthen the enabling environment and make the multi-product forest paradigm a reality.

## Acknowledgement

This paper drew heavily on the following document: Walsh, T., Asmui, Y. Hidayanto and A.B. Utomo. 2012. *Supporting Ecosystem Restoration Concessions in Indonesia's Production Forests: A Review of the Licensing Framework 2004–2012*. Burung Indonesia, Bogor, Indonesia.

## Endnotes

1. Ecosystem Restoration Timber Forest Utilization Licences for Natural Forest in Production Forest - IUPHHK-RE.
2. Biological and ecosystem equilibrium is not defined in government regulations, but in future it may be defined at the Ministerial Regulation level. Government Regulation 6/2007 Chapter 1, Article 14 makes reference to it, but does not provide a concise definition: "An ecosystem restoration permit *(IUPHHK Restorasi Ekosistem)* in natural forests is a permit to develop the area in a natural forest ecosystem production forest so as to maintain the functions and representativeness through maintenance activities, protection and restoration of forest ecosystems, including planting, enrichment, thinning, wildlife breeding, release of flora and fauna to return the element

biodiversity (flora and fauna) as well as non-biological elements (soil, climate and topography) in an area to the original type, in order to reach biological and ecosystem equilibrium."

3. Decree 159/Menhut-II/2004; Government Regulation No.6/2007.
4. The two companies are: 1) the Borneo Orangutan Survival Foundation (BOSF)/*Restorasi Habitat Orangutan Indonesia* (RHOI) for an 86,450-ha ERC in east Kalimantan and; 2) *Ekosistem Katulistiwa Lestari* (EKL) for a 14,080-ha concession in west Kalimantan.
5. REDD+ refers to actions that reduce emissions from deforestation and forest degradation and enhancement of forest carbon stock. See UKP-PPP 2011.
6. The fee is calculated based on geographic location and concession size.

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# 1.6 Increasing the competitiveness of the Brazilian forest sector

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## Introduction

The Brazilian Development Bank (*Banco Nacional de Desenvolvimento Econômico e Social do Brasil*, or BNDES) was established in 1952. It is a public financial institution under the Ministry of Industry and Commerce and is the main financing institution for long-term investments and support of development policies in the country. In 2010, its disbursements totalled US$ 94 billion, up 23% from US$ 77 billion in 2009 (BNDES 2011). Over the last decades BNDES has been critical to forest-related projects in Brazil and forest industry development. Between 2006 and 2012, BNDES invested a total of US$ 901 million directly into forest-related projects, equivalent to US$ 162 million per year (Tomaselli 2012).

Secure property rights facilitate access to credit and support investment.

## Context

In many tropical countries forests are increasingly threatened by unsustainable logging practices. In the 1970s and 80s forest harvesting in Brazil was by and large unsustainable. To remedy this situation, the Brazilian government made efforts to improve forest regulations and control, and to promote sustainable forest management (SFM). In spite of these measures, illegal predatory logging continued to proliferate in the Amazon throughout the 1990s (Hirakuri 2003).

Brazil has a total land area of 833 million hectares (ha), 520 million ha (62%) of which are covered with forests (FAO 2010). Of the total forest area, 512.6 million ha (98.7%) are natural forests and 7.4 million ha (1.3%) are plantations (Figure 1). Although the planted forest area increased 49% between 1990 and 2010, the natural forest area decreased 10% during the same period.

In 2001, the total production of sawlogs and veneer logs in Brazil was 49 million m³, 41% of which came from natural forests (IBGE 2012). In 2010, the total sawlog and veneer production was 59 million m³, but the share from natural forests decreased to 22%. The

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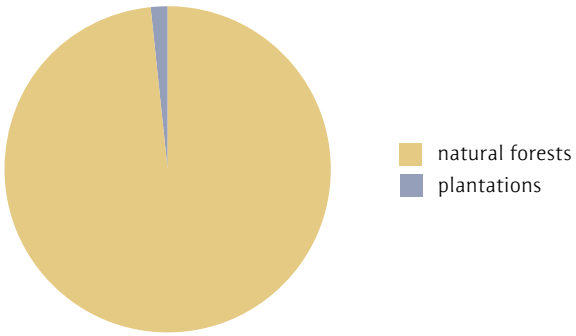
reduction was mainly a result of the increased control over log production, which reduced illegal logging.

Most of the illegal logging practices in the Brazilian Amazon are related to the lack of clear tenure over land and forest. In some regions more than 80% of forest land has no title; this limits the legal supply of logs. Timber from legal sources in the region has become increasingly scarce since 2001, when the Brazilian government started increasing law enforcement. This scarcity led to a 356% increase in log prices from natural forests, which decreased the competitiveness of the regional wood industries. The increase in log prices had an impact on the Amazon timber industry and many mills closed (IMAZON 2010).

**Figure 1. Forest area, Brazil**




Timber companies in the region were forced to adjust to the new government requirements in order to continue to operate. This included complying with several existing government requirements regarding private forest-related businesses in Brazil. The most critical requirement was the need to have a steady source of timber supply from a legal origin; one way for companies to guarantee this was to be self-sufficient by buying titled land.

Experience and administration skills are also key to keeping companies competitive. With the high price of logs, one alternative was to add value by producing flooring and other products. The increase in wood flooring production required a large investment in new technology and manufacturing facilities. Financial resources came, in most cases, from BNDES, an organization strongly committed to SFM. The move towards value-added products — together with SFM — provided opportunities to adjust to new realities by increasing the resilience of the wood industry.

## Credit lines

The Brazilian Development Bank (BNDES) has credit lines for forestry and wood industries. Its main credit line for forestry is called Florestal. This provides support to management investments in natural and planted forests, both for commercial and conservation purposes. It finances silviculture, harvesting, transport and commercialization. The line of credit also includes services such as consulting, research and

development, forest inventory, land titling, environmental licensing and training. It also supports infrastructure such as nurseries and machinery and equipment. The minimum loan is US$ 500,000, with a maximum payment period of 15 years at an annual interest rate of 9%. This is low by Brazilian standards, where inflation averages 4.5% per year. BNDES provides up to 100% of the investment for an initiative (BNDES 2012a).

Its financing line for the wood industry is called the Production Capacity *(Capacidade Produtiva)*. This credit line provides support for new industrial investments. For investments in the Brazilian Amazon, the minimum loan is US$ 5 million at an interest rate of 9.4% per year. BNDES provides up to 90% of the financing. For both the forest and industrial investment lines, the maximum loan amount depends on the repayment potential (BNDES 2012b).

## Guavirá

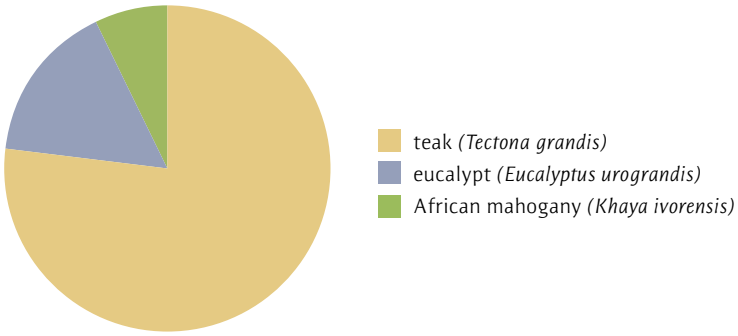
*Guavirá Industrial e Agroflorestal Ltda* was established in 1986 in the state of Mato Grosso in the Amazon region of Brazil. The company has about 250 employees working in both industrial and forestry activities. Guavirá manages 79,000 ha of natural forests in the municipality of Nova Maringa; its sawmill is located about 100 km south of the forest site in the municipality of São José do Rio Claro. The company has an annual production capacity of 25,000 m³, producing sawnwood, edge-glued panels, frames, flooring and decks for the domestic and international markets.

The natural forest in the region is a transitional zone between tropical moist forests and tropical seasonal forests and savanna *(cerrado)*. Guavirá carries out SFM in about 58,000 ha (73%) of the total area. The remaining 21,000 ha are protected forest areas (permanent preservation areas and legal reserve areas required by Brazilian forest law), forest plantations, agricultural land and infrastructure sites.

In 2001, Guavirá, with the support of STCP (a consulting and engineering company) invested around US$ 12 million to expand its mill to increase annual production capacity to 54,000 m³/year and for secondary processing. BNDES provided 50% of the financing. This was the first financing by BNDES for a timber industry based on tropical timber in the Amazon.

The company plants about 500 ha of forests per year, and currently has around 3,000 ha of planted forests: 77% are teak *(Tectona grandis)*; 16% eucalypt *(Eucalyptus urograndis)*; and 7% African mahogany *(Khaya ivorensis*; Figure 2).

**Figure 2. Planted forest species, Brazil**




In 2003, the natural forest area under sustainable management by Guavirá was certified by the Forest Stewardship Council (FSC). In 2008 the company began the certification process for its plantation forests; it is now selling certified teak flooring from the second and third thinnings. All forestry operations — including silviculture, harvesting, road building and transportation — are carried out with their own equipment and personnel. The forest roads can be used even during the rainy season. This allows year-round access to the forests, giving the company a very important competitive advantage over their regional competitors (Guavirá 2012).

Guavirá has also committed to social responsibility. It contributes to improve the quality of life of employees, their families and the community by providing housing, better education and improved health care. Part of the investments financed by BNDES will support reforestation of degraded areas and a social programme that addresses housing, education and health. The company's sawmill has a chain-of-custody certificate; this allows increased production of certified high value-added products destined for international markets. In addition, ongoing employee training on reduced impact logging (RIL) techniques have benefited SFM.

### Manoa

Manoa is part of the *Triangulo Pisos e Paineis Ltda* group. The company began operating in 1972 as a plywood producer in the municipality of Curitiba in the state of Parana in southern Brazil. In 1983, the company purchased 73,000 ha of natural forests in the municipality of Cujubim in the state of Rondonia in the Amazon region. About 56,000 ha of the property (77%) were destined for SFM; the remaining 17,000 ha were intended for conservation and infrastructure.

In 1986, the Brazilian Institute of Colonization and Agrarian Reform carried out a land title programme in the Cujubim region to regularize Manoa forest land use and tenure rights (Manoa 2008). These legally recognized land tenure rights protected the Manoa's forest land against encroachment, invasions and settlements, which are the main causes of deforestation in the region (SmartWood 2005).

In 1997 a wood processing plant was established in Cujubim. The plant could produce about 20,000 $m^3$ per year of veneer and sawnwood. At the same time the company started

to implement sustainable management practices; Manoa is one of the pioneers in the adoption of SFM practices in Brazil. In 2002, after a US$16 million loan from the BNDES, Triangulo started producing engineered wood flooring in Curitiba, mostly using timber produced by Manoa (Manoa 2008).

Since 2002, Manoa has explored ways to improve its forestry administration, focusing on how to bring its business within the new legal guidelines and how to increase efficiency in industrial processing. The company began an employee training programme and purchased new forest machinery and industrial equipment to build new supporting infrastructure. Training provided in forestry operations and logging practices and in industrial equipment operations improved efficiency and reduced waste in its wood processing mills and forest management activities. As a result of its efforts, Manoa was certified by FSC in 2005.

In 2005, Manoa began a partnership with the National Timber Producers Association and the International Tropical Timber Organization to develop a natural forest certification scheme under the Brazilian Programme of Forest Certification (CERFLOR). As a result, in 2006 CERFLOR was recognized by the Programme for the Endorsement of Forest Certification Schemes, and Manoa became the first company in Brazil to be certified under the scheme (Manoa 2008).

In 2009, the Food and Agricultural Organization (FAO) cited Manoa as an example of how to achieve SFM (FAO 2009). The company is important to local socio-economic sustainability; it generates about 400 direct jobs in its forestry and industrial operations. Adopting sustainable management, including RIL and production of value-added wood products, allowed Manoa to make forest management economically feasible and make forestry sustainable.

## Critical ingredients

Attracting responsible private investment in Brazil depends on several factors, such as legality aspects, including forest-related law compliance, business administration expertise to cope with changing environment and diversification of wood products.

### *Legality aspects*

Forestry-related activities are highly regulated in Brazil; many legal instruments and associated administrative procedures govern these activities. Complying with forest laws to promote SFM is expensive for private entrepreneurs, and in many cases they also lack experience and administrative skills. As a result of the high transaction costs and omplexity of forest governance, most companies operating in the Amazon find it difficult to fully comply with forestry legislation.

Legal instruments related to land rights are extremely important and have a direct impact on forest activities. Tenure rights are vital to attracting private investment and promoting SFM; they affect access to and decision making about land and forest resources. Lack of land title is the most common legal problem in the Amazon region. Secure land tenure (Box 1) is not only essential to attracting investment; in Brazil, and in most countries, is a legal prerequisite for an approved Sustainable Forest Management Plan.

The BNDES forestry financing line also provides support for regularizing land title. This has been important in allowing the forest industry to ensure a sustainable supply of logs from legal sources.

**Box 1. Making forest tenure more secure**

The government has proposed policies and measures to make forest tenure more secure. The process requires private land owners to georeference their land parcels. The government monitors and supervises the georeferencing process, which results in land title being granted.

### *Business administration expertise*

The lack of administrative expertise of most forestry and timber companies operating in the Amazon affects the sustainability of their operations. They lack experience in legal issues/compliance, productivity and strategic planning. This has become critical in recent years, since changes in government requirements have been more frequent.

Several wood companies in the Amazon region are operating far below their full capacity because of a lack of legal log supply. It is difficult for companies to be economically viable running at less than half of their capacity; most companies in the region operate at only 30% of their installed capacity. This situation is gradually reducing forest operations in the region and is not sustainable.

Access to forest financing is critical, especially for companies with management teams who have sound business administrative experience and can continuously adjust to new situations. Some companies are learning and adopting innovations to cope with the changes.

The forest-based/timber industry is not static; changes can be rapid and include log supply and demand, markets, products and consumer needs. Companies must be able to adjust to rapid change. Guavirá and Manoa are examples of companies that were able to make the necessary adjustments to comply with new legal requirements, including the use of logs from sustainable sources. They were also able to diversify and expand their forest products by focusing on value-added products to increase their profits; this provided them with a competitive advantage.

### *Diversification of wood products*

Before getting BNDES financing, Guavirá and Manoa produced wood flooring on a small scale. In the late 1990s, both companies realized that there was a strong demand for wood flooring products in the international market, and that a number of Brazilian timber species were widely accepted in the wood flooring market. Some were even considered high-end.

Since the 1970s, Brazil has imposed restriction on the export of logs from native forests in order to promote domestic processing. In spite of this and other efforts, most wood companies in the Amazon region focus on producing and exporting green or/and air-dried sawnwood. This exported sawnwood is processed abroad into value-added wood products, including wood flooring and decks. Guavirá and Manoa recognized the market opportunities of value-added wood products in the international market and decided to expand and modernize their wood flooring plants by investing in new equipment and technology. The investments were significant; the forest products sector is capital-intensive. The BNDES loan was important in allowing the companies to increase production and quality.

In additional, FSC certification ensured the market that wood sources were sustainable and legal. The certification of value-added products was fundamental to increasing profit margins.

## Lessons learned

Land tenure is one of the most important factors affecting investments and financing in Brazil. The lack of forest tenure is a major impediment to investment in forestry, and securing land tenure will foster forestry development and investments. Land is a primary source of guarantee for obtaining credit from institutional providers, and land tenure security provides a foundation for forestry development. Secure property rights are the foundation of competitiveness; having a steady source of timber supply from a legal origin allowed Guavirá and Manoa to overcome the difficulties of competing with large-scale operations and illegal timber.

In Brazil, land titling is a legal requirement to obtain environmental permits for forest operations (Law 6.938/81). The requirement is binding on all projects or activities that may cause degradation to the environment. Most forest land-owners in the Amazon region have only land possession rights, which are given to people who demonstrate long-term forest use on the land.

Under the current laws and regulations, possession rights to forest lands are not sufficient to obtain an approved a forest management plan, have a legal forest operation or obtain forest financing. This type of land is usually more subject to invasions, because it is not backed by legal land title. Forest land-owners without legal land title cannot prosecute to enforce their rights.

Since 2010 BNDES has required environmental permits before granting loans for investments. Guavirá and Manoa helped BNDES shape its forest-related financing programme for companies operating on natural forest lands. The Florestal credit line finances SFM, forest plantations and industrial processing.

Land tenure increases access to existing forest financing programmes. Secure property rights also support investment and SFM.

Guavirá is expanding its forest plantation area, partly through financing from BNDES. The company has enough titled land to plant 10,000 ha of forests. This will be sufficient to supply a new plant with a production capacity over 50,000 $m^3$ per year of value-added products and will support the sustainability of the operations.

Manoa may also start planting forests to further expand its operations. Several introduced species have had good results for the solid wood industry in Brazil, such as teak, eucalypt and African mahogany. Manoa anticipates that the opportunity for enhanced training — made possible through BNDES funds — will help increase the productivity and competitiveness of its operation.

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# Section 2

## Small-scale forestry

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# 2.1 The emergence of investing in locally controlled forestry

DUNCAN MACQUEEN

## Introduction

Forest Connect was launched in 2007 as an ad hoc international alliance. Its goals were to reduce poverty and protect forests by better connecting small forest enterprises (SFEs) to each other, to markets, to service providers and to decision makers. Over the last five years the alliance has — with in-country partners — co-managed a series of phased interventions.

These interventions start by determining the challenges that SFEs face in various country contexts. This is followed by more specific analysis of how value is distributed along each link in the chain — from producer through intermediary processors and traders to the final consumer – and the constraints and opportunities to add value or distribute it more fairly. The process culminates in a range of activities to support business, from product development and marketing to attracting investors. With 12 in-country partnerships and more than 900 members from 60 countries, it has been both exhilarating and daunting to keep abreast of what has been developing in various regions. The alliance has improved the flow of investment in family, community and indigenous small forest enterprises. This investment is necessary to address two fundamental and inter-related forest challenges: forest loss and forest-related poverty.

SUSTAINED ENABLING INVESTMENTS ARE REQUIRED OVER LONG TIME PERIODS IN ORDER TO ATTRACT ASSET INVESTORS.

## Forest loss

Although the rate of forest loss declined from 8.3 million hectares (ha) per year between 1990 and 2000 to 5.2 million ha per year between 2000 and 2010, the loss of biodiverse natural forests remained almost unchanged. The aggregate decline was achieved primarily through Chinese and European afforestation, which increased forest cover by 2.9 and 0.6 million ha respectively (FAO 2012). Forest Connect works to attract investment in sustainable small forest enterprises to make them more profitable. This will create a powerful local incentive to restore and sustainably manage those forests.

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### *Forest-related poverty*

People will likely to be the ultimate losers as forests disappear, and some people will lose more (and more quickly) than others. Forest loss directly and immediately undermines the livelihoods of half a billion indigenous people and 1.3 billion forest people who live in, depend on, and have ways of life and traditional knowledge that are attuned to their forest (FPP 2012). But all people indirectly and ultimately depend on forests to sequester carbon, maintain hydrological and soil cycles, and preserve biodiversity. The demand for food, fuel and fibre must be met by landscapes that intensify production while integrating standing trees and natural forests.

To meet these challenges, the Forest Connect alliance is exploring how best to use scarce resources for supporting SFEs. The goal is to achieve integrated, intensified land use that allows adaptation to, and helps combat, climate change, and focuses on income generation by the forest-dependent poor.

Part of this exploration has involved the search for a better investment model. For this reason, members of the Forest Connect alliance have participated in a series of international dialogues on investing in locally controlled forestry (ILCF); see article 2.2 in this volume. A framework for investment has emerged from this process that provides valuable opportunities for both investors and forest rights-holders.

## Economic, social and environmental returns

Justice demands that indigenous and other forest-dependent people — who stand to lose most immediately from forest loss — have control over the investment decisions that worsen or reduce that loss. Beyond justice, there are good economic, social and environmental reasons for investing in locally controlled forestry.

Economic reasons include the significant scale of investment opportunities. Local family, community and indigenous peoples have some degree of control over 25% of the world's forests, which provide US$ 75–100 billion each year in goods and services. Adding value through investment multiplies these benefits locally; higher incomes are spent or reinvested and business capacity develops. The review of the ILCF dialogue series (Macqueen, Buss and Sarroca 2012) and the related *Guide to investing in locally controlled forestry* (Elson 2012) record numerous examples of promising economic returns and local multipliers.

Social reasons for ILCF include a reduction in risk and conflict. ILCF gives the people who live in or adjacent to forests a controlling stake in income generated from those forests, rather than being peripheral to and negatively affected by commercial activity. Additional gains come from the development of entrepreneurial capacity within local business organizations that have the interests of local people at heart and can grow and diversify to provide social security for their members.

Environmental reasons include the greater environmental accountability that comes when local people, who are an important part of forest management, benefit financially from sustainable forest management. Strong evidence from a range of contexts shows how local control by forest families, communities and indigenous peoples is typically better than state forest protection in maintaining and restoring forests (Macqueen 2011).

## Risks of locally controlled forestry

Despite the promise of substantial returns, locally controlled forestry has rarely fulfilled its investment potential. Four reasons for this have emerged from The Forest Dialogue series on ILCF.

### *Insecure commercial forest rights*

In a series of in-country diagnostic reports on SFEs, the Forest Connect alliance confirmed the consensus that confused or insecure commercial forest rights for local people rob them of commercial opportunity, lead to social conflicts and greatly reduce prospects for sustainable forest management. Despite this consensus, insecure commercial forest rights are the norm in many countries (RRI 2012).

### *Lack of business capacity*

Even where forest rights are secure, translating those rights into business opportunities faces several challenges. Informality is common in locally controlled forestry, and it is rare to find formally registered firms with successful business and financial planning that would give investors confidence. For this reason, the Forest Connect alliance developed a facilitator's toolkit for in-country partners who want to build capacity among SFEs (Macqueen et al. 2012).

### *Insufficient organization and scale of return to offset risks*

It is expensive to perform due diligence on investment proposals in remote forest areas. Investment is simply not possible unless the scale of return compensates for those costs. Support to build strong enterprise-oriented organizations – sometimes using twinning arrangements between Northern and Southern producer groups (such as the support from Agricord linked to Forest Connect) — has been shown to improve market access and investment (Chao 2012).

### *Lack of fair deal brokers*

Investors often lack knowledge of what concrete investing proposals exist, and rights-holders often lack knowledge of which investors could be approached. Where deals are made they are often facilitated by an intermediary of some sort (often an NGO), who puts investor and rights-holder together for a particular proposition.

Through the TFD dialogue series on ILCF it soon became clear that the word *investment* was being used in different ways. Two types of investment exist (for more detail see article 2.1 in this issue):

- asset investment, a conventional investment oriented to profit or product in which the value of underlying capital is expected to increase or at least not fall; and
- enabling investment, in which capital is put in and sometimes written off to build the self-sufficiency and viability of a business.

As noted above, in many cases – especially for local businesses in underdeveloped regions — asset investment is rarely possible without various types of enabling investment. For example, an asset investor seeking to invest in a local business will want to know several things:

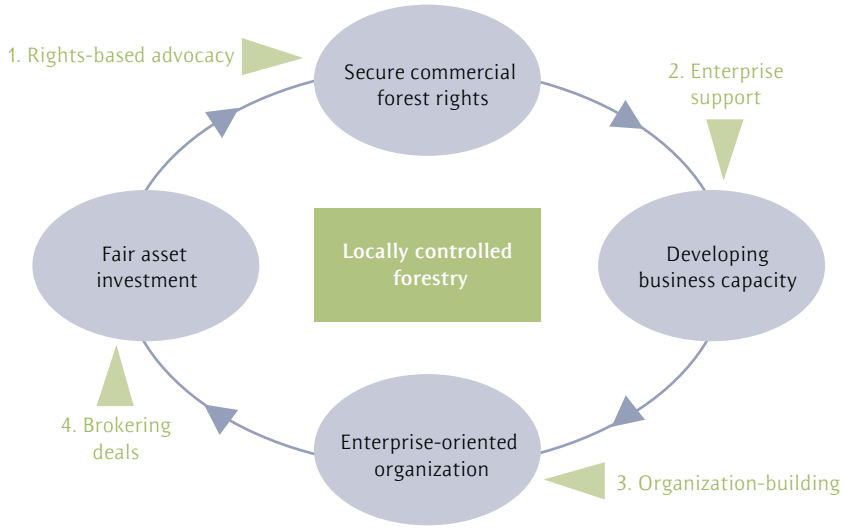
- the business is registered and has secure commercial forest use rights, with a degree of liquidity and access to collateral if it fails;
- the business has adequate organizational capacity, including leadership by competent managers; and
- the scale of operation and cash flow will compensate for the transaction costs of due diligence investigations in setting up the investment.

For many local forest enterprises these essential components are not in place. Both investors and local forest people will gain from putting these components in place, but enabling investment is required to ensure that this happens.

Enabling investment might take the form of advocacy or formal registration of rights and collateral, business capacity development through training or mentoring, or association building to achieve investment scale. It is also needed to assess and help broker fair deals with prospective asset investors. In some situations the asset investor may assume the cost of some of this enabling investment, but only if this does not erode profit margins below an acceptable threshold.

ILCF is an approach to combining enabling and asset investments in ways that are understood by and acceptable to different types of investors (e.g., grant donors and private-sector loan or equity investors). It delivers acceptable returns to investors, incentives to restore or maintain forest cover and more secure, capable and organized business under the control of local forest people. It is a cyclical process in which enabling investments lead to secure commercial forest rights, enhanced business capacity and greater organizational scale. This ultimately attracts fair and balanced asset deals that further strengthen resource right claims and the rest of the process (Figure 1).

**Figure 1. ILCF framework**




## Case study: Shea butter from Burkina Faso

Shea butter, known locally as *karité*, is derived from the Shea nut tree *(Butyrospermum parkii)*, which grows in western Africa. The fruits of this tree contain a nut which can be dried in the sun, ground by hand, stirred in water and then boiled to release a substance which rises to the top and solidifies to create shea butter. Shea butter protects the skin from sun, wind, heat and salt water. Women in Burkina Faso have supplied shea butter to local markets for centuries, although production is labour-intensive and the returns are low because it is so widely available. Higher value international markets for shea butter have developed only recently. Meeting the more exacting quality standards of these markets, collecting larger volumes from scattered producers, and accommodating more rigorous delivery schedules is a challenge that requires investment.

The aims of the NUNUNA Federation[1] are to reduce poverty and improve the status of women involved in shea butter production (most of whom are illiterate) by tapping into these higher value markets. Women's groups harvest shea nuts on public land on the basis of customary rights.

Enabling investment by TreeAid, a Forest Connect partner, is supporting discussions with government on how to improve the security of commercial rights. This could create a stronger incentive to enrich or restore forest areas with desirable trees, such as shea. This would mean adding formal entitlement to customary ownership and use patterns for these trees in ways that reward those who invest in planting and caring for them. In the interim, NUNUNA members have restricted access to 3,345 ha of shea tree areas to protect them from illicit harvesting or felling.

Business capacity has also been developed. In 2003 a commercial deal was made with the cosmetics company L'Occitane, which agreed to buy shea from 600 women. This deal led to the commercial development of NUNUNA, which later benefitted from enabling investments from technical partners such as the Centre for Study and International Cooperation and the Dutch Interchurch Organization for Development and the Netherlands Development Organization (SNV), an international NGO. Rigorous business accounting and management procedures have been developed since the initial deal.

NUNUNA started as a district-wide union of 18 groups. It now comprises 4,596 members, a growth of 156% from the 2,985 members in 2009. NUNUNA worked with SNV to develop a new business model, which included an investment proposal to construct a small factory for the industrial processing of shea butter.

These efforts led to asset investment by the Agridis Foundation to construct a fully mechanized and more efficient production facility. NUNUNA's production capacities rose from 300 to 600 metric tonnes (mt) and the production costs per kilo of butter decreased by 95% (from 1.68 €/kg to 0.86 €/kg). In addition, 32 groups in the cooperative were certified as Fair Trade in July 2006, and the cooperative gained organic certification in December 2007. These technological improvements and certifications have helped the 4,000 members achieve a 95% increase in income from shea production. The status and workload of women shea nut collectors has also improved.

## Conclusions

Investing in locally controlled forestry can apply to a wide range of endeavours. By linking enabling and asset investment it can improve the ways that overseas development aid (including REDD+ financing) can leverage desirable forms of private sector investment. This will benefit both forests and the people who depend on them.

Sustained enabling investments are required over long time periods in order to attract asset investors. Asset investors want to engage with viable businesses that are sustainable in their use of forest resources and are controlled by the poor, who share in the profits generated. One challenge is that resources for such enabling investment are scarce; donors are often reluctant to "subsidize" efforts that will profit the private sector. For this reason it is important to emphasize strongly the leverage on private sector funds that this approach brings, and the benefits that result in both avoided deforestation and poverty reduction.

At the same time, with resources so scarce, it is important that enabling investors in SFEs focus their support on sectors that are likely to result in landscape-level change. They should consider moving away from support to niche craft-type businesses that dominate many enterprise support initiatives, and consider instead how best to support SFEs in the food, energy and construction sectors that dominate forest revenue generation.

The members of the Forest Connect alliance are conducting a strategic analysis of exactly which sub-sectors in various geographical contexts might best deliver integrated, intensified and climate-smart land use. Applying the ILCF framework to these sub-sectors might help to achieve the scaling-up that is so important to forest conservation and poverty reduction.

## Endnote

1. The Union of Women Producers of Shea Products of Sissili and Ziro, established in 2001, became the NUNUNA Federation in 2011.

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# 2.2 Rethinking investment in locally controlled forestry

DOMINIC ELSON

## Introduction

The Forests Dialogue (TFD) has facilitated nine dialogues throughout the world, with more than 300 participants from many different backgrounds. These initiatives tackle the challenges facing locally controlled forestry and determine how more investors can be encouraged to take a serious interest in the sector. It is the first time that investors and forest rights-holders have come together to discuss these issues in such detail. The culmination of this work is a detailed guide for investment in sustainable local forest enterprises (Elson 2012a).

Locally controlled enterprises are a good way to achieve sustainable economic and financial returns from forests.

This article applies some of the key concepts presented in the guide to two case studies. These case studies illustrate the challenges to investing in locally controlled forestry and the potential solutions. The guide itself provides much more detail on designing investment models, the process of building a business and the ingredients for success.

The term *forestry* refers here to small- and medium-sized forest enterprises (SMFEs). Experience shows that building this enterprise sector is both the means by which locally controlled forestry will be possible, and the only way in which it can be financially, environmentally and socially sustainable.

## Locally controlled forestry

Locally controlled forests involve one billion people and one quarter of the world's forests. They provide $75–100 billion each year in goods and services and a broad range of other economic, environmental, social, cultural and spiritual benefits.[1] Rights-holder organizations such as the Global Alliance of Community Forestry, the International Family Forest Alliance and the International Alliance of Indigenous and Tribal Peoples of Tropical Forests, known collectively as the G3, define locally controlled forestry as follows:

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*"The local right for forest owner families and communities to make decisions on commercial forest management and land use, with secure tenure rights, freedom of association and access to markets and technology."*

Local forest rights-holders have substantial — and growing – decision-making power and control over forest land but do not necessarily have tenure or ownership rights. This is certainly the case in most developing countries. On the other hand, there are also 25 million forest owners in North America, Australia and Europe who fit the description of locally controlled forestry and who have clear tenure.

From a development perspective, locally controlled forestry has clear benefits: it implies local participation, decentralization and equity. It can also be seen as a superior forest management system compared to top-down state or corporate control, as those closest to the forest are more likely to have cultural and practical knowledge of the local landscape, and have a vested interest in the long-term conservation of its ecological services and income-generating features.

## Investing in locally controlled forestry

The way in which many forests have been managed in the past 60 years has not led to good outcomes for either the forests or the people that live in them. Carving up forests into large industrial concessions has not usually led to trickle-down benefits for forest communities. Conservation areas and national parks have had mixed results; they often bypass local people's rights and thus fail to build effective partnerships or a model of economically and socially sustainable forest management.

Microfinance for tiny boutique businesses serving niche markets and heavily supported by donors may be a useful first step, but it is often hard for such enterprises to make the change to become a self-sustaining business. The problem with this approach is that when the resources are exhausted or the grants are no longer available, the local people are often left worse off than before. This goes some way to explaining the persistence of poverty among forest-dwellers.

Building sustainable economies in forests may result from the formation of a thriving SME sector, where the rights-holders have a meaningful stake. SMEs are the "missing middle" of many developing economies, and unlike either micro-enterprises or large-scale plantations and concessions, they can provide improved access to goods, services, high-quality employment opportunities and markets. They are a way for forest communities to overcome isolation, build self-reliance and stand their ground with political and economic institutions, thus shaping their own destiny and that of their descendants and the forests.

## Thinking about investment differently

For a locally controlled forest enterprise that is struggling to raise investment capital, as many other SMEs do, it may be reasonable to assume that any kind of investment will do. Money is useful wherever it comes from. However, not all investment is the same, and a mismatch between the goals of the investor and those of the enterprise can create

problems in the future. Profit-seeking investors have fairly straightforward goals that should also be shared by the enterprise; that is, make a profit. But these investors are also the most demanding, and most SMEs fail to meet their criteria.

Therefore, where investment in locally controlled forestry has taken place, it has often come from governments, donors and philanthropists, working through non-government organizations (NGOs) or state-run bodies. In some cases investment has come from the private sector under the umbrella of a Corporate Social Responsibility (CSR) scheme. The downside of these kinds of investments is that they usually aim to achieve non-business outcomes, such as social or environmental goals. That may mean they bypass essential steps needed for long-term commercial success.

With few exceptions, trading companies set up by NGOs are neither commercially successful nor efficient at meeting social and environmental goals. In the community forestry sector, unused sawmills stand rusting in the forest, the legacy of a well-meaning grant from an NGO or local government department. Gifts of equipment, or "soft" loans without conditions, compromise the underlying viability of the business. Enterprises that might otherwise have been able to achieve self-sufficiency become dependent on subsidy, and capital is misallocated to visible and easily verifiable items (e.g., sawmills), rather than the crucial, but hard-to-measure, aspects of business development, such as leadership skills and technical training.

When the non-profit sector makes soft loans in an effort to use commerce to meet their social or environmental goals, or for-profit companies set up CSR schemes in an effort to achieve a social licence for their main commercial activities, both expertise and capital are being poorly allocated. The end result is blurred boundaries and confused goals. Most crucially, mainstream investors remain on the sidelines, unconvinced and unengaged.

This is why we need to change the way we think about investment. The non-profit sector has valuable expertise in engaging with forest communities, and is intrepid enough to get involved in isolated areas. Governments have the resources to address market failures, improve the conditions for investment (e.g., through tenure reform) and reduce transaction costs. The for-profit sector has a grasp of commercial realities and links to markets, technology and capital. The challenge is to structure these different types of investment in the right way.

## An example of a challenging case

Even when investors are keen to get involved in locally controlled forestry, they are often deterred by the complexities of engaging commercially with remote communities in hard-to-reach places. For instance, in Indonesia's Papua Province, on the western half or New Guinea island, some indigenous communities have recently been granted permits to extract limited quantities of valuable hardwood *(merbau)* from the primary forest. On paper, this may look like a business of sufficient scale, as each community group could, in theory, have annual sales of US$ 250,000.

In practice, however, the groups have limited capacity, are isolated and are most unlikely to achieve even a fraction of these potential sales. They are having difficulties with equipment and face organizational challenges. The local government — to its credit — supports locally controlled forestry and is keen to ensure that these communities maintain local control over their enterprises, but there is a danger that outside interests may make deals to manage the extraction process in a way that does not benefit the local people. Furthermore, Indigenous People are finding that even when they deliver timber to the local city, the prices they are being offered are very low compared to prevailing market rates.

The challenge is how to channel investment to these groups so they can acquire essential capital equipment and cover running costs, while also linking them to markets, facilitating local permit and legality issues and ensuring that they build a robust asset base over time. This needs to be done in a manner that will not weaken the long-term business case or inhibit the capacity of the local people to learn by doing. The answer may lie in learning how Swedish forest cooperatives overcame similar challenges.

## Learning from Södra

Södra is one of Sweden's most successful forestry cooperatives. Owned by 51,000 members, it has annual sales of over US$2.5 billion. It is among the world's leading pulp producers and suppliers of construction timber. Yet the cooperative was originally formed with the modest vision of improving the prices that family forest owners were getting for their timber.

The founding insight of Södra in the 1930s was that increasing skills would not be enough to substantially improve livelihoods of forest farmers. Northern long-rotation forestry required income in the present day in order to develop better practices that will yield benefits in 60 to 100 years. This required good prices from the mills, but the mills seemed to be exercising their market power to drive down prices at the farm gate. In the early years, Södra was involved in product aggregation in order to obtain better prices from the mill, in addition to giving technical advice to farmers.

As Södra grew stronger, members saw the need to move into the processing industry, for which it required capital. Today, Södra would not have any difficulty obtaining bank financing for any of its subsidiary companies. In the early years, however, it would not have been able to expand into the processing industry without substantial capital. This asset base was created by the farmers themselves, who agreed to forgo a portion of the revenue for all the timber they sold to the cooperative. This revenue was held in a capital account in the member's name and invested in the business. Södra was built by the parents and grandparents of the current members.

Although it exists to benefit its members, Södra must still operate in the world market, and it would not be sustainable if it paid prices to farmers that were too far above market rates. The Södra pulp mills are said to be firm but fair with the farmers, driving a tough bargain and expecting a high-quality product. This keeps the mills profitable and lets the farmers gain through the benefit sharing process.

## Applying the Södra model in Papua

For community forestry to be successful in Papua, it needs to be acknowledged that it will be some years before these community units are independent enterprises that can attract investment on their own merits. To cover this transition period, the communities are working with local NGOs and entrepreneurs to form a joint venture (Elson 2012b).

This joint venture would supply equipment, arrange transport and permits, and deal with sales and marketing of the timber. The community would still have control of their traditional forest area, but would delegate certain aspects of commercial activities to a private company. This would enable them to reduce risk, improve stability of the enterprise, achieve a steady income and over time create a good reputation. The company would take on the riskier aspects of the business, increase the scale of the initiative and improve negotiating strength. Communities could concentrate on what they know about the forest landscape and work to organize their community around a common purpose.

The strength of this concept is the fact that it takes some of the risk out of investment in the capital equipment. The business units develop specific expertise that would be hard for individual community forest units to develop on their own. For instance, the leasing and logistics unit will have expertise in maintaining equipment, while the trading unit will develop strong market skills. The business will likely need to look initially to donors and impact investors (those who seek to create positive social returns) for capital investment, and grants will be needed to cover some of the transaction costs and the capacity building. But over time, the company will be able to obtain mainstream financing.

## Critical success factors

Family foresters in 1930s Sweden and today's indigenous communities in Papua cannot be compared directly. But although the contexts are very different, the constraints are similar. Even today, it would be unlikely that a single farmer in Sweden, or a small group of farmers, could leverage their income from timber to raise investment capital to buy their own equipment. They would face the same issues of scale and capacity that are faced by communities in Papua. Working together and pooling resources to invest in a business owned by a cooperative is the most sensible thing to do in such circumstances.

There are various ingredients for success in any enterprise (Elson 2012a), of which these three are most pertinent in this case:

- the business is a separate entity;
- a benefit-sharing mechanism is in place; and
- financial sustainability is possible.

### *The business is a separate entity*

There needs to be clear delineation between managers and local owners, where such roles may often overlap in practice. Local rights-holders may have representation as investors (either as direct shareholders or through their membership in a cooperative), but this does not confer the right to influence the day-to-day running of the business. Although Södra, as a cooperative, may encourage democratic participation, the business itself may not be particularly democratic.

All parties must consider the business to be a separate entity that stands apart from its directors and shareholders. In some jurisdictions a company is in fact a discrete legal entity and the embodiment of the agreed rights and obligations of all parties. The company's interests cannot be subordinate to any group of stakeholders and the benefits should be distributed according to an agreed formula. This is the basic position when negotiating benefit sharing: any act that compromises the sustainability of the business cannot be permitted, even if all parties agree to it.

### *Benefit-sharing mechanism*

Locally controlled forestry is a means to improve the livelihoods of local people and alleviate poverty. This is one of the main reasons that rights-holders advocate for stronger tenure and wish to promote investment in locally controlled forestry.

In order to build a business over the long term, however, rights holders also need to see themselves as long-term investors. Like the members of Södra, they must forego consumption today in order to build up something bigger for tomorrow.

In some respects, this concept of financial sustainability is analogous to environmental sustainability. Just as sustainable forest management demands some sacrifice of short-term revenue in order to secure a long-term flow of goods and services, sustainable financial management also requires self-restraint. The Swedish farmers of the 1930s were not especially rich — indeed, there was much poverty in rural Sweden at the time — but they saw the long-term benefits of deferring some of their income in order to secure future assets. In order to do this they had to have trust in the cooperative, which they buttressed with their own role as overseers of the management team. Even where most commercial activities are delegated to shared organizations, such as Södra, locally controlled forestry requires active involvement in all the institutions, and ongoing engagement with local and national political issues.

### *Financial sustainability*

At the heart of the model exemplified by Södra is the recognition that the task is to build a viable business rooted in commercial reality. While grants and philanthropy can improve external conditions (such as tenure), and develop favourable internal conditions (such as management capacity), these are just the stepping-stones to becoming a fully commercial business. Many cooperatives have demonstrated that there is no contradiction in being community-owned and yet resolutely commercial.

Building on these core principles and applying them in Papua — which is a challenging context for development interventions — will require a layered investment approach that includes both grant-funded enabling investments and more conventional asset investment. The aim is to build a sustainable business, not just obtain short-term rents or income from labour. Sustainability is the goal, not only in the environmental sense – although of course that is crucial for a locally controlled forestry business to thrive in the long term – but in the financial sense. To survive, a business must get many things right; the most fundamental insight is to focus on the market.

## Conclusion

Forests can be managed so they yield sustainable economic and financial returns. In addition, almost any individual or group of people possessing imagination, enthusiasm and access to expertise can build a successful forest enterprise. The challenge is to interpret local conditions in a manner that reconciles the goal of strengthening local control while building a viable business that is attractive to investors. This means including local people as investors – not just participants — so that all parties can achieve their aim of creating sustainable financial and environmental value.

## Endnote

1. Data comes from International Family Forest Alliance: www.familyforestry.net.

## References

Elson, D. 2012a. *An Investment Guide to Unlocking the Value of Locally Controlled Forestry.* London: Growing Forest Partnerships.

Elson, D. 2012b. PT Rio Grime Community Forestry Leasing and Marketing Company: Business Proposal (Draft v.1.1), Jayapura, Indonesia.

# 2.3 EcoEnterprises Fund's experience in sustainable forestry

NATHALIE PRADO

## Investing in nature and communities

There is a long tradition of undertaking conservation with innovative strategies to preserve the precious ecosystems and the underlying resource base on which we all depend. About a decade ago, the concept of using market forces to bring about positive environmental and social impact was in an embryonic stage. New approaches and tools were developed to address the degradation of the natural world. Some of the most important initiatives — such as organic agriculture and sustainable forestry with certification regimes including that of the Forest Stewardship Council (FSC) — began to take shape as an industry force at that time. At the same time, there was a growing realization that working with rural communities to manage local natural resources as a means to generate sustainable income would be key to the long-term health and well-being of the people and the environment.

ECOENTERPRISES FUND IS A PROVEN MODEL TO FINANCE INNOVATIVE BUSINESS STRATEGIES IN LATIN AMERICA.

EcoEnterprises Fund filled the gap for small emerging businesses focused on sustainably managing local natural assets, such as the Amazonian rainforest and the Talamanca Biological Corridor. It was a pioneer in this niche. For more than a decade, the fund proved that impact investing — which pursues monetary objectives while also generating social and environmental returns — helps address the needs of communities at the bottom of the economic pyramid that live in or adjacent to significant ecosystems, watersheds and biologically critical habitats while delivering returns for investors.

EcoEnterprises Fund's first fund under management, *Fondo EcoEmpresas, S.A.* was launched in 2000. It invested in community-based sustainable businesses in Latin America in order to bring about social, environmental and economic change. EcoEnterprises Fund's second fund, EcoEnterprises Partners II, L.P., was established in December 2011. It builds on the success of previous efforts.

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## Opportunities

It is widely recognized that the current deforestation rate has a direct impact on climate, landscapes and flora and fauna. Between 2000 and 2010, South America suffered the world's largest net forest losses: approximately four million hectares per year. In Latin America, deforestation occurs in part because rural poor people depend on a subsistence agriculture economy. A critical component of EcoEnterprises Fund's investment mandate is to encourage sustainable forestry practices through long-term management of this disappearing resource. This will help to maintain the quantity and quality of the forests while safeguarding their environmental functions.

The companies in EcoEnterprises Fund's portfolio champion new products and services. This transforms a field that, although still young, now has a proven record of performance. Over the years, the fund has supported much innovation and expansion. This includes start-ups, established companies that are already in the value-added forestry products business, and companies who complement their activities in agriculture, non-timber forest products (NTFPs), aquaculture and ecotourism with a forestry component. With greater connectivity of global markets, companies have found success in strengthening relationships along the value chain: buyers, local communities, certifying agencies, environmental groups and small producers. This helps companies secure raw materials, operate more effectively, maintain the long-term sustainability of the company brand and ensure their competitiveness in the marketplace.

The EcoEnterprises Fund is structured as a ten-year fund. It limits its investments in forestry to expanding manufacturing and value-added processing in wood products, product diversification and increasing sales capacity. Similar opportunities are present in the sustainable NTFP market, although because the sector is highly fragmented — with unusual and niche products such as nuts, fruits, resins, leaves and medicinal plants — investment deals are less common. EcoEnterprises Fund's experience has shown, however, that the harvesting of forest products other than timber can provide financial incentives for keeping forests intact, maintain biodiversity and diversify the income base of indigenous communities.

Agroforestry is another productive investment area. This sector is increasingly important due to food security issues. Reforestation efforts that enhance carbon and watershed benefits are a key component of these efforts. In the case of sustainable coffee and cocoa production for the local and export markets, these products are integrated into timber production along with a variety of fruiting shade trees. This generates income while preserving the environment and local animal habitat.

## Types of projects

Investments in forestry and NTFPs accounted for 30% of EcoEnterprises Fund's first fund. These are some examples:

- High-quality wood flooring: The first company in Bolivia to receive FSC chain-of-custody certification sold non-traditional wood species to high-end customers in the U.S. and Germany.
- Natural charcoal from sustainably harvested oak purchased from local communities: One of the first companies to produce and sell high-quality FSC-certified charcoal for barbeque use in Mexico sponsored FSC-certification on over a million acres of forestland owned by *ejidos* (communities), which spurred interest in FSC's programme throughout the country.
- Handcrafted garden furniture from wood supplied by indigenous peoples: A company manufactured FSC-certified garden furniture and other consumer wood products for export to large home improvement stores in the U.S. and Europe.
- Forestry management in Central America: A company dedicated to sustainable forestry practices through reforestation activities certified by FSC grew through merging with and acquiring various local sustainable forestry companies.
- A natural solution for insects: A company sustainably harvested and processed seeds of an Amazonian palm to produce andiroba oil, which has been used by the indigenous people as an insect repellent. The product was sold on the Brazilian and export markets.
- Acai juice smoothies: The company that introduced the acai berry from Amazonian rainforest to the U.S. and Europe was also the first to obtain organic and Fair Trade certification. Acai, a new so-called "superfood," has traditionally been an indigenous food for local people.

## Lessons learned

These are some of the lessons learned in more than ten years of experience in impact investing.[1] When these issues are addressed, risks can be diminished.

### *The bottom-line is key to long-term sustainability*

The business must be viable in order to achieve results (profitability, environmental benefits and positive social impacts). This is not an easy objective for small and growing companies involved in value-added forest products. There are the challenges common to any small business: lack of access to capital, changes in local laws, market limitations, access to raw material, cash management and limited institutional capabilities. In addition, there is the question of whether the market is willing to pay for the sustainability aspect of a business. Market access is difficult to begin with, and companies must have FSC-certification to capture the export market. In many cases this certification does not give them an advantage. Many companies add fair trade and organic certification if applicable. A company's performance depends on its ability to navigate these hazards.

### *Strong management is the main predictor of success*

The importance of the personality and dedication of the company leadership cannot be overstated. The EcoEnterprises Fund has supported many entrepreneurs who did not have business or financial skills, but those who are driven by their mission — and more importantly, are open to learning and advice — are often able to overcome difficult odds. Managers who are unable to recognize strengths and weaknesses often do not make the adjustments necessary to strengthen management teams or supplement skill sets. This is the case at the community level as well. A leader who pursues the best interests of the local people while understanding what can and cannot work for the company is best able to devise effective and lasting business arrangements.

### *Expectations must be managed and formalized*

In order to succeed, a sustainable business that relies on the long-term availability and management of a resource base must be committed to community engagement. Any imbalance in expectations by the parties involved can be worsened by previous negative experiences, such as broken promises, contract breaches, land tenure issues and power struggles. Working partnerships between a company and the local community must include a practical action plan with measurable steps that can be evaluated through ongoing coordination and communication. Whether through a contract, Memo of Understanding, letter of intent or another legal document, this approach makes the partnership official; it should set out terms and conditions for all parties. Positive results require communication, negotiation, learning, practice and sharing common goals. The long-term success of the initiative will also be helped by giving voice to the local population, especially women and indigenous people.

### *Patient and hands-on investors are needed*

Investors should be involved intimately in the business, providing technical assistance and operational support. With small community-based businesses, this is a critical aspect to not only foster company growth and learning, but to realize social and environmental objectives. Moreover, a long-term perspective is required; although markets are growing, the demand for certified products or NTFP goods is still developing. Return on investment cannot always be achieved in the short-term. A long lead time may be necessary when dealing with consumer education, capacity-building for local partners, and the biological constraints of the forestry resource.

### *Monetizing "natural assets" is slow in coming*

Given the fund's conservation focus, carbon markets, biodiversity offsets and payment for ecosystem services are of particular interest. It is hoped that small companies and partner communities will benefit from valuing the natural resource base to include products other than timber. This can complement the core businesses and gain higher returns through multiple sources of revenues. These valuation schemes have not yet been standardized or implemented by small companies due to cost, lack of market and verification issues.

### *Managing growth is difficult*

Managing growth is one of the greatest challenges. One difficulty is having sufficient cash and managing it effectively. Achieving FSC certification and absorbing the costs of community certification adds more pressure. A related problem is obtaining raw materials, whether this is timber or NTFPs. Once a market is established, demand may rise faster than supply; this could result in overharvesting of the resource. Management activities must minimize the intensity of this impact, spread the purchasing across many suppliers and closely monitor the projects.

### Case study: Sambazon

American brothers Ryan and Jeremy Black are avid surfers who often travel to exotic destinations. During a trip to Brazil, they tried a popular local drink made with the native açaí *(ah-sigh-EE)* palm berry. Açaí comes from the Amazonia palm tree *Euterpe oleracea*, the same tree from which heart of palm is harvested. Açaí has been a traditional staple of the indigenous communities of the Amazon and reputedly has a high level of antioxidants and essential fatty acids. After trying it, the brothers were struck by the idea for a new business. They raised enough money to buy a container of frozen açaí pulp and imported it into the U.S. In 2000, Sambazon (Saving and Managing the Brazilian Amazon) was born.

On a shoestring budget, Sambazon staff went door to door selling açaí to juice bars in Southern California. Famous surfers became the first advocates for the juice. The Blacks also marketed açaí to athletes in extreme sports. The brothers took advantage of public events, trade shows and athletic promotions and sponsoring events at high-visibility venues.

Sambazon has been a leader in the multibillion-dollar juice, smoothie and energy drink business. In January 2003, the company served approximately 350 retailers; this multiplied to 1,000 by the end of that year. Sambazon's branded product is now available in nearly all juice and coffee bars, supermarkets and cafes. From an initial investment of $200,000, made through "angel" investors and a few co-financiers, the company was able to leverage additional financing from the Overseas Private Investment Corporation and investors from the organic community. Sambazon is now a multimillion-dollar enterprise. In 2009–10, the company fueled expansion through equity and working capital provided by shareholders such as Stonyfield Farms.

Sambazon has managed to maintain its advantage in the marketplace through product innovation, marketing and a reputation for a high-quality product with a strong environmental ethic. Sambazon's commitment to preserving the Amazon and providing a sustainable, income-generating activity for local growers has become part of its brand marketing. The company organically certifies its entire supply chain and has pursued Fair Trade certification.

In order to maintain the environmental integrity of its brand, Sambazon launched the Sustainable Amazon Partnership (SAP), which includes several community outreach efforts. With the demand for açaí on the rise, the price of the fruit has tripled in recent years, but Sambazon's relationships with cooperatives and growing communities have helped it obtain improved terms of trade.

The SAP's first focus was developing a set of indicators to help measure the company's environmental and social impact and demonstrate the benefits of wild harvesting. The EcoEnterprises Fund's first fund was proud to support this effort through its technical assistance facility.

Through its business activities and the SAP, Sambazon supports education and training and development of economic opportunities for local communities. The company's efforts include sponsoring organic cultivation practices, funding reforestation programmes that use native species and underwriting an acai seed jewelry company.

## Conclusion

EcoEnterprises Fund looks forward to the next decade of investing in sustainable forestry initiatives. The initiative's first fund supported innovative efforts in the marketplace; the second fund supports companies that pursue these novel business strategies. The fund will invest in businesses that scale up these results to achieve the greatest environmental and social benefits and financial returns.

Because of Latin America's valuable natural resource base, the region has a comparative advantage; social and economic trends across the region favour the development of environmental and socially-compatible businesses. There is a recognition that the natural environment is able to fuel long-term economic growth, ensure food security and reduce poverty. Innovative market solutions and new business models can provide for local communities and preserve critical ecosystems; they present a significant investment opportunity. These companies serve as examples to emulate as they work to protect the environment and change the way that business and conservation operate.

## Endnote

1. These are provided in more detail in T. Newmark and M.A. Pena. 2012. *Portfolio for the Planet: Lessons from 10 years of Impact Investing*. London: Routledge/Earthscan Press.

# 2.4 Linking a wild medicinal plant cooperative to socially responsible companies

JOSEF BRINCKMANN and BRYONY MORGAN

## Introduction

Although sustainable timber production has been the focus of the majority of global research and investment to date, responsible management of non-timber forest product (NTFP) harvesting is also important to maintain ecosystem integrity and function. Indeed, NTFP collection can contribute significantly to livelihoods in rural areas, and product development based on these resources is often promoted as an incentive to prevent conversion of natural habitats.

However, experience has shown that all too often initiatives supported by government-funded environmental and social sustainability development projects come to a halt once external funding and technical cooperation stops. Engaging the private sector in initiatives for sustainable production of NTFPs can motivate investment in resource management in the longer term. To this end, the FairWild Standard[1] and certification scheme were developed. They provide a framework to guide the sustainable harvest of wild plant resources, and to stimulate the development of long-term, mutually beneficial trade relations between collectors, producer companies and cooperatives, and buyers of fair trade botanicals.

Facilitating links to responsible buyers can stimulate ongoing investment by the private sector.

This article shares the experience of supporting the implementation of sustainability principles in practice for wild harvesting of Southern schisandra (*Schisandra sphenanthera* Rehder and E.H. Wilson; Schisandraceae) berries in the Upper Yangtze region. This is a high-priority area for biodiversity conservation in China, home to an estimated 75% of commercially harvested Chinese medicinal plant species and to many threatened plant and animal species (Cunningham and Brinckmann 2010).

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The project was implemented under the European Union (EU)-China Biodiversity Programme (ECBP; Box 1):

- it engaged harvesters from 22 villages in sustainable management activities;
- it led to the establishment of a cooperative to sell certified organic berries to the market; and
- it linked the cooperative in a fair trade agreement with two herbal product companies: 1) an organic botanical extraction company in Shanghai; and 2) a manufacturer of traditional herbal medicinal products in California (the experience of the latter is the main subject of this article).

**Box 1. The EU-China Biodiversity Programme (ECBP)**

The five-year (2007–2011) project, Sustainable Management of Traditional Medicinal Plants in the High-Biodiversity Landscapes of Upper Yangtze Eco-region, was one of 18 field projects within the EU-China Biodiversity Programme (ECBP). The projects were funded by the EU and implemented by the United Nations Development Programme (UNDP) in cooperation with China's Ministry of Environmental Protection (UNDP 2006 and 2011).

The project enabled collaboration between WWF China, TRAFFIC, the International Union for the Conservation of Nature, the Ecology Committee of the Natural Resources of the Chinese Materia Medica, and several provincial forestry bureaus. The aim was to develop and implement a strategic model for biodiversity conservation and sustainable development in one of China's important Giant panda *(Ailuropoda melanoleuca)* habitat[2] areas (Cunningham and Brinckmann 2010).

The Upper Yangtze River is a major source of medicinal plants. Over-exploitation has been widespread, especially following bans on logging and farming on steep slopes, which limited sources of household income. Surveys carried out by the project team early on showed (Cunningham 2008) that between 30% and 58% of the region's household cash income was from the sale of about 100 species of medicinal plants, only seven of which were cultivated. These plants are a critical resource during hard times; after the Sichuan earthquake in May 2008, which killed 69,000 people and left about 4.8 million people homeless immediately afterwards, there was a noticeable increase in the number of people harvesting medicinal plants, primarily for cash income for reconstruction (Cunningham and Brinckmann 2010).

Field activities were led by WWF China and began with a pilot in Daping village. A baseline survey of medicinal plant species was carried out in collaboration with the local community, and a resource management plan was developed and implemented. The survey resulted in a short list of high-priority species for sustainable development. In order to scale up to a level where commercial sales would be feasible, county government and village leaders were invited to join in the management planning process. With their support, meetings and training were organized, engaging harvesters from 22 villages.

One outcome of these activities was the development of a community-based cooperative. This was initially established as a loose association of households, and focused on delivery of technical support. As the project developed, it became apparent that legal standing would be needed if the group were to own a bank account and trade as a business. In 2009, the Shuijing Traditional Chinese Medicine Producers Association was formally registered as a legal entity. Around 150 households voluntarily joined the new cooperative, and voted to select the heads of the organization. Project staff provided technical support throughout the process, and invited the Kangmei Institute of Community Development and Marketing (from Chengdu City, Sichuan) to assist with facilitation and institution building at the community level. Development of the cooperative was also strongly championed by individual community members (pers. comm. Y. Zhao Y. and Q. Xu).

## Engaging industry: Bringing responsible buyers in early

One key to sustaining positive outcomes in the project and to supporting continued investment was the early identification of socially responsible herbal companies and inviting them to participate as stakeholders. A U.S. company, Traditional Medicinals Inc. (California), became aware of the project in 2008 when a member of its supply chain committee (J. Brinckmann, co-author of this article) was invited to visit project sites at the suggestion of ethno-ecologist and botanist Anthony Cunningham, an expert working with the ECBP. Traditional Medicinals' interest in the project was based primarily on its internal sustainable sourcing policies, rather than prospects for eco-product labelling and marketing. The company has a longstanding policy not to purchase ingredients anonymously from the open market, but instead to develop long-term equitable relationships with trade partners. One of Traditional Medicinals' goals is to demonstrate, through independent verification, a sustainable botanical supply chain that can be measured through ecological, economic and social criteria and indicators.

Early discussions between Cunningham, Brinckmann and the project team on species of commercial interest identified the fruit of *Schisandra sphenanthera* as a priority. This climbing plant was locally widespread, and was considered to have high potential for development; the fruit can be collected without destroying the plant, and the species itself is relatively fast growing. The fruit is used in traditional Chinese medicine, and is also in demand for use in Chinese and global food, beverage and herbal medicine industries (Cunningham and Brinckmann 2010). After researchers identified Southern schisandra as being of interest, samples of the fruit were collected and tested.

In 2009 Brinckmann was contracted by the project to help develop guidelines for harvesters and traders and to assist in establishing links with buyers who would pay a premium for sustainably harvested medicinal plants. Coincidentally, Traditional Medicinals had a keen interest in stabilizing its own schisandra supply; had this not been so, other suitable companies would need to have been identified as potential project partners. Because Traditional Medicinals needed the fruit processed into a dry extract form, a second company was invited into the project. Draco Natural Products (Shanghai) was the first buyer of the berries, carried out processing (extraction and spray drying under certified organic and kosher rules), and arranged export to California.

As the ECBP project developed, the two companies were consulted on quality standards, good agricultural and collection practices, hygienic and sanitary practices, drying, storage, labelling and shipping, and requirements for certification against sustainability standards. By the third year, the companies had invested in extraction process development, pilot production and analytical testing. Product reformulation experiments were also carried out in order to accommodate the use of Southern schisandra in Traditional Medicinals' finished products, instead of the Northern schisandra {*Schisandra chinensis* (Turcz. Baill.) originally used.

Furthermore, transparent purchase agreements between the two companies and the newly established Shuijing Traditional Chinese Medicine Producers Association were initiated. They were based on a fair trade pricing structure and pre-financing in consideration of the additional costs of implementing sustainability standards. The aim was eventual compliance with the United States Department of Agriculture organic wild-crop harvesting practice standard,[3] the FairWild Standard, and the WWF standard for Giant-Panda-friendly products still in development (WWF China 2012).

A pre-certification audit by the Institute for Marketecology was carried out in 2009 and the cooperative achieved organic certification for the Southern schisandra fruit in 2011. Despite setbacks caused by poor weather, the cooperative has managed to increase the volume harvested each year (while complying with the sustainable management plan) to meet the buyer's requirements. In September 2011, Traditional Medicinals and Draco Natural Products signed a letter of intent with the chairman of the cooperative to continue supporting the initiative through 2015. In the letter, Traditional Medicinals stated its intent to support efforts to obtain sustainability certification (e.g., organic wild and FairWild), which would help to define, formalize and strengthen a fair trading relationship.

## Project outcomes and future developments

Since the ECBP project ended in 2011, the cooperation along the harvesters, the cooperative, government agencies, non-governmental organizations (NGOs) and private businesses has progressed into a long-term fair trade relationship for the supply of sustainably harvested NTFPs. Income for local producers in the project areas has increased, thanks to the higher prices paid — around 30% above usual market prices — for organic-certified, sustainably harvested Southern schisandra fruit.

A survey of project sites in March 2011 found that income from medicinal plant collection had risen; in one village it increased by almost 18% over 2007 levels (WWF China project report, in TRAFFIC 2012). Elements of the FairWild Standard, such as the resource assessment, a management plan and monitoring for harvesting of the target species, continue to be implemented; FairWild certification is a future goal. The cooperation is also continuing to develop criteria and indicators for Giant-panda-friendly brand-

ing of biodiversity products from the project villages (Box 2). Although the project started with the production, sales and marketing of dried Southern schisandra fruit, there is the potential to launch a range of other biodiversity products with organic wild, FairWild and/or Giant-Panda-friendly designations (Cunningham and Brinckmann 2010). These include sea buckthorn (*Hippophae rhamnoides* L.; Elaeagnaceae) berry, wild kiwifruit (*Actinidia* spp.; Actinidiaceae), honeysuckle (*Lonicera* spp.; Caprifoliaceae) flower bud, and Chinese rhubarb (*Rheum palmatum* L.; Polygonaceae) root.

**Box 2. Developing a Giant-panda-friendly standard**

In September 2011, a workshop for the development of a Giant-panda-friendly standard and eco-label was convened in Chengdu with participants from a wide range of backgrounds. Giant-panda-friendly products are defined as those that bring no evident harm to the wild Giant panda populations and their habitats, contribute directly to the livelihoods of the communities in the areas where Giant pandas live, and motivate the communities to continue livelihood activities that are beneficial to the Giant panda's survival and development. Based on workshop results, in March 2012 WWF-China Chengdu Programme Office circulated draft Standards for Giant-panda-friendly products for review and comment. The idea is that the Giant-panda-friendly criteria and indicators would be applied as an annex to organic wild or FairWild inspections, reducing the cost of the certification audit (WWF China 2012).

## Remaining challenges and lessons learned

The project showed that using market-based approaches (the introduction of standards and certification schemes) and facilitating links to responsible buyers can stimulate ongoing investment by the private sector in sustainable NTFP management. However, making the transition from external public funding support has its challenges.

### *Capacity building for improved business practices*

The producer cooperative has benefitted from committed on-the ground support and facilitation of trade links through the NGOs and government agencies involved in implementing the ECBP. The success of the project has been widely recognized (Box 3). However, continued support is required if the cooperative is to achieve its full potential as coordinator and sales representative for the project villages. Additional capacity building and training in business planning, invoicing and banking, logistics, transport, good agricultural collection practices and good manufacturing practice are still needed. Conditions for post-harvest drying, handling and storage need to be standardized across all villages for uniform consistent quality.

The cooperative also needs to improve its cost calculations to include the cost of organic inspection and certification. This was paid in 2011 through the ECBP project; Traditional Medicinals has agreed to pay the certification costs for 2012. It is hoped that by 2013 additional products and/or quantities will be certified, and that the annual cost can be

incorporated into the cost calculations and prices of certified goods sold by the cooperative. This would strengthen the business model and the cooperative's independence.

**Box 3. Project recognition**

In September 2011, in recognition of the project's success, WWF China's TCM programme received an Outstanding Contribution award from the Chinese State Ministry of Environmental Protection, EU-China Biodiversity Programme (ECBP), Ministry of Commerce and the United Nations Development Programme (UNDP) (WWF China 2011). Further development of the project, supported through the Kangmei Institute of Community Development and Marketing, has led to greater adoption of sustainable harvesting methods in the region. Communities are working through international partnerships to promote a Giant-panda-friendly brand and to create Giant-panda-friendly certification standards (Wu 2012). In May 2012, the Kangmei Institute was the recipient of the prestigious UNDP Equator Prize for its important role in the project (UNDP 2012). The Equator Prize recognizes outstanding local initiatives to advance sustainable development solutions for people, nature and resilient communities.

### *The importance of a supportive policy and market environment*

Certification schemes such as FairWild and Giant-panda-friendly are important to companies like Traditional Medicinals in their efforts to achieve a 100% sustainable botanical supply chain with independent verification. Certified sustainability claims can also have an effect on end consumers, helping to raise public awareness and support for sustainable consumption. In China, the process for approval of new certification standards is subject to the Regulations of the People's Republic of China (PRC) on Certification and Accreditation administered by the Certification and Accreditation Administration of the PRC (CNCA). At the moment, the only available international certification authorized by CNCA for the medicinal plants from this project is organic. Draco Natural Products and Traditional Medicinals continue to encourage the acceptance of additional certifications in China, in particular, Giant-panda-friendly and FairWild. The companies believe there is a growing market for biodiversity products carrying designations of sustainable management, production and use.

### *The need for industry champions*

Even after responsible companies are identified and provisionally join a project, there must be someone within the company who champions the project. There were a few points when continued involvement and investment by Traditional Medicinals had to be argued for within the company, particularly after setbacks (premature harvesting and low yields due to poor weather) necessitated product reformulation two years in a row. Reformulating an existing successful product is a tough sell and requires collaboration between research and development, quality control, operations, accounting and purchasing and planning departments.


Furthermore, during the same time, other sources of sustainably harvested schisandra with less logistical complexity became commercially available. It was successfully argued within the company that it should wait at least five years before making a determination of long-term feasibility, and that the project was different due to its important link to supporting biodiversity conservation in Giant panda habitat. This convinced the company to take additional risks and to sign a five-year agreement to continue supporting the trade relationship. Fortunately, purchasing from the cooperative proved successful in the third year.

### *Long-term resilience through starting small, scaling up and diversifying*

Concentrating initially on just one species of commercial interest, and slowly scaling up from a pilot project with one village, proved successful. The strong relationship between Traditional Medicinals, Draco Natural Products and the cooperative has been key to ensuring continued investment in sustainable resource management. However, although the purchasing companies are presently stable and successful, circumstances can change. The long-term viability of the project cannot depend solely on the demand projections of one California company. The gradual inclusion of a wider range of botanical species would increase potential incomes and decrease the risk, as would carefully diversifying trade chains to include other companies committed to fair trade and supporting sustainable forest management. This would require more species to be included in the sustainable resource management plan and scaling up to encompass more villages. Continuing to support leadership and capacity-building at the local level will ultimately ensure resilience, enabling the producers to adapt to changing circumstances and to find new buyers for their sustainable products.

## Acknowledgements

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## Endnotes

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2. Giant panda habitat refers to the natural ecological systems that satisfy the core behavioural needs of giant pandas to eat, drink and breed freely and safely.
3. Organic certification standards can be applied to both cultivated and wild crops. See: United States Department of Agriculture (USDA) National Organic Program (NOP). 2011. *Guidance: Wild Crop Harvesting*. Washington, D.C. www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5090757.

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# 2.5 Business as unusual: a pioneering forest enterprise

JHONY ZAPATA and ALEXANDER ASEN

## The challenge

Petén is a region of Guatemala where almost 87% of the population experiences some level of food insecurity and 34% of schoolchildren have delayed physical development due to chronic malnutrition. Considering the region's abundant natural resources (50% of Petén is covered by rich tropical forests) the high level of poverty is something of a paradox. The continued isolation of communities from marketplaces — and their limited business capacities in access to forest investments — partly helps to explain why local populations have so far been unable to reap the significant social, economic and environmental benefits that well-managed forests undoubtedly bring.

THE SELF-ORGANIZATION OF SMALLHOLDERS INTO A COOPERATIVE ENTERPRISE HAS TRANSFORMED BUSINESS OPPORTUNITIES AND OPENED NEW MARKETS.

Since 1998, the Government of Guatemala has sought to address this challenge. It provides incentives for sustainable forest management (SFM) through an incentive programme known as PINFOR, which is financed using one percent of state operating expenses. In 2009, it provided about US$134 million to the forest sector and helped establish roughly 100,000 hectares (ha) of plantations. Activities supported by the programme include aiding the natural regeneration of forests, improving forest management, promoting forest protection, and reforestation. Local communities, municipalities, private land-owners and interested organizations are all eligible for funding from the programme.

Another forest incentive programme, known as PINPEP, was also created in Guatemala to cater to the financial needs of small forest holders, specifically those with areas of less than 15 ha. It is expected that over 400,000 people will directly benefit from this publicly supported incentive scheme. Its establishment was a direct result of the successful policy advocacy of the National Alliance of Community Forest Organizations. This forum for 11 umbrella organizations and 400 grassroots organizations was formed with the specific goal of recognizing the challenges facing smallholders.

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Although these programmes have helped stimulate considerable progress, tree planters in Guatemala still face some key challenges. These include how to identify suitable local and external markets for wood products from forest plantations, and how to effectively strengthen the business capacities of local actors to overcome their isolation from markets.

In the municipalities of San Francisco, San Benito and La Libertad in Petén, the challenges faced by tree planters were no different than those of other tree planters in Guatemala who have received forest incentives. All the individuals in this group could be defined as poor, isolated and lacking a voice and a coordinated network. They were isolated in four key ways:

- from each other;
- from consumers/markets;
- from financial and business development service providers; and
- from policy-makers — they had no contact with the formal market or with the forest industry.

## A new enterprise

In April 2011, the National Forest Programme (NFP) Facility and Growing Forest Partnerships (GFP) Guatemala began providing support to a group of 189 *reforestadores* (tree planters) in San Francisco, Petén, Guatemala. The goal was to help them enhance their leverage in the marketplace and boost community incomes. The result of this support was the creation of a wood product enterprise called Red Forestando Chachaklum, S.A, which was formed by six forest communities in San Francisco, Petén. These communities — Municipio de San Francisco, Propietarios Privados, Santa Rita, Santa Teresa, Municipio de San Benito and Nueva Concepción — collectively own and manage 1,084 ha of planted forest. The establishment of this new enterprise has helped transform the way in which local communities conduct their day-to-day business operations, breaking the cycle of isolation they once experienced. The communities planted a variety of wood species, including *Melina, Pino Caribe, Tabebuia* and *Teca*; *Melina* represents 70% of the total.

In the past, community tree planters made most of their sales to intermediaries, who had their own purchasing rules and conditions, including those for prices and volumes. This left no room for the sellers to negotiate prices. Pruning and thinning were carried out mostly to benefit these intermediaries and were previously done by intermediaries and their contractors. Moreover, the potential for marketing wood products was limited, due to the low levels of output each isolated tree planter could produce, and to the difficulties faced by medium and large companies in negotiating with a diverse and geographically dispersed group of sellers.

However, with the establishment of the forest enterprise, all this has changed. Tree planters are now able to interact directly as a collective with larger companies, notably those in Guatemala City that produce particle board and who are interested in establishing fair and longstanding business relations. Within the space of a year the enterprise has already entered into its first business negotiations.

As a result of their new business operations, the six communities have significantly enhanced the income generation from their plantations. This was achieved through the provision of a service which pays for the members to carry out activities such as harvesting, skidding and loading of timber in trucks. By consolidating their individual supplies of wood products into a much larger collective supply, the communities have dramatically expanded their marketing opportunities and stimulated sales to local companies. These companies are generally far more interested in buying larger volumes of wood products from one seller than smaller volumes from many individuals.

To help market its products, the new enterprise has developed technical fact sheets and informative brochures on the individual and collective wood products it sells. Furthermore, the communities have been trained to participate actively in business negotiations; this has helped give them direct contact as an enterprise with the market.

Another key step taken by the enterprise was to identify potential forest products from the various different stages of managing forest plantations and to match each product with a suitable market. The tree planters were trained to carry out some activities themselves, such as pruning and thinning of trees. Such practices are important in obtaining good-quality raw material, which in turn generates higher prices for logs as the end product. This has generated income for the members of the enterprise who provide services for logging, transport of logs from the forest to the trucks and loading of trucks. The quality of the final product means increased income for the present and future.

## Achievements

The total sales of the enterprise for 2012 so far amount to approximately US$ 2,400. A net profit of 15% was recorded for the enterprise, after taking into account labour (36 days), transport and all other costs. For the remainder of 2012, the enterprise may be able to sell at least two pilot harvests per month, which would generate US$ 6,300 per month. This is feasible through purchase commitments with buyer companies.

As a result of the establishment of this enterprise, the communities have been able to undertake successful negotiations for the sale of four containers per month for the next eight months of chip (very small pieces of wood) and *trocillo* (small and thin wood logs). In addition, business negotiations have taken place with bigger enterprises in Guatemala, including Maderas El Alto and Ferreteria El Chino, which are interested in establishing fair and long-term business partnerships.

The enterprise has also signed a long-term contract with *Tableros y Aglomerados S.A* to deliver two trucks per week of logs and *trocillo*. This came into effect in June 2012, and will mean additional income of about US$ 77,000 per year.

The total cost of the support — including hiring of consultants, organization of meetings, legal fees to establish the enterprise, and all other activities — amounted to US$ 80,000.

## Lessons learned

### *For farmers and the enterprise*

The most important resource that the farmers have is themselves. The real value added of this initiative is not so much the fact that farmers can now engage in physical ctivities such as pruning and thinning (which was previously done by intermediaries and their contractors), but rather their enhanced organization, planning and skills.

It is important to help the tree planters understand the principle of moving ahead step by step in trying to generate added value. The goal should be gradual growth. This growth starts with good pruning and thinning, careful logging or harvesting, and efficient loading and transport of products. It needs time for learning and mastering the effective implementation of all these activities.

It is not always possible to achieve revenue from product sales derived from pruning and thinning, but these activities may generate enough income to pay for the labour. It is important to train the tree planters to provide services for the harvesting, skidding and loading of timber in the trucks.

The creation of the company is just one step in the process of generating income and adding value. The organization of the business structure and the mechanisms of social control are ongoing activities and require both external facilitation and the commitment of forest enterprise members.

As stated by Carlos Cambranes, a member of the enterprise: "In this short time with the enterprise we have created jobs for 36 members for pruning and thinning, generating income for our people which were formerly in the hands of the *coyotes*."

### *For development partners*

It is important for partners to provide information to the forest smallholders about the advantages and disadvantages of the establishment of a forest enterprise. They should decide whether to establish an enterprise and if so, what form this enterprise should take. The members of the enterprise and the commercial partners need to foster trust, transparency and patience in order to build relationships.

## Scaling up

The success of the work in Petén in transforming the ways in which local groups do business has inspired a commitment from Guatemala to replicate this work in other areas of the country within a comprehensive national-level programme. Based on the

success of the pilot work, the national forestry administration (*Instituto Nacional de Bosques,* or INAB), has created an Industrial and Commercial Department *(Unidad de Industria y Comercio)* to support the formation of new producer organizations in other parts of the country. This signals a hugely positive move in replicating the experiences, promoting sustainability in the use of natural resources, and institutionalizing good practices.

Following the creation of this new department, a new producer organization is already being formed in Alta Verapaz, with more than 900 families who collectively manage and own more than 1,700 ha. The department is also exploring the inclusion of other families with forests (covering an area of 1,500 ha) in this enterprise. The value of wood sales over the next 20 years is estimated at around US$ 50 million.

The NFP Facility and GFP provided the initial support for the work in Petén. They recruited local and national consultants to facilitate and oversee the creation of the enterprise, with the support of an international expert. Building on the work in Petén, all subsequent activities are being fully funded and supported by INAB.

# Section 3

## Catalyzing investments

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# 3.1 Facilitating private forestry investments: a practical approach to risk assessment

STEFAN HAAS, ALEXANDER WATSON
and FABIAN SCHMIDT

## Introduction

The investment profile of forests is characterized by competitive returns, inflation hedging and low correlation to other asset classes; they are therefore considered a good fit for portfolio diversification. Besides these financial characteristics, investments in forests can result in high social and environmental returns. Consequently, private investments into forestry are on the rise. Impact investing[1] in general is gaining importance in global investment markets. It is estimated that to date about US$ 100 billion is invested solely in socially responsible investing (SRI)[2] stock mutual funds[3] and exchange traded funds (ETFs). The demand for sustainable investments, including forestry, will likely increase even further. However, currently most forest investments — approximately 70 percent — take place in non-tropical and developed countries such as the U.S. (Dana Ltd. 2011).

This approach can help identify related risks in order to improve decision making on forest investments.

Experience working with various investor groups from the U.S. and Europe (e.g., investment funds, endowment funds, foundations, banks, insurance companies and family offices focusing on sustainable forest investments) revealed their great interest in extending their investment activities to emerging forest investment countries in Latin America, Africa and Southeast Asia. This interest is mainly due to the higher returns that can result from the comparatively higher forest growth rates and lower land and labour costs. Similar observations have been noted by the Forum for the Future (2009), Glauner et al. (2012) and Brand (2012).

However, investors indicate that they feel impeded by their limited ability to accurately assess the associated risks.[4]

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They commonly perceive the following investment barriers: lack of access to and cost of information; market organization; and lack of experience.

### *Lack of access to and cost of information*

Investors report that their inability to obtain relevant information makes it difficult to accurately assess risk. There are few experts with sufficient knowledge and expertise related to specific geographic regions. The investment process often ends at an early stage due to prohibitive information costs.

### *Market organization*

Compared to the forest investment markets in developed countries like the U.S., the markets of emerging countries are perceived as poorly organized and non-transparent. Well-prepared "ready-for-investment" opportunities are lacking or difficult to identify. Investors have to actively engage to develop such opportunities.

### *Lack of experience*

Investors hold back because emerging forest investment markets do not have proven performance and few positive examples exist at the country level. Some investors are discouraged by the uncertain investment conditions. Since forest investments are characterized by a long timeline, risks that are not eliminated at an early stage will result in high exit costs.

### *Risk assessment methodology*

Forest investments in emerging markets are at an early stage and standardized risk assessment methodologies are rarely available. A best-practice guideline is needed to tackle the complexity of multiple risk factors (Table 1). Although Pricewaterhouse-Coopers[5] has developed toolkits and Zurich Insurance Company offers global risk assessments, these approaches were too broad to serve as precise and project-specific risk assessment strategies (see also Glauner et al. 2012).

## A risk assessment approach

The following risk-assessment approach has been developed based on practical experience with forest investments in tropical regions. It covers topics ranging from project scouting and feasibility analysis to implementation.

The aim of the toolkit is to support decision-making during the entire investment process, from project screening and investment decision to implementation. It is designed to minimize risks by guiding the management of information and resource allocation in an optimized and cost-efficient way. This clearly structured and practical toolkit is a framework that can also be used by investment groups who do not have extensive forest investment expertise.

**Table 1. Risk categories**

| | |
|---|---|
| **Governance** | country risk (e.g., political stability, legal security, corruption); foreign investment barriers (international trade, treatment of capital flows, foreign exchange rates, currency stability, tax policies, capital treatment, bureaucracy); agricultural policies; forest land regulations; subsidies; land taxation; licences and permits; illegal logging, etc. |
| **Market** | market access (local, national, international); forest industrial sector; competition (local, national, international); log prices; sales of products (local, national, international); sales of lesser known timber species; product diversity (tree species, non-timber forest products, carbon credits); certification schemes, etc. |
| **Production and infrastructure** | transport infrastructure (project level, local, national and international); labour (quantity and quality); forest site quality (e.g., soil, topography); forest resources valuation; technology; natural disasters (e.g., wind, fire); pest and disease (e.g., insects, fungus); production cost; electricity and communication networks, etc. |
| **Social and environmental impacts** | integration of project in local culture; land tenure conflicts (traditional land-use rights); competition with agriculture or other land uses; labour rights; social insurance; work safety; use of pesticides; biodiversity; sustainable allowable cut, etc. |
| **Management and contractual framework** | human resources (expertise, experience, country knowledge); organizational structure; contractual set-up; contractor relations; financial planning; forest management planning; data management; land tenure and use rights; shareholder structure; liability and accountability; vision and motivation, etc. |

Risk assessment should ideally be carried out jointly by forestry, finance and legal experts. Country knowledge and expertise in forest policy is of great value in the process, especially in emerging countries where laws and policies can frequently change.

The assessment consists of three consecutive standardized phases:

- pre-selection;
- due diligence; and
- monitoring.

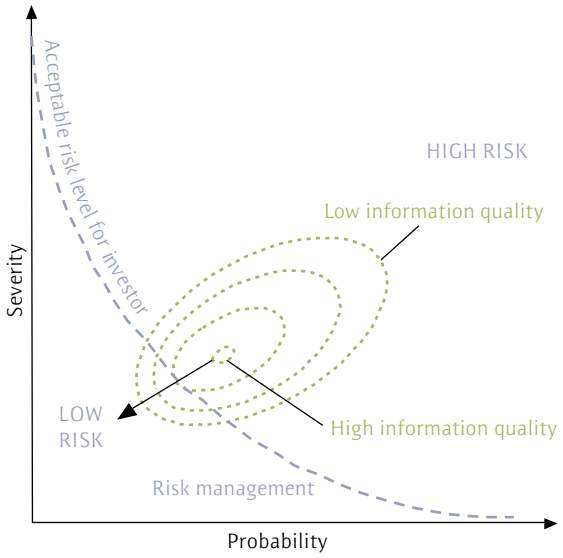
As the investment process progresses, the overall risk decreases and the accumulated costs increase. The toolkit helps to eliminate high risks at an early stage to avoid high exit costs. During the first two phases, the overall risks for the investor are mitigated, mainly by the rejection of specific investment opportunities. When implementation begins, the strategy shifts to risk management.

## Risk assessment in forestry

Risk assessment is an integrated component of all three phases. Identifying, mitigating and managing all major forestry-related risks require a systematic and comprehensive risk assessment (Figure 1). Assigning all potential risks to thematic categories (Table 1) ensures that they are carefully considered.

**Figure 1. Risk assessment as related to information quality and risk management**

The accuracy of the localization of the risk, regarding severity and probability[6] (shown by the dotted rings) increases as the quality of information increases. As shown here, good risk management results in a shift to a lower risk level.




The quality of the risk assessment, particularly its accuracy, depends on the quality of the information on which it builds. Therefore, prior to the risk assessment, the quality of information should be evaluated according to three factors: communication quality; content quality; and source quality.

### *Communication quality*

How is the project information communicated? Does the project developer provide information that is clear, comprehensible and well structured? Is data delivered in standard formats? Is the level of detail of information appropriate? Is the content supported by the way it is presented?

### *Content quality*

What is the statement in terms of content? Is the content relevant, plausible, consistent and complete?

### *Source quality*

Who is the author of the information? Is the author competent and independent? Does the evaluation of the source support reliability, verifiability and transparency of the information?

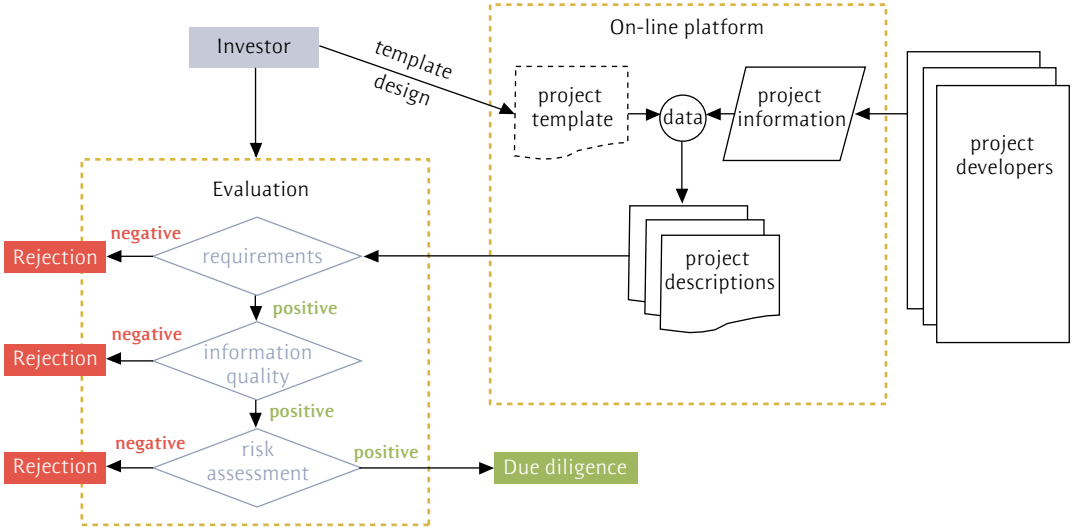
The assessment of information quality is the basis for risk assessment. The probability of the occurrence and the severity of the impact have to be determined for each risk. A likely probability and grave severity indicate a high risk. When a risk exceeds the investor's tolerance level, the project will be rejected. Manageable risks have to be examined to determine whether they can be pushed by active management towards a lower and more tolerable risk level (Figure 1). Projects receive a positive overall rating when all risks are assessed with satisfactory accuracy to be within the investor's tolerance level.

## Pre-selection

The objective of the pre-selection phase is to systematically screen the market to identify forest projects that suit the investor's preferences and involve low risks. The screening process aims to select from a large project pool. This increases the number of possible high-quality projects, which allows investments — and risks — to be diversified according to geography, value creation (e.g., timber, carbon credits, non-timber forest products) and forest age classes.

The suggested method (Figure 2) is designed to evaluate a large quantity of projects while keeping the information costs per project low. In order to do this, project information is requested from the project developers. A standardized project template minimizes the time and costs that investors need to incur and allows projects to be compared with each other. The investor controls the structure and scope of the questionnaire. In contrast to the procedure with self-designed project documentation, the project developer is required to answer all questions, even those that he or she might view as sensitive or controversial.

**Figure 2. Pre-selection method to screen the market for high-quality forest projects**



At present, the forest investment market is poorly organized and nontransparent. An online forest investment marketplace, as developed by OpenForests,[7] provides the infrastructure needed to bridge the gap between investors and forest projects. This platform facilitates the pre-selection process by offering investors access to a large pool of standardized project descriptions while saving the cost of scouting the projects.

The evaluation of the project information starts with an initial assessment of whether the respective project aligns with the investor's requirements (e.g., scale, investment volume, project type, country, etc.). In the next step, the information quality is assessed, focusing on content quality, presentation and communication. The project developer's ability to communicate the investment proposal is crucial for a successful collaboration. This also involves communication skills. Deliberate misstatements often correlate with poor communication and content quality (inconsistencies, lack of transparency). And even if information is presented effectively, it is not necessarily accurate.

If the project description reveals apparent weaknesses in quality, the project is rejected. To ensure cost efficiency, the investor largely waives efforts to evaluate the quality of the source and to verify the information during the pre-selection. This type of evaluation takes place during the due diligence phase. If the communication and content quality is considered satisfactory, the risk of the respective project is estimated. Research is limited to external factors (e.g., country risk) that can be determined with relatively little effort, for example, by using existing online sources (Table 2).

**Table 2. Online information sources for the assessment of risk**

| Source | location |
|---|---|
| Bureau of Labour statistics | www.bls.gov/fls/ |
| Corruption Perceptions Index | www.transparency.org/research/cpi/overview |
| FAO statistics | faostat.fao.org/ |
| Forest Investment Attractiveness Toolkit | www.sustainableforestbusiness.org |
| FSC certification database | info.fsc.org/ |
| Index of economic freedom | www.heritage.org/index/ |
| International Country Risk Guide | www.prsgroup.com/ICRG.aspx |
| International Tropical Timber Organization | www.itto.int/ |
| Political Risk Service | www.prsgroup.com |
| The World Bank Doing Business Report | www.doingbusiness.org/ |
| United Nations Public Administration Network | www.unpan.org/News/GovernanceWorldWatch/tabid/749/language/en-US/Default.aspx |
| World Agroforestry Tree Database | www.worldagroforestry.org/resources/databases/agroforestree |

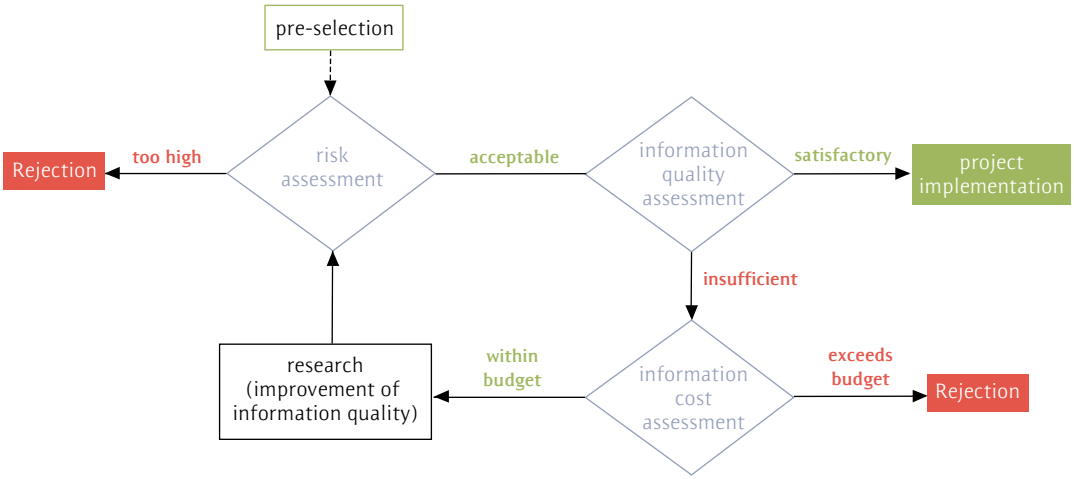
## Due diligence

Forestry projects that pass the pre-selection phase are examined further in the due diligence phase. This phase aims for accurate risk assessment based on verified high-quality information. The suggested methodology consists of a processing cycle that is repeated until it results in either rejection or a positive assessment of the respective project. Although the pre-selection phase can be carried out remotely, the due diligence phase requires a project visit to verify the information quality and obtain a consistent overall impression. This increases information costs significantly.

Each project undergoes four steps during the due diligence phase (Figure 3):

- assessment of information cost;
- research;
- assessment of risk; and
- assessment of information quality.

**Figure 3. Overview of the due diligence process**




### *Assessment of information cost*

Prior to carrying out research the associated costs and budgets have to be determined. In this step, the investor decides if it is cost efficient to carry out further research that can significantly improve the information basis of the risk assessment. Resources are initially allocated to risks with low information quality, but high potential for improvement. Priority is given to risks that are close to the investor's risk tolerance level, since they are closely related to the investment decision. For risks that are clearly classified as high or low, further spending would not improve the overall decision. If the estimated information costs exceed the budget, the information basis cannot be further improved and is not sufficient to implement the project. Thus, the respective project would be rejected.

### *Research*

Given the budget, the information quality as the basis of further assessment is improved by researching additional information. Possible resources are literature, surveys, expert interviews, forestry data, maps and aerial photos.

Fieldwork is an essential part of research, particularly regarding social and less quantifiable factors such as local acceptance, work practices and management quality. Experience has shown that forest information systems (see also Monitoring) are efficient tools in the due diligence phase. Their use in forest monitoring and geodata analysis increases information content and transparency.

### *Assessment of risk*

Based on the available information, risks are identified and assessed. If this step assesses risks that significantly exceed the acceptable level, the project is rejected. In the case of a positive assessment, the project takes the next step.

### *Assessment of information quality*

The overall quality of the available information is evaluated. In addition to the indicators applied in the pre-selection phase (content and communication quality), this step also assesses the quality of the information source. It determines the level of reliability, verifiability and transparency of the available information.

A satisfactory level of information quality is reached when further improvement is not likely to lead to a significantly better or more accurate risk assessment. Due diligence may result in an overall positive assessment of the respective investment opportunity, taking into account the positive risk assessment in the previous step. Otherwise, better information quality is essential. If that is the case, the process cycle is closed and the next loop starts. This ensures an effective allocation of the due diligence budget.

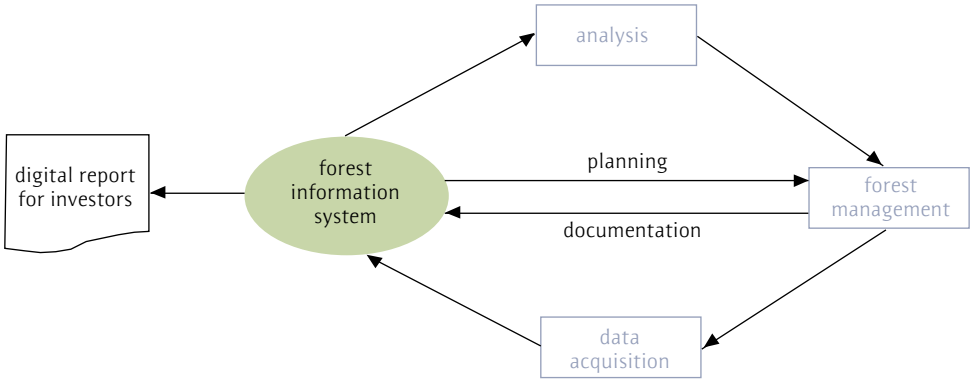
## Monitoring

After a successful due diligence process, implementation usually starts. It is crucial for the investor to continuously monitor the progress of the forest project. Forestry projects tend to lack consistency and timeliness in forest data management and reporting. Data are often poorly organized and are processed with inappropriate software. Access to forest information (reporting) for investors and forest managers is often limited due to a disproportionate processing effort. These deficiencies lead to reduced transparency, a lack of understanding of project status, and a high risk of management mistakes.

To address these issues, the establishment of a forest information system (Figure 4) is highly recommended. This provides infrastructure for the storage and analysis of forest

information and the organization of forest management activities. It also serves as a risk assessment tool for investors by allowing direct and continuous access to key information. The scope of a forest information system is mainly production and management, which are the most vulnerable aspects of a forest project.

**Figure 4. A forest information system as a monitoring and risk assessment tool**




A database system with geospatial capabilities is recommended. This will allow the integration of a broad range of relevant data, such as cadastral maps, land-use and plantation maps, management units, digital elevation models, single-tree measurements, monitoring results from sample plots, management activities and infrastructure.

If database is constantly updated with forest growth information the system will also allow for the planning, documentation and evaluation of forest management activities (e.g., thinning, pruning and harvesting). Maps, reports and analyses can be generated automatically from the data. This allows investors and forest managers to directly monitor the project's performance.

Important production indicators are growth rate, standing timber volume and diameter distribution. Production risks can be minimized if performance deviations are detected in time and appropriate countermeasures are initiated immediately. In addition, environmental goals (like sustainable allowable cut) and certification requirements can be easily evaluated.

Including costs, prices and yield parameters (e.g., cost of management activities, timber prices, timber growth) will extend the scope of the system so that it also can be used to assess financial and market risks. If a forest information system is used, mismanagement and even fraud are more likely to be revealed by inconsistent or insufficient data. In general, a forest information system significantly enhances the overall comprehensibility and transparency of a forest project.

## Conclusion

The toolkit can be a guide on how to mitigate and manage risks during the entire forest investment process. It can also assist investors who intend to finance medium and large forestry projects (plantation forestry, natural forest management, agroforestry, REDD+) in emerging countries.

Although the methodology is structured in a way that minimizes information costs, these costs have to be calculated in relation to the investment amount; they may exceed the budget of small-scale forest investors. In addition, not all risks can be assessed by a comprehensive evaluation of the information. For example, risks — including poor interpersonal relations, breaches of confidence and erroneous assessments of professional competence — can only be perceived by experienced decision-makers. They cannot be evaluated in a standardized way.

The toolkit is a flexible framework derived from forest risk assessment practice. It can be adapted to individual conditions while providing a stable structure that helps to improve risk assessment in sustainable forestry financing .

Nevertheless, there are many investment barriers to forest investments in developing countries, and they are often directly linked to the general investment regime in the respective countries. The toolkit cannot improve the overall investment regime in these countries, but it can help identify the related risks in order to improve forest investment decisions. Since it is usually difficult for international investors to have access to or to monitor forestry projects in developing countries, the toolkit can also provide a first step toward real engagement between projects looking for financing and investors looking for high-quality forestry projects.

More and more policy-makers acknowledge the experience of investment funds, pension funds and other similar ventures, and their role in forest finance. It is now up to the policy-makers to improve the general investment regime and establish financing mechanisms that align the financial power of institutional investors with the political goals of sustainable development. Until that is done, forest investors have to choose between waiting for better investment conditions or creating them through their own initiative. Using risk assessment toolkits will be of significant importance in those efforts.

## Endnotes

1. These are investments that promote socio-economic benefits.
2. http://online.wsj.com/article/SB10001424052748704425804576220462961462024.html#.
3. See www.investorguide.com/igu-article-481-mutual-fund-basics-types-of-stock-mutual-funds.html.
4. See also Glauner et al. 2012.
5. PWC Forest Finance toolkit: www.pwc.co.uk/sustainability-climate-change/issues/forest-finance-home.jhtml.
6. See also Gadow2011.
7. See www.openforests.com/marketplace for the database.

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# 3.2 Triggering private-sector investment in sustainable forest management

SIV ØYSTESE, PATRICK MATAKALA, MWAPE SICHILONGO, JAIME ECHEVERRÍA and MIA ROWAN

## Context

The green economy is becoming a hot topic on the international agenda for both countries and private industry, as Rio+20 confirmed in June 2012. The summit acknowledged the role that the green economy can play in poverty reduction, economic growth and environmental care, UN Secretary-General Ban Ki-moon told the General Assembly on his return to New York from Brazil.

The development path of a green economy, according to the UN Environment Programme, "should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits."[1] Expanding on that concept, Pavan Sukhdev stated in a 2011 report on the green economy[2] that for nature to be protected, its functions – the ecosystem services – must be assigned a price. This does not mean that ecosystem services should be privatized, but simply that their monetary value should be defined.

When effective financial and economic incentives are in place, private investors take an interest in land stewardship.

When the full range of services provided by forests and land is valued, the economic benefits of maintaining these resources become more apparent and may provide incentives for investments in the sustainable use of these resources. In fact, a number of private companies and capital investors now realize that operating sustainably can increase revenue; for example, by securing the long-term supply of inputs, accelerating access to new markets or enhancing corporate image.

Sustainable forest management (SFM) goes beyond the safekeeping of the goods that forests deliver, — food, wood, timber and non-timber forest products — to secure the regulating and support services that forests provide, such as climate and flood regulation

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and nutrient cycling. Furthermore, forests have aesthetic and spiritual values that should also be safeguarded.

## Challenges

Despite some progress, the full economic values of forests are still not widely recognized. Unsustainable practices continue to create problems such as degraded land, interruptions in water provisioning and increased carbon emissions. Limited understanding of these costs and values means that policy makers and taxpayers — as well as the finance and business community — do not place a priority on investing in the management, conservation and sustainable development of all types of forests.

In addition to this lack of value recognition and priority, investments are hampered by lagging economic and market conditions. Investors often perceive sustainable forest-related activities, particularly in developing countries, as high-risk due to the long-term nature of financial returns and their uncertainty. Access to financial services and markets can be especially challenging for small and medium forest enterprises and smallholders.

Furthermore, mechanisms that create incentives for sustainable land and forest management are not widely used, let alone mainstreamed or systematically integrated in policies. Often, sustainable practices cost more to implement and the return on investments tends to be lower.

## Opportunities

A variety of approaches can be used to overcome these challenges to trigger private-sector investments and financing for SFM.

### *Making the case*

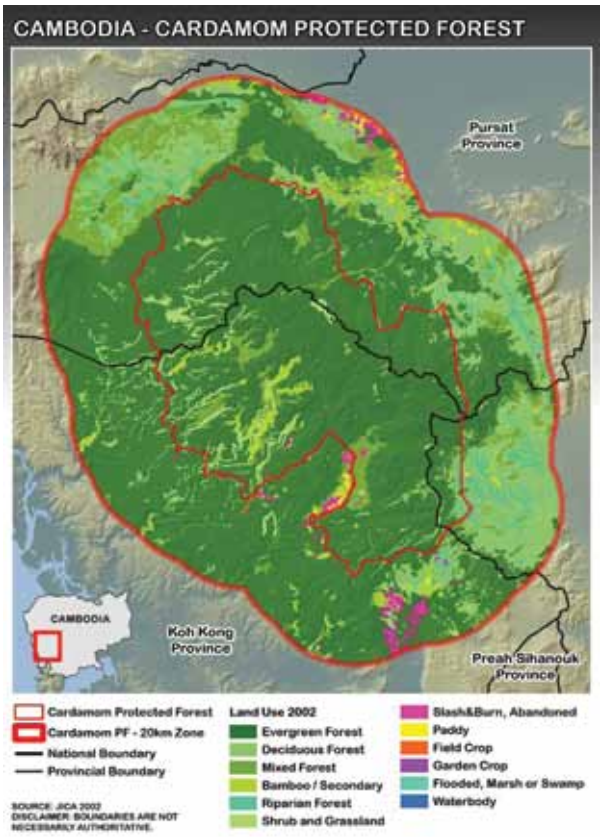
If used effectively, thorough and reliable assessments of the "real" value of natural resources, the cost of their degradation and the economic benefits of SFM for businesses and national development can provide powerful arguments in favour of SFM-related investments. Economic valuation studies can also reveal the best land-use options from a social and environmental as well as economic point of view and, therefore, help inform decision making.

The Global Mechanism (GM) of the UN Convention to Combat Desertification (UNCCD) helps developing countries increase investments in sustainable land management (SLM). The GM has embarked on the economic valuation of land as part of a global partnership of leading research and academic institutions, international organizations and UN agencies.[3] As illustrated in the Central Cardamom Mountains example (Figure 1), examining all components in terms of their economic values bolsters the case for investments in SLM and related activities.

The values determined through this method guide decision-makers on the best way to use forests and lands from an economic perspective.

**Figure 1. Cardamom protected forest in Cambodia**

*A valuation study commissioned by the Global Mechanism on the Central Cardamom Mountains in Cambodia estimates the natural values of the area to be worth US$ 3.7 billion (Table 1). An economic value was calculated for most of the ecosystem services contained within the mountains. Some services have direct and immediate economic significance, such as water regulation and soil conservation functions; others are more hypothetical and unlikely to be realized, such as potential timber values (Soussan and Sam 2011).*




## *Encouraging capital investors*

Demonstrating the real value of the capital stored in a forest or land can entice capital investors, particularly impact investors (impact investors pursue monetary objectives while also generating social and environmental returns). The number of funds engaged in impact investing has grown quickly in the last five years; a recent J.P. Morgan study shows that almost US $4 billion in impact investments were planned in the 12-month period from September 2011 (Ibrahim et al. 2012).

Sustainable operations in accordance with the highest international standards can also attract financing that would otherwise have been inaccessible, as Green Resources has found (Box 1). Their investors require the highest environmental and social standards for operations, some because they want to reduce any risk to their reputations, others to ensure that their investments have a positive social or environmental impact.

**Table 1. Land cover, key ecosystem functions and values in the Central Cardamoms**

| Land cover type | Total area (ha) | Provisioning services: timber and crop values (US$/year) | Non-timber forest product values (US$/year) | Watershed protection values* (US$/year) | Biodiversity values (US$/year) | Carbon sequestration values (US$ total) |
|---|---|---|---|---|---|---|
| Evergreen forest | 750,278 | 337,625,100 | 300,111,200 | 52,519,460 | 487,680,700 | 2,625,973,000 |
| Deciduous forest | 174,968 | 61,238,800 | 69,987,200 | 12,247,760 | 113,729,200 | 612,388,000 |
| Mixed forest | 81,946 | 32,778,400 | 32,778,400 | 5,736,220 | 53,264,900 | 286,811,000 |
| Other forest | 41,224 | 8,294,400 | 8,294,400 | 2,885,680 | 22,673,200 | 94,815,200 |
| Shrub and grassland | 42,472 | — | — | 1,486,520 | 4,247,200 | 38,224,800 |
| Abandoned slash and burn | 11,213 | — | — | 392,455 | 1,121,300 | 10,091,700 |
| Paddy fields | 5,972 | 1,400,000 | — | — | 597,200 | 4,180,400 |
| Other croplands | 711 | 100,000 | — | — | 71,100 | 497,700 |
| Wetlands and waterbodies | 253 | — | — | — | 164,450 | 177,100 |
| Others | 1,051 | — | — | — | — | — |
| Total | 1,110,085 | 441,436,700 | 411,171,200 | 75,268,095 | 1,360,897,250 | 3,668,978,500 |

Note: all monetary values in US$; *Full watershed service values are used for forested area; half of the full amount is used for other non-agricultural land cover types as there is some loss of functionality with reduced land cover density. Source: Soussan and Sam 2011

**Box 1. Green Resources, AS4: the costs and benefits of going green**

Green Resources, Africa's leading forestation company, has 23,000 ha of planted forest, mainly in Mozambique, Tanzania and Uganda, and holds more than 300,000 ha of land for future planting and conservation. By converting low-yielding grass and degraded forestland to tree plantations, the company produces sawn timber, electricity poles and other building materials as well as energy from renewable resources. Another product is storage of $CO_2$ through its forestation projects and converting plantation forests into renewable energy. The company harvests only plantation forests and plants strictly on grassland or degraded forestland. It plants at least ten trees for every tree that it harvests.

In July 2012 Olav Bjella, Green Resources' Director of Plantation Operations, spoke about the challenges and opportunities in driving forest business sustainably in East and Southern Africa.

**Why does the sustainable profile of your company make good business sense?**
Because Green Resources manages its operations in accordance with the Forest Stewardship Council (FSC) standards, it has attracted finance that would otherwise not be applicable. Following the highest international environmental standards and conserving natural forest and other valuable habitats are, in other words, helping draw capital to the business.

**Does adhering to FSC standards open your company up to new markets or your products to higher prices?**
In the long term it will, as we aim to go into the international market. At the local and regional market level, where we operate at the moment, there is less demand for certified timber products, so adhering to the FSC standards does not directly bring a higher profit. However, the strict certification requirements mean a thorough review of the company every year, which helps improve the business model, making it more economically efficient as well as sustainable. Although the process is rather costly, we feel it is paying off.

Green Resources registered the world's first forestry project based on the voluntary carbon standard (VCS) in 2009 and sold the first issued credits in 2010.

**How has the company been able to enter the somewhat slow carbon credit market?**
It is true that the market is limited and in some countries it has been very difficult to register clean development mechanism (CDM) projects. Still, we have managed to set up a CDM project in Uganda and we have projects selling on the voluntary markets in Uganda and Tanzania. All carbon offset revenues are reinvested in the countries where they were generated and 10% of carbon offset revenues are used for community development, making the credits some of the most attractive in the world.

**How do you ensure that the operation has local benefits?**
The company supports local communities to establish farm forest schemes, maintaining a strong focus on sustainable environmental and social development.

**Do you see any barriers for companies who want to go green?**
The due diligence requirements are often very stringent. This increases transaction costs and makes it more difficult for new, as well as established, green companies to access financing, operate and grow in an efficient manner.

### *Providing the right incentives*

If ecosystem services have local and global benefits that are valued and paid for, economic incentive mechanisms can be established that value and reward land stewardship. Incentives and market-based mechanisms (IMBMs) can enable and encourage companies, communities and private forest dwellers to adopt and invest in SFM practices.

IMBMs can help forest users cover the costs of adopting sustainable, sometimes more expensive, practices. They can also provide economic incentives for companies to invest in "green" activities and for local communities to increase their conservation efforts. The latter is illustrated by WWF Zambia's experience (Box 2); a conservation concession is successfully ensuring conservation, generating revenue and engaging the government, the private sector and greater community.

**Box 2. Mufunta Game Management Area**

Mufunta Game Management Area (GMA) is a community-public-private partnership that promotes sustainable wildlife and land management. The GMA project is increasing revenues while also protecting wildlife through sustainable safari hunting operations in Zambia. The initiative is a partnership of local communities surrounding the GMA, the Zambia Wildlife Authority (ZAWA) and Mvu Safaris Ltd. The project was established in 2006 by the WWF Zambia Country Office and ZAWA.

Prior to that date, the project area — which covers 5,417 $km^2$ and is part of the Kavango-Zambezi Trans-frontier Conservation Area, west of Kafue National Park — lacked wildlife protection. As a result, the area was highly poached and degraded. The creation of the Mufunta GMA has enabled the Kahare Community Resource Board (CRB) to recruit 20 community scouts to protect wildlife and restrict illegal activities. This has turned the situation around dramatically and increased wildlife populations in the GMA.

The remarkable recovery of the wildlife population after only five years led ZAWA to grant Mvu Safaris Ltd., a private safari hunting company, a hunting concession licence and hunting quota in 2011. This conferred a form of conservation concession to the Kahare CRB to sustainably manage the area; in return, the board receives 50% of revenue from sustainable safari hunting fees and 20% of concession fees. Kahare CRB earned an income of US$ 20,000 as its inaugural share and the board envisages revenues of up to US$ 60,000 for 2012.

In addition to direct revenue, the partnership has brought other benefits to the area. The development of tourism infrastructure and lodging facilities by Mvu Safaris has created employment opportunities for the local community. The company has also provided direct support to the village scouts in the form of rations and fuel towards increased patrols and anti-poaching activities. Income from hunting is used to protect the area and support local development as an incentive to involve the community in the management of the area.

IMBMs work like this: forest users (sellers of ecosystem services) receive compensation (direct monetary payment, technical assistance or preferential market access) for managing the forest sustainably from those who benefit (buyers of ecosystem services).

The incentives come in forms such as public payments, eco-labelling or certification of sustainably produced products and compensation for ecosystem services.

When the mechanisms are used by governments together with legislation or policies, they can modify the way a forest is managed. For example, the government can pay a land-owner to reforest a tract of land or fine someone for damaging the environment. In other instances, the market itself helps finance sustainable forest and land practices. Consumers pay the costs when they buy products that are certified as meeting certain environmental or social standards. Furthermore, standards can open up new market opportunities that encourage companies to invest (Box 1).

Another example is the well-established payment for ecosystem services (PES) scheme in Costa Rica, where the National Forest Financing Fund (or FONAFIFO) uses gasoline tax revenues to pay forest owners to protect forests. The scheme shows how IMBMs can engage the private sector to invest in SFM (Box 3).

The success of an incentive hinges on its being well suited to the circumstances. There are many types of incentives. The Global Mechanism, together with the Tropical Agricultural Research and Higher Education Center, has developed a methodology for choosing the best incentive mechanism for a specific scenario.[5]

**Box 3. A state water fee scheme expanded to involve the private sector in Costa Rica**

Costa Rica's government-led FONAFIFO PES scheme has been modified to create an ecologically adjusted and updated water fee system involving the private sector. In 1997, Energía Global began paying US$ 10 per hectare per year to private owners who committed to forest conservation in the Volcán watershed, where its hydro-electric project is located. At the same time, Florida Ice and Farm Company, a beer and soft drink company, started supporting the FONAFIFO PES scheme with US$ 30,000–50,000 a year. Both companies sought to protect their business interests by paying for improved water quality and the environment, and to enhance their brands as socially responsible enterprises.

Many public protected areas vital to the water cycle and the PES system were in need of resources. The government capitalized on the willingness of water users (from ordinary citizens to business conglomerates) to pay for forest conservation through water fees. It began promoting a "water factory" idea, or simplification of the water

cycle, calling it an updated and environmentally adjusted water fee. Through multi-stakeholder discussions, water fees were adjusted by executive decree to reflect the costs of water management and the protection of forest resources in the watershed.

The adjusted water fees are expected to generate close to US$ 10 million per year: half of this is invested in water management; 25% in the National System of Protected Areas and 25% in FONAFIFO's PES scheme. This will cover nearly 15% of FONAFIFO's budget for PES services in areas that are important to water management. In 2010, this represented almost US$ 2 million, supporting PES contracts for nearly 5,000 ha in critical areas. Although the per-ha payments to land users are not high (US$ 41–61 per year), they are enough to provide incentives for forest conservation.

In contrast, the increases in fees were significant (Table 2) and affected exempt industries, such as electricity generation. A negotiation process was put in place to involve important stakeholders from the industry, the agricultural sector and hydro-electricity generation. The private sector, having actively engaged and provided input throughout the negotiation process that led to the new water fees, is now making sure the system is transparent and that it delivers the protection it promises.

Some challenges remain. For instance, the incentive should address the areas that directly affect the water cycle and administrative obstacles should be removed so that more of the revenue is used for forest conservation.

Some 15 years after a few leading private enterprises thought it made business sense to invest in the protection of watersheds in Costa Rica, new ideas are emerging. Even more ambitious strategies and initiatives that consider climate change and biodiversity along with water issues are now being developed.

**Table 2. Selected water fees (US$ per cubic metre), Costa Rica**

| Water use | Before | After | % change |
|---|---|---|---|
| Domestic consumption | 0.0010 | 0.0029 | 290 |
| Hydro-electricity | 0.0000002 | 0.00024 | 1,199 |
| Agriculture | 0.0000338 | 0.00258 | 7,500 |

Note: For surface water before and after ecological adjustment
Source: MINAE 2006

## Conclusion

Although there are still obstacles to private sector investments in SFM, opportunities and positive trends are emerging. New approaches and valuation systems that quantify and take into account the full value of ecosystem services, as well as optimal use of incentive mechanisms, can help attract investments and engagement from private companies, capital investors and forest owners.

The Costa Rican and Zambian cases illustrate that large amounts of money are not always needed to convince private companies and land-owners to preserve forests. Sometimes a small incentive is enough to tip the balance in favour of conservation.

In essence, the green economy is generating countless business and investment opportunities. Spanning the sectors and the globe, these opportunities appeal to private actors who want to benefit people and the planet while making a profit.

## Endnotes

1. See www.unep.org/greeneconomy/AboutGEI/WhatisGEI/tabid/29784/Default.aspx.
2. See www.thesolutionsjournal.com/node/823.
3. The consortium of partners is called Offering Sustainable Land use Options, or OSLO (www.theoslo.net).
4. See www.greenresources.no.
5. See http://global-mechanism.org/en/feature-story/new-publication-incentive-and-market-based-mechanisms-to-promote-sustainable-land-management.

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# 3.3 Financing sustainable forest management in the Amazon

PETRA HAMERS, NOEMI PEREZ
and LUCAS SIMONS

## Introduction

The Amazon Alternative (TAA)[1] is a public private partnership powered by IDH, the Sustainable Trade Initiative.[2] The partnership advocates for Forest Stewardship Council (FSC) certification of forest management and the chain of custody of companies and communities in Brazil, Peru and Bolivia. TAA also supports these enterprises to strengthen their business practices and their links with markets that value sustainable timber. Many of these companies and communities need operational and investment capital, but have no experience in dealing with the financial sector.

ACCESS TO FINANCE IS CRUCIAL TO MAKE SUSTAINABLE FOREST MANAGEMENT FEASIBLE.

In order to make sustainable forest management (SFM) feasible, access to financing is crucial. For forest companies and financial institutions to be able to work together, several issues need to be addressed:

- lack of mutual understanding;
- quality of financing proposals;
- inadequate financial instruments, products and guarantee systems.

TAA joined forces with the Finance Alliance for Sustainable Trade (FAST)[3] and SCOPEInsight[4] to develop a set of services that help both forest enterprises and financial institutions to better understand each other's dynamics, needs and opportunities.

Sustainable, FSC-certified forest management helps to manage risks (financial, commercial and reputational). This makes FSC-certified forest enterprises interesting potential clients for the financial sector.

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## From "mind the gap"…

Most financial institutions (FIs) in Latin America have a profound distrust of forest companies, often based on bad experiences in the past. There is one main reason for these experiences: a lack of good understanding of the forest and timber sector on the part of FIs.

Credit officers find it difficult to assess loan requests because they don't know what to look for: is this credible forest management or will it cause deforestation? What are the real assets? How can the cash flow be interpreted? What can be financed in the short term and the long term?

Inappropriate loans and subsequent losses for the FIs — combined with a growing overall concern about deforestation — makes banks hesitant to issue loans; they are also afraid of losses and of being accused of financing illegal logging.

Many forest management companies are not just tree-cutting ventures. Responding to legal requirements, market demand and/or a personal commitment to SFM, they take care of the forest, taking out a limited quantity of timber, with the intent to maintain the forest for future generations.

Usually, these businesses and community enterprises do not work with FIs for financing forest management; instead, they depend on informal sources of financing. Good investment proposals require time and the use of specialists to prepare the required paperwork; the forest companies don't understand the need for all this paperwork and don't believe the effort will result in a loan. This causes the FIs to complain about the quality of the funding proposals they do receive. In addition, forest companies don't find financial products that are suitable for their specific needs.

This lack of understanding and the subsequent lack of formal financing forces many smaller forest enterprises to work with informal pre-financing from timber purchasers, who dominate the value chain and often charge high interest rates. This causes them to harvest more than is sustainable, and doesn't allow them to capitalize themselves so they can improve their business practices.

## …to bridging the gap

TAA and FAST implemented a strategic approach to this situation. They provide a SCOPE business performance assessment that helps companies opting for FSC certified forest management identify their strong and weak points and improve the latter. Companies with a good score can demonstrate the quality of their business performance and administration to interested FIs. These companies are also assisted in preparing their investment plans.

At the same time, FAST and TAA also organize training for financial institutions on all components of sustainable forest management, including its financial aspects. They support financial institutions to develop specific products that meet the needs of forest companies. The selected companies then meet with the financial institutions during round table sessions at a FAST Forestry Financial Fair (Table 1).

**Table 1. The step-by-step approach**

| | | | |
|---|---|---|---|
| **Step 1** | Preparing for investment | 1a | identification of forest companies |
| | | 1b | SCOPE profiles |
| | | 1c | preparing the investment cases |
| **Step 2** | Providing information about financial products | 2a | crash course on financing sustainable forest management |
| | | 2b | development of specific financial products |
| **Step 3** | FAST Forestry Financial Fair | | |
| **Step 4** | Follow-up | | |

## *Step 1. Preparing for investment*

### Step 1a: identification of forest companies

TAA and FAST focus on forest and timber companies/communities that are already FSC certified or on the way to certification. Being FSC certified implies that the enterprise is committed to sustainable forest management and that it meets strict social, economic and ecological standards.[5] For companies on the way to certification, relatively small but crucial loans enable them to fund direct and indirect certification costs; they would not be able to finance these costs without such loans.

### Step 1b: SCOPE profiles

SCOPEInsight assesses the business performance of forest companies, both private and community-based. This assessment is based on a specific methodology, Scoring of Organizational Performance (SCOPE), which uses an integrated and holistic approach. SCOPE is a broader assessment than a standard credit rating, which often focuses on the presence of collateral. Such standard ratings often turn out to be unrealistic in the forest context, which leads to many viable opportunities being excluded.

The SCOPE methodology assesses five main factors:

- internal management experience in key topics such as governance, operations and financial management;
- financial performance;
- risk management;
- sustainability issues; and
- management of supply and markets, which indicates how embedded the organization is in the value chain.

By assessing companies and producer organizations and offering the scores to interested financial institutions, insurance companies, traders, input suppliers and capacity builders, SCOPEInsight is able to bridge the information gap credibly and efficiently (Box 1).

**Box 1. SCOPE in Peru and Bolivia**

In 2011 a SCOPEInsight assessment was piloted among five forest companies in Peru and Bolivia, including international companies, family businesses and social community enterprises. Based on the results, the SCOPE tool was further developed and improved. In July 2012, SCOPEInsight profiled eight Peruvian forest and timber processing companies.

### Step 1c: preparing the investment cases

Most companies have little notion of the paperwork required by the FIs. As a network of financial institutions and other groups, FAST has insight into the requirements of a financing proposal and related documents. TAA and FAST co-finance the assistance of local experts, who help companies prepare their proposal and complete the set of related documents (Box 2).

FAST does a final check of the quality and completeness of the proposals and related documents. A summary of each proposal, along with a summary of the SCOPE assessment, is then presented to FIs at the FAST Forestry Financial Fair (see Step 3). These "blind profiles" do not show the identity or further details of the company making the proposal. Once FIs subscribe to the fair they receive access to the complete file and SCOPE assessment profile. The FIs then indicate which companies they would like to meet.

**Box 2. Help in preparing financing proposals**

In 2011, seven Peruvian forest managing companies were supported to prepare their financing proposal for the FAST Forestry Financial Fair in April of that year. During the second quarter of 2012, nine Bolivian companies (private and community enterprises, forest managers and timber processors) were assisted for the fair in June 2012. In September 2012 eight Peruvian companies (forest managers and timber processors) received support in preparing their proposals for the fair in October 2012.

## *Step 2. Providing information about financial products*

### Step 2a. Crash course on sustainable forest management

During a workshop, executives of financial institutions receive an introduction to sustainable forest management and the financial dynamics involved. During one and a half days, professionals from the sector explain all aspects of forest management, including legal issues, real/perceived risks, financial dynamics, certification requirements, social obligations and market trends. Stakeholders involved in SFM in the specific country present themselves and explain their role; they included governmental institutions, certification bodies, NGOs and associations of timber exporting companies (Box 3).

**Box 3. Workshops in Peru and Bolivia**

In 2011 six international institutions and two local financial institutions participated in the first workshop, held in Lima, Peru: IFC, Root Capital, Rabobank Rural Fund, responsAbility, Project CAMbio of the CABEI, IDEPRO (Bolivia), Asesorandes and FOVIDA. As a result, two financial institutions that had never worked in the forest sector are now piloting their first loans and/or developing specific financial products for the forest sector.

In June 2012, the second workshop in Bolivia counted with the participation of two international FIs and four local FIs: responsAbility, Oikocredit, FIE, CIDRE, IDEPRO and Pro RURAL. For this training, a group of contracted experts developed a Forestry Financial Guide on sustainable forest management.[6]

In October 2012, a third workshop was held, attended by four FIs: COFIDE, FOVIDA, Agrobanco and IDEPRO. The guide was adapted to the specifics of the Peruvian timber sector (see Endnote 2).

### Step 2b: development of specific financial products

TAA supports the development of a guarantee mechanism for financing forest management in Peru by COFIDE. Various local FIs are being coached to develop financial products for the forest sector, based on concrete business proposals from forest management companies.

### *Step 3. FAST Forestry Financial Fair*

After these preparations on both sides, the forest and timber companies meet with the FIs during a FAST Forestry Financial Fair (FFFF). During round table meetings, the timber companies present their investment plans, show their SCOPE profiles, begin negotiations with the FIs and agree on where and when to follow up (the meetings last only 50 minutes). After each meeting the FI and company fill in a short evaluation form and outline their expectations regarding an actual loan (Box 4).

**Box 4. FAST Forestry Financial Fairs**

During the first FAST Forestry Financial Fair (FFFF) in Lima, May 2011, seven proposals were presented to six FIs, involving a total of almost US$ 23 million. Amounts per proposal varied from US$ 50,000 to 12 million. The forest companies and FIs held 22 bilateral meetings to discuss financing opportunities.

Three of the participating companies achieved a loan: one was from an international FI that was present at the fair; and two were from local financial institutions that did not attend the fair, but who valued the companies' complete and well-organized documentation.

During the second FFFF, in Santa Cruz, in June 2012, almost US$ 4 million in potential investments were negotiated in 36 one-on-one meetings between the export-led small and medium forest enterprises and the financial institutions. Two loans that were already under negotiation were formalized. More loans are being negotiated.

A third FFFF was held in October 2012 in Lima: six forest and timber companies and seven financial institutions negotiated a total of US$ 3.5 million for loans and investments during 25 bilateral meetings. Further negotiations on possible loans have just started.

### *Step 4. Follow-up*

Meeting during the FFFF helps build a relationship between a forest company and the FI. Intensive follow-up is needed in order to maintain the enthusiasm and dynamics developed during the workshop and fair. The evaluation forms help to indicate which meetings will most likely result in a loan. FAST maintains contact with the FIs and TAA assists the companies in maintaining communication, responding to additional requests for information and other tasks.

The evaluation forms from the meetings that do not result in a loan provide relevant information, including why expectations did not match, what was lacking in the presentation of the business cases, and whether the financial product was inappropriate or too expensive. This helps TAA and FAST improve the completeness and quality of proposals for subsequent fairs and gives input for the development of financial instruments.

## Lessons learned

Since 2011, many lessons have been learned and incorporated to enrich and improve the approach.

### *Building a bridge takes time*

It takes time for parties to understand each other, to build a relationship and the needed trust, for the company to believe the approach might work and invest in additional paperwork and controls, for the FI to understand what it needs to know about SFM, and to involve a timber client whose purchasing commitment can guarantee the success of the forest project. This is why it can take up to nine months to approve a loan.

### *Conflicting requirements*

It is difficult for FIs to develop specific financial products for the companies at a sufficiently early moment in the process, especially FIs who have little experience in the forest sector. This causes a paradoxical situation: companies want to invest time and resources in a funding proposal only if they know what the FIs will offer; and FIs commit to come to the fair and consider negotiations only after they know what the company's is proposing.

### *Commitment within the FI*

Even if bank employees at the local level become convinced of the feasibility of the forest business case, much depends on the interest and commitment of the higher strategic levels of the FI. This is a challenge that only international operating institutions — that know both the forest and the financial sector — can help to advocate for. And as more and more FIs gain positive experiences with financing forest and timber companies, they may incorporate financing of sustainable forestry in their overall policies and structures.

### *An enabling regime*

An enabling regime is needed that creates the conditions for sustainable forest and timber companies to strengthen their business case. Local governments, for instance, need to be lobbied on such matters as allowing standing timber in forest concessions to be considered as a guarantee; halting the competition of cheap illegal timber; promoting the demand for sustainable timber by requiring it in their purchase orders; and providing capacity building in financial and business administration.

## Local professionals

A significant effort has to be made to increase the number of local professionals who have good knowledge of the timber and financial sector and who can assist companies and FIs in this process of mutual acquaintance and negotiations.

## Where do we go from here?

Although huge progress has been made in a year and a half, much remains to be developed, improved and scaled up. The first FFFF included only private forest managing companies; the later FFFFs in 2012 also included community enterprises and timber processing companies. In the upcoming years, the approach will probably include business proposals based on harvesting and processing of non-timber forest products and/or environmental services.

Most companies that came to the first FFFFs had already developed their administrative and business case, so they needed relatively little support to prepare their proposals for the fairs. Now the moment has come to invest in private and community enterprises that need more time and support to improve their financial administration and business performance and come up with a feasible investment plan. In the coming years, support for the preparation of business proposals needs to continue and even increase. The SCOPE profiles will be a good tool to set the baseline, define where to start and monitor progress.

So far, the results are reflected in the output, i.e., in the number and value of loans issued. But that is not what this is about; the real impact should be seen in strengthened sound business cases based on SFM. Monitoring of two aspects of the approach is needed:

- outcomes — are payments made in time? Is renegotiation necessary? This will help to improve the approach, development adequate instruments and sharpen criteria; and
- impacts — FAST is involved in the development of a monitoring instrument on the environmental, social and financial impact of the loans. The improvement of the business case can also be measured by a regular update of the SCOPE profile.

More companies want to take part, but sometimes miss the financial fairs. Companies with more capacity and experience don't need the FFFF; they can present their proposals directly to FIs that have increasing experience with the sustainable timber sector. Furthermore, FIs that gain more experience in the forest sector look for other, more dynamic ways of finding potential clients. Therefore, FAST will start showcasing proposals of forestry and timber companies in the virtual FAST Financial Marketplace[7] all year round. In addition, SCOPEInsight's database, which is consulted by FIs looking for interesting clients, will include more and more profiles of forest companies. This means that from 2014 on, the costs to match FIs with business proposals will diminish, since more matching will be done virtually.

## Conclusions

It could be said that past performance is no guarantee of future disasters. Financing sustainable forestry can be a good option for FIs to expand their portfolio as long as they understand the dynamics of the forest sector and consider the real risks. It takes effort from both companies and FIs, but successful examples of financing sustainable forestry management do exist.

It is hoped that these experiences will convince governments to provide the adequate enabling regime and will encourage the financial sector to incorporate sustainable forestry in their policies and portfolio and provide sufficient financial and human resources, capacities, products and procedures for these relationships to flourish in more regions.

## Endnotes

1. See www.theamazonalternative.org.
2. See www.idhsustainabletrade.com.
3. See www.fastinternational.org.
4. See www.scopeinsight.com.
5. For more details on FSC, see www.fsc.org/principles-and-criteria.34.htm.
6. For more information about the guide (in Spanish only), see www.fastinternational.org/files/Guia%20Financiera%20Forestal%20Bolivia%202012_3.pdf.
7. See https://marketplace.fastinternational.org.

# 3.4 Credit schemes in the Peruvian Amazon

RAMÓN CARRILLO ARELLANO

## A catalyst for income generation

When people think of financing for sustainable forest management (SFM), they often assume that large amounts of money are involved. A project funded by ITTO in Peru, however, demonstrates how simple and practical schemes — along with small amounts of seed capital and technical assistance — can make the difference for small and medium forest concessionaires.[1] These initiatives can help concessionaires manage their forest effectively, move up in the production chain, and increase their income.

The Application of Intermediate Technologies for Sustainable Forest Harvesting project implemented a training, dissemination and extension programme for the use of intermediate technologies (portable sawmills) for forest harvesting . It was implemented in concessions under the management of small and medium producers and native communities (SMPNCs), with two main components: technical assistance and financing.

ACCESS TO CREDIT, ALONG WITH TECHNICAL AND BUSINESS MANAGEMENT ASSISTANCE, IS NECESSARY FOR SUCCESS.

The project was designed to solve the problems of low productivity rates and high production costs. These problems arose due to the use of inadequate equipment, tools and techniques for forest harvesting. Chainsaw milling by small-scale concessionaires generates high levels of timber waste, low sawnwood yields, and leads to the harvesting of only valuable timber species such as cedar and mahogany. In most cases concessionaires did not have the financial resources to adopt more efficient technology.

## Approach

In order to identify the most suitable technology for the conditions of the Peruvian tropical forest (Figure 1), an assessment and comparative study of different types of mills was carried out under a previous project, also financed by ITTO. The project operated in the provinces of Ucayali, Madre de Dios and Loreto, all major timber-producing regions, and all part of the Amazon forest, from 2004 to 2010.

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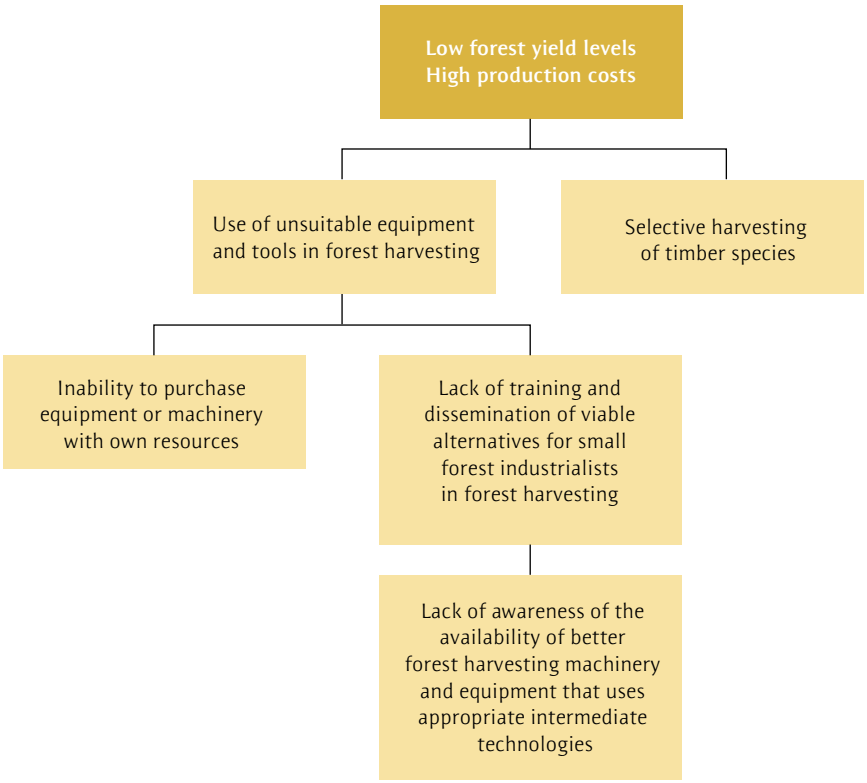
**Figure 1. Conditions in the Peruvian tropical forest**




To promote the use of better technology, the current project had a technical assistance component. This component included three types of technical assistance: training in the use of the new technology (which allows first-stage processing of the logs at the forest site) and SFM; facilitating access to credit from the banks for SMPNC; and capacity building for business management.

The project had two partners:

- the manufacturers of the portable sawmills conducted a series of demonstration events; and
- a local bank, *Caja Municipal de Crédito y Ahorro de Maynas* (referred to subsequently as Caja Maynas), a multi-branch micro-credit lender, facilitated a credit line (for the provision of loans to beneficiaries), and a guarantee fund (money deposited in the bank in case of default).

The Fund for Forest Promotion and Development (FONDEBOSQUE), a Peruvian NGO, provided technical assistance. The project promoted the adoption of the new technology and assisted SMPNCs who were interested in acquiring portable sawmills.

The guarantee fund was established with seed capital of US$ 50,000 deposited by ITTO in Caja Maynas. In return, the bank extended credit lines to SMPNCs,subject to their receiving a satisfactory financial evaluation. SMPNCs could receive up to US$ 16,000 to

buy portable sawmills and related accessories. The fund guaranteed 50% of the loan; the other 50% was guaranteed by the portable sawmill. As loans were repaid, further loans were provided.

The project used this approach because access to credit was the best alternative for capitalization and investment by SMPNCs, who often lack financial resources. It also gives them experience with the formal financing system, which they lacked. In addition, the financial institution also expanded its operations to a sector that it previously categorized as informal and high risk.

The SMPNCs who expressed their willingness to acquire the portable sawmills through the credit line were first screened by FONDEBOSQUE. The screening covered the legal tenure of their concession, the existence of a forest management plan, their capacity and practical experience in managing their forest, and their experience and capacity in the sale of timber. Once an SMPNC was approved, two processes started simultaneously: the provision of technical assistance in the use of the portable sawmill and SFM, and assistance to submit a credit application and fulfill its requirements.

Technical assistance included training in the use of the portable sawmill and on aspects such as forest planning, Reduced Impact Logging (RIL), transport and trade of timber. This was done to prepare the SMPNC to operate the equipment correctly in case the credit application was approved.

Assistance for access to credit involved training for the SMPNC in basic financial aspects:

- accounting (bookkeeping and understanding a balance sheet, financial statement and cash flow);
- financial analysis (capacity to understand and calculate basic financial indicators, such as internal rate of return, profit margins, liquidity, rotation of working capital, borrowing, and ability to pay); and
- budgeting.

## Caja Maynas

With this basic training the SMPNCs were able to fill out credit applications (Table 1) and submit them to Caja Maynas, along with the necessary documents for assessment. Like any other micro-credit lender or bank, Caja Maynas has standard procedures for the assessment and revision of credit applications, such as a background check with the credit bureau, verification of the documents attached to the credit application, and analysis and verification of the financial statements. The bank's assessment in the context of the project included some additional elements. It revised and evaluated the forest management plan approved by the National Forest Authority (NFA), along with the yearly plan of operations, a report of any offences and forfeiture of the applicant issued by the NFA, and on-site verification of the forest concession. In this way the project also built capacity within the lender to understand technical aspects and business cycles of the forest sector.

If the credit application was approved all parties were notified. The cost of the sawmill was provided directly to the supplier.

**Table 1. Characteristics of the loans**

| | |
|---|---|
| **Amount of credit (US$)** | 12,000, 14,000 or 16,000 |
| **Currency for disbursement** | Peruvian new soles |
| **Annual interest rate** | 18% |
| **Period** | up to 24 months |
| **Renegotiation of the loan** | allowed once only |
| **Guarantee** | 50% by the guarantee fund, and<br>50% on beneficiary's assets (sawmill or property) |

## Technical assistance

FONDEBOSQUE then provided technical assistance, focusing on the efficient operation of portable sawmills for timber harvesting. It also helped each SMPNC prepare a business plan for the sale of processed timber and repayment of the credit.

Concessionaires processed logs into timber at the site and sold it in the market with added value. This brought greater benefits:

- income increased by adding value to timber in or close to the forest;
- forest management improved because a wider diversity of timber species was harvested, including very high-density timber species which could not be harvested using the old technology;
- transportation costs for very distant forests were reduced significantly;
- logistics were simpler and the cost of lost logs, specially sinkers, was reduced during river transportation; and
- products diversified and market access expanded.

## Project impact

By the end of the project 14 portable sawmills were acquired through the credit scheme, and 11 credits were fully repaid by the SMPNCs, who developed business plans with the technical assistance provided.

The funds available in the guarantee fund at the end of the project amounted to US$ 40,353 as Caja Maynas deducted the default from the guarantee fund if a loan was not repaid. This means that US$ 9,600 of seed capital mobilized credits of about US$ 200,000 in assets, or 20 times the original value.[2]

## Lessons learned

A credit line, with effective capacity building, can move smallholders up in the production chain.

Simple financing schemes with smaller or local financial institutions can be effective in facilitating access to credit for SMPNCs. They have the potential to be used elsewhere, for these reasons:

- they build trust among SMPNCs, financial institutions and suppliers of equipment for forest harvesting;
- they provide more experience for the forestry sector (in particular small and medium producers, native communities and small and medium enterprises) with financial institutions;
- they familiarize forest concessionaires and other stakeholders with the policies and procedures of financial institutions;
- they motivate forest concessionaires to formalize their economic activities (register, obtain a VAT number, etc.); and
- the demonstrate that financing the forest economic activities of small producers, native communities and small and medium enterprises is a good business and that loans will be repaid.

Late in 2012, ITTO conducted an independent evaluation of the project to establish how well it served its purposes, to evaluate its impacts and to draft recommendations for future action.

These are some of the positive impacts reported by the evaluation:

- the project provided a technical solution for harvesting a wider spectrum of timber species, including some very hard woods that could not be transported by river;
- a financial mechanism was developed that didn't rely on subsidies;
- it effectively linked aspects of business management with forest management plans;
- it led a process of local development and improvement of technology.

## Future prospects

The impacts of the project have led to further developments:

- SMPNCs have acquired 15 more portable sawmills;
- more than 50 modified sawmills have been made in Peru, based on the design of portable sawmills;
- at least two more local banks have expressed interest in providing credits through similar schemes.

To build on the project's successes a number of important factors need to be taken into account in the development of financing mechanism:

- other important stakeholders should be included in this kind of initiative, such as local training institutions, local authorities and local forest producer organizations; and
- this type of project should be accompanied by activities to develop specific market niches for timber products.

The experience in the implementation of this project demonstrated that an integral approach of access to credit, along with the technical and business management assistance, is necessary for success.

The evaluation also pointed out that this type of project could be replicated, not only in Peru, but in many other timber-producing countries. It recommended an extended version of the guarantee fund, with interventions in specific products along the timber production chain. This could be expanded to commercial credits. ITTO is looking forward to the implementation of such initiatives.

## For further information

Video of the project is available at www.youtube.com/watch?v=FlWTSZwQ31c (part 1) and www.youtube.com/watch?v=UIidFvYfGXc (part2).

Five manuals on the application of intermediate technologies for sustainable forest harvesting and access to credit are available at www.itto.int/project_reports.

A summary report of the evaluation (Reference No. CEM-CFI (XLVI)/3-A) is available at www.itto.int/council_documents.

## Endnotes

1. In Peru, concessionaires *(Concesionario)* do not have tenure over the land, but do have the legal right to its use.
2. This number is derived by multiplying 14 loans issued during the life of the project at an average value of US$ 14,000 each, and rounding the figure.

# Section 4

## Coalitions and partnerships

Photo credits
p.123 Training in plantation management, Collana, Rurrenabaque Municipality, Bolivia. Florencio Orosco Vasquez
p.125 The members of the Bwejuu village conservation committee. Kenneth Rosenbaum
p.126 JECA is an NGO created by the villages surrounding a national ptark, Zanzibar. Kenneth Rosenbaum
p.129 A red colobus monkey in Jozani Chwaka Bay National Park, Zanzibar. Kenneth Rosenbaum
p.130 Farmers involved with a partnership for tree planting in Uganda. Steve Nsita
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p.148 Farmer looking after his two-year-old *Tapirira guianensis* trees. Jorge M. Goitia Antezana
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p.154 Looking up the trunk of a yellow wood tree in one of PE's projects. Planting Empowerment
p.155 PE employee Liriano Opua stands next to a tree in one of the Arimae planting sites. Planting Empowerment
p.156 PE co-founder Andrew Parrucci stands next to a spiny cedar tree. Planting Empowerment
p.157 Workers unload native species saplings in preparation for PE's pilot planting in 2007. Planting Empowerment

# 4.1 Supporting SFM through benefit-sharing arrangements

DIJI CHANDRASEKHARAN BEHR
and KENNETH ROSENBAUM

Forest partnerships and benefit-sharing arrangements have gained prominence in recent years. More forest areas are being designated for use by local communities and indigenous peoples. Private investors are interested in establishing and maintaining positive working relationships with local communities in order to gain access to natural resources, local skills and labour. And there is growing recognition that the eventual success of afforestation and reforestation activities and programmes to reduce greenhouse gas emissions from deforestation and forest degradation (REDD+) — including sustainable forest management (SFM) and forest restoration — will require the effective cooperation and support of forest-dependent people.

The authors spoke with local communities and other stakeholders and found that these partnerships can contribute to development.[1] In Nicaragua, partnerships for environmental services have motivated farmers to adopt integrated agricultural practices that increased carbon sequestration while improving livestock productivity (Chandrasekharan Behr et al. 2012). In Uganda, benefit-sharing arrangements linked to a carbon sequestration scheme resulted in financial payments for the local community and had positive spillover effects for local banks and retailers. The arrangement also had indirect co-benefits resulting from greater tree planting. In Bolivia, a partnership between communities and a private company for provision of timber has resulted in financial benefits for the communities. The private sector also provided training support for the communities and helped commercialize lesser-known timber species, allowing the communities to derive income from them (World Bank 2009).

PARTNERSHIPS AND BENEFIT-SHARING ARRANGEMENTS IN THE FOREST SECTOR CAN SUPPORT SUSTAINABLE FOREST MANAGEMENT.

Partnerships and their associated benefit-sharing arrangements can also have negative impacts. These occur when the arrangements allow benefits to be captured by the more powerful members in the partnership, deprive people of rights, result in the use of cash

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for nonproductive consumption, involve high transaction costs, or maintain low-wage labour and inequitable land distribution. In cases where schemes require some initial capital resource or land, some partnerships exclude disadvantaged community members.

This article focuses on partnerships that work and that result in sustainable resource use. The findings shared here are based on a thorough review of more than 50 case experiences and analysis of primary data from nine cases in east Africa and Latin America.

## Partnerships: objectives and parties involved

Partnerships form around various objectives, including provision of environmental services or raw materials, conservation, or harvesting of forest products. A range of partnership models exist:

- transfer of payments for ecosystem services (PES), such as watershed services;
- linking communities and companies through an outgrower scheme or social agreement associated with a forest concession;
- jointly managing forest resources or participatory management of the resources, as in the management of state forest reserves in Tanzania and Uganda; and
- conservation arrangements, such as those for the sustainable use of wildlife.

The various partnership types provide a range of incentives to achieve objectives. Incentives include shared revenue, non-monetary incentives (such as technical assistance), or contribution of the cost of inputs. These are broadly considered benefit-sharing arrangements.


The parties involved in partnerships and the related benefit-sharing arrangements include an external party and a local party. The former often provides funding or an investment. The local beneficiaries often provide resource inputs, services or access rights to forests in exchange for monetary or non-monetary incentives. In addition, partnerships may involve external parties that assist with administrative matters, capacity building, implementation and monitoring.

## Identifying beneficiaries

Most countries have multiple legal systems with different origins. In such legally pluralistic societies, a number of non-state bodies of law operate at the same time; they often govern actions at the local level. Examples include international law; religious law, such as Islamic law; and project law (rules enforced within the project area).

Perhaps the most important non-state law is customary law, which is a part of the de facto legal framework in many developing countries. A variety of customary land tenure systems can coexist in an ethnically diverse country, reflecting both local culture and local land-use patterns. Many of the world's forests — and other resources of importance for achieving REDD+ — are affected by community claims of customary land tenure rights

(for example, in the Democratic Republic of Congo, Liberia and Panama). Customary land tenure is most extensive in Africa, where it determines most rural land use and some urban land use. It is also found in many areas of Latin America, especially where indigenous peoples live. Customary land tenure is also found in Southeast Asia, notably in Indonesia and the Philippines, and in numerous Pacific Island nations (Bruce 2012).

For partnerships to be sustainable, they require all local beneficiaries to be identified. This will be important to prevent conflicts and work effectively in complex situations at the local level. Determining the appropriate local partners will require consulting with a broad range of stakeholders.

When rights are unclear the identification of local partners or beneficiaries should be pragmatic. It should take into account existing property rights and deal with customary claims, even where these are not recognized by national law. Identification of beneficiaries should also recognize the existence of potentially illegal interests in income from the resource.

### Key steps for identifying beneficiaries

Project planners must develop an understanding of what legitimacy means in the context. The notion of legitimacy should be tied to identifying people whose claims and use of natural resources should be recognized and addressed and whose use of natural resources needs to be made more sustainable through incentives. This will provide a framework for consultation and negotiation with the various stakeholders.

A participatory approach that involves local stakeholders, experts and government should be used to identify beneficiaries (see Box 1). This approach would include three main tasks:

- assessment of the legal framework and property rights relevant to forest resources;
- assessment of perceived rights and interests (this would include claims to land and resources that have not been made for some time); and
- identification of communities and other stakeholders and the benefits they derive from the natural resource.

Project planners should classify the stakeholders and the benefits they derive from forests according to the legal basis of their claims. This determines the extent to which certain kinds of benefits and compensation may be due by law versus those that need to be negotiated. Potential REDD+ beneficiaries could be classified based on the type of claim:

- property or other legal rights (including those who have customary rights recognized by national law);
- customary claims to such rights that are not recognized by national law; or
- established benefits from the resource.

**Box 1. Identifying beneficiaries, Makira Forest Protected Area Project**

The Makira Forest Protected Area Project in Madagascar aims to avoid deforestation of state forest land. Madagascar has a pluralistic legal regime governing land. To identify local stakeholders, project planners used information about the communities obtained from a series of socio-economic assessments, surveys, discussions with community members and regional workshops.

The consultation process identified three categories of village communities at different distances from the protected area and with different reliance on the forest resources. The state was also a stakeholder. The project assessment found that village use and stewardship of forests varied significantly within a cluster of villages. It also found that the non-forest-user communities might be stakeholders even if they did not bear the costs of the changes in land use imposed by the project. Although there were good reasons to provide some project benefits to non-forest users, project designers wanted to distinguish them from those primary stakeholders who would be required to change their uses of the forest.

Source: Bruce 2012

The process of identifying beneficiaries should focus on existing benefits. It should also consider the property rights underlying these benefits when planning partnerships and new benefit sharing.

Non-governmental organizations (NGOs) can help to assess rights and benefits, advocate for local communities, and raise awareness and build capacity for local communities and leaders. Facilitation by intermediaries such as these is in the immediate interest of the partnership's sustainability and the external party should be ready to invest in and monitor them. A degree of caution is needed, however; if too many intermediaries are involved, benefits for individuals and communities may be diluted to the point where they become ineffective.

Although there is guidance on the use of consultation in identifying beneficiaries and designing benefit streams (UN-REDD Programme 2009; FCPF 2009b), other key elements also need to be addressed. The topic of land tenure and land institutions needs greater attention and as a recent publication has indicated (FCPF 2009a), there is need to document uses and rights. Project planners have failed to advise countries that prior to local consultation and negotiation there is a need for in-depth studies of the legal framework and other systems governing resource access and use.

## Good partnership processes

Several factors support the success of projects (Chandrasekharan Behr et al. 2012; World Bank 2009). Based on experiences at the country level, there are five key requirements for successful partnerships:

- They require effective human relationships. Participants should aim to build trust and mutual respect and support communication.
- They require a basic level of good commercial practice. The project must be practical; participants should have a common understanding of the project and have similar expectations. Participants should be able to verify that others are fulfilling their commitments. The project should have a sound legal basis, consistent with recognized rights to land. Both sides should enter the partnership freely and see it as a way to achieve desired goals.
- They require initiative and commitment. Participants must be willing to take responsibility for implementation. Leaders must be able to persuade others to cooperate. People must be dedicated enough to accept delays, setbacks and sacrifices, keeping long-term results in mind.
- They benefit from stable social structures. Good community institutions assure continuity even while individual participants come and go. Third-party managers, implementing agencies or verifiers can increase the likelihood of success by providing key benefits or services.
- They are adaptive. Over the course of a project, things will seldom go completely as planned. Participants must be ready to learn from experience, respond to the unanticipated, be patient, be flexible, and even be willing to renegotiate terms from time to time.

Two examples illustrate how these factors work in practice: Tasbaiki Wood Bank in Nicaragua; and Jozani-Chwaka Bay National Park, Tanzania.[2]

### *Tasbaiki Wood Bank*

In Nicaragua, the Tasbaiki Wood Bank supplies certified wood from three local forestry cooperatives to three small furniture manufacturers. Chandrasekharan Behr et al. (2012) found low levels of community satisfaction and social, environmental and economic benefits. Locals noted a lack of communication and trust among the partners (human factors); impractical arrangements for distributing benefits and misunderstandings about the partners' roles (commercial factors); and unhappiness with community representatives and the overall function of the Wood Bank, the organization set up to manage the project (initiative and social structure factors).

### *Jozani-Chwaka Bay National Park*

In Zanzibar, Tanzania, the Jozani-Chwaka Bay National Park shares admission revenues with farmers and villages affected by the park. Most of the residents surveyed were satisfied with the partnership. Focus groups credited good communication and a reasonable level of trust (human factors) and open bargaining to create the arrangement and relatively easy verification of compliance (commercial factors). Strong leaders from both partners and a supporting NGO helped establish the partnership (initiative), and a farmers' organization

and village conservation council are involved (social structure). Finally, the partners have been patient and flexible, revising the benefit-sharing formula in the local people's favour when early returns were too low (adaptiveness).

## How contracts can be used

A contract is a document whose main purpose is to set out the agreed terms of a partnership. Putting agreements in writing can lead the sides to explore benefits and risks in detail, impress upon them that they are making a serious commitment, confirm the terms to answer any future questions, and explain the partnership to outside parties.

In all cases — but especially when rights are unclear (Box 2) — a carefully negotiated and thoroughly understood agreement can create clear, shared expectations about process and benefits for all parties (Bruce 2012).

**Box 2. Working with unclear carbon rights**

Lack of clear carbon rights did not prevent Ecotrust, a national NGO, from forming a partnership with local communities to sequester carbon. Trees for Global Benefit (TfGB) is a sub-national PES scheme in Uganda that provides payments to households for carbon sequestered. TfGB is implemented by Ecotrust. In Uganda, the *Forests Act* defines forest produce as "…anything which occurs or grows in a forest…," but in the forest produce section does not specify carbon among the items included. Recognizing this, TfGB required participating households to own the land where they would plant trees in order to participate in the scheme. The terms of the agreement were detailed in a contract.

Source: Nsita 2010

A contract or agreement has several main objectives:

- to identify the resource;
- to record the basic intent of the project and fundamental understandings reached;
- to record the parties' understanding of the legal position; and
- to establish a process for handling contingencies, including what should happen if the parties discover at some point that their actual rights to the resources differ from what they assumed when they made the agreement.

The exact content of contracts will be determined by the nature of the partnership. The level of detail and formality may vary in different contexts.

The agreement should be practical and flexible; a number of agreements may be needed (see Box 3). Transparency is important to prevent later misunderstandings.

**Box 3. Using multiple linked agreements in Ethiopia**

In Ethiopia, the Humbo Community-Managed Natural Regeneration Project (CDM project) aims to reforest state-owned communal forest land. The project is structured around a series of negotiated contracts. The government devolved authority to community cooperatives to manage and use the forest resources. The parties agreed that the cooperatives owned the rights to the sequestered carbon, a position that was consistent with the legal analysis conducted and expressly agreed to by government officials and a government lawyer.

As part of this project, the cooperatives contracted with the project manager, World Vision Ethiopia, to sell it the emission reductions. World Vision, in turn, developed an Emission Reduction Purchase Agreement with the World Bank. The parties also reached agreement that World Vision Ethiopia would transfer its rights and obligations regarding the sale of carbon to a local trust in 2013.

Source: Bruce 2012

Contracts should clearly identify the interests to be recognized and the lands involved; specify which uses may continue and which may not; and specify the compensation, financial or other (Bruce 2012; World Bank 2009). Contracts can provide a remarkably flexible approach to addressing the issues around legitimate beneficiaries. Contracts should frame incentives for the affected communities and make enforcement of use restrictions more manageable.

Contracts should also consider what will happen at the end of the partnership. This may involve clarifying who will own partnership resources and who is responsible for the condition of partnership lands.

Contracts should be carefully reviewed to assure that they are legally valid. Contracts cannot change the law and must comply with it, and must affect only the parties who sign them. It is important to include all interested stakeholder groups in the negotiation and signing of contracts.[3]

## Additional considerations

Regardless of the purpose of the partnership or parties involved, some general considerations apply to all arrangements for sharing benefits:[4]

- Allocate resources to develop a rigorous baseline and business case up front. This helps to track the impact of an activity (especially a performance-based activity) and helps participants understand the feasibility of the project.
- Ensure that eligibility criteria are not unduly exclusionary. One of the shortcomings of PES schemes was that their eligibility criteria excluded certain segments

of the community. This can result in disagreements among communities about the distribution of benefits and become a cause for tension, discontent and sometimes conflict.

- Provide payments that assist with the cost of up-front investments. Having payments or a mechanism to obtain financing to cover the costs of these investments will increase the engagement of local stakeholders.
- Provide consistent monetary and non-monetary benefits over the duration of the activity. It is important to ensuring that the benefits that are provided to participants early in the partnership are either sustainable or that clear criteria justify who receives specific benefits.
- Provide appropriate monetary benefits and consider a blend of individual and communal benefits. This requires distinguishing between individual and communal benefits and then collectively determining the correct combination. Having a known equation for benefit sharing can enhance transparency and build trust.
- Time payments to suit local conditions and ensure transparency. The frequency of payments and how they are handled should be transparent and should suit all parties. This and the previous consideration will not only improve transparency, but also avoid reinforcing inequities.
- The recognition of rights can itself be a key benefit.
- Augment financial benefits with technical assistance. This offers options for the future through training and other technical assistance. Building the capacity of the local partner helps generate long-term satisfaction.
- Ensure flexibility in the benefit-sharing mechanism, so that distribution of benefits can be revisited periodically.
- Enforce the arrangements.
- Work with local partners who are well organized and can establish effective benefit-sharing arrangements that minimize the number of intermediaries involved in transferring funds to local partners.
- Have clear roles for different institutions. This minimizes the possibility that a confusing policy and legal context will leave both the local and external partner without clear guidance on how benefit sharing or partnerships need to be implemented. Conduct social audits to ensure that benefit-sharing arrangements are not being captured by the more powerful members of the local partner group.
- Ensure that monitoring takes leakage (the possibility that the project will lead to activities that cancel out its benefits) into account.
- Keep monitoring simple and achievable.

## Conclusion

Partnerships between local and external parties provide opportunities for SFM. Investing time and resources to identifying beneficiaries, adopting a process that meets the needs of all parties involved, can help establish and foster a long-term partnership. Contracts are practical instruments for partnering communities and external parties in situations where rights are clear and equally effective when rights are unclear. By creating shared values, partnerships and benefit-sharing arrangements in the forest sector can support sustainable forest management and broader development and growth opportunities for all parties involved.

## Endnotes

1. For more information on these studies please see www.profor.info/profor/node/2010.
2. Chandrasekharan Behr et al. (2012) include more information about these and seven other cases that illustrate how these factors work.
3. More details on good practice are found in World Bank 2009 and Bruce 2012.
4. More details on these overall considerations are available in Chandrasekharan Behr et al. 2012.

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# 4.2 Working with the private sector: insights from German development cooperation

FABIAN SCHMIDT, CHRISTINE WOLF, ANNA KAROLINA LAMIK, CHARLOTTE SLUKA, CORINNA BRUNSCHÖN and JULIETTE VOURIOT

## Introduction

At the turn of the millennium, as part of the Millennium Development Goals (MDGs), the international community made a commitment to halve the number of people living in poverty by 2015. At the same time, rising $CO_2$ levels and massive deforestation have put forests back on the international development agenda. Deforestation alone accounts for around 15% of anthropogenic greenhouse gas emissions, about the same share as the transportation sector.

The two challenges are closely related: forests can contribute both to poverty reduction and to addressing climate change through mitigation and adaptation. One billion out of the world's 1.2 billion extreme poor depend on forest resources for part or all of their livelihoods and approximately 300–350 million people live in or adjacent to forests on which they directly rely for their subsistence and income (Chao 2012). When forests are degraded or destroyed, they lose their capacity to provide these services. Therefore, reducing deforestation is of the utmost importance.

Involving the private sector in development cooperation in the forest sector and beyond allows German Development Agencies to leverage technical and financial resources

Traditional development cooperation alone cannot overcome these challenges. Cooperation with the private sector is one way of achieving broad development policy objectives such as the MDGs and fighting climate change. Complex challenges are best solved by combining forces. Working with the private sector can substantially support the implementation of sustainable development in partner countries.

Many forms of international cooperation (IC) have emerged, involving implementing organizations for development cooperation, the public sector, civil society actors and the private sector. However, a stable environment, efficient institutions and well-functioning

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markets — as well as access to sustainable financial services — are required in order to allow entrepreneurs to invest and an economy to grow.

Making global development sustainable and involving the private sector are key goals in German development cooperation. Various forms of cooperation are undertaken to pursue diverse objectives, such as mobilizing private capital and expertise for development-policy purposes; delivering public services in partner countries more efficiently; and supplementing state regulations with voluntary regimes by businesses. The most important factor is enriching development cooperation with private contributions (BMZ 2011a). There are six types of German development cooperation that involve the private sector:

- sponsoring and co-financing;
- multi-stakeholder dialogues and formal networks;
- development partnership;
- public-private partnerships;
- mobilization and combination of private and public capital; and
- financial and advisory services for private investment in developing countries (BMZ 2011b).

This article provides an analysis of only one form of German development cooperation involving the private sector: development partnerships. The subjects discussed are forest-related development partnerships implemented from 1999 to 2012 by *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) GmbH under the framework of the develoPPP.de programme. A two-step analysis was conducted:

- an analysis of quantitative data gathered from the develoPPP.de programme project database (number of forest-related projects, financial volumes, project countries, company domiciles, type of financing, focus of the project activities);
- this was followed by a qualitative analysis of experiences, based on semi-structured interviews with individuals who are or have been involved in development partnerships (project partners from the private sector and GIZ project managers).

## Public and private cooperation under the develoPPP.de programme

The develoPPP.de programme is aimed at mobilizing development cooperation by involving the private sector in a way that partners use their complementary skills and resources, and agree to share risks and benefits in a joint project (Figure 1).

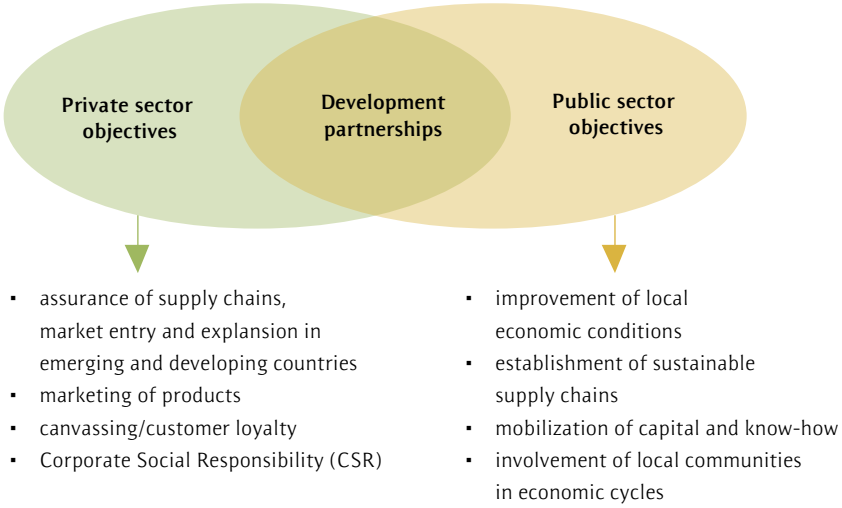
The programme was founded in 1999 by the Federal Ministry for Economic Cooperation and Development (BMZ) and is executed by the German development finance institution (DEG), GIZ and sequa gGmbH (a German non-profit development organization). Approximately 1,500 development partnerships have been initiated in cooperation with German and European companies, covering a wide range of thematic issues.

Companies applying must comply with a number of requirements, e.g., annual turnover of at least €1 million, three years' market presence and more than ten employees. Candidates must also meet five formal criteria:

- all project measures must be compatible with the development goals and objectives of the German government;
- public and private contributions must complement each other so that both partners can attain their objectives more quickly, efficiently and cost-effectively;
- a public contribution will be provided only if the private partner would not carry out the project without the public partner and if the measure is not illegal;
- Competitive neutrality must be ensured. The initiative is open to all companies and is communicated transparently (i.e., information concerning the partnership is made available within GIZ and externally).
- Companies are required to make a considerable financial contribution and/or provide staff in carrying out projects; the private sector must contribute at least half of overall costs.

**Figure 1. Benefits and common goals in development partnerships**

Note: between German development cooperation and the private sector




## *Types of projects*

There are two different types: development partnerships and strategic alliances.

### Development partnerships

In the context of the develoPPP.de programme development partnerships are projects that are jointly planned, financed and realized by DEG, GIZ or sequa. The term of the project is three years. Interested companies may submit project proposals in a specific format; these are reviewed by the implementing organizations to assess their suitability. The best concepts and most efficient approaches are eligible for public financial support worth up to €200,000. Approaches that show extraordinary commitment or entrepreneurial creativity have the best chance of gaining support.

After the completion of a development partnership it is foreseen that the company will continue the activities independently. Therefore, it is crucial to ensure that project activities are sustainable in the long term.[1]

### Strategic alliances

Companies that are keen to get involved on a larger scale can engage in a strategic alliance; this option is offered only by GIZ. In addition to the general criteria mentioned above, companies must meet further quantitative and qualitative criteria, such as a total project volume of at least €750,000. Strategic alliances typically involve at least two private partners interested in a larger-scale transnational project. These strategic alliances deal with structural improvements in partner countries that extend far beyond a single company's scope. They require complex project planning and highly efficient management.

Due to the reputational risks and potential impact of forest-related projects on the environment and local people, companies who submit proposals must obtain special authorization from BMZ. Approval is also mandatory for projects related to biofuels, oilseeds and renewable resources.

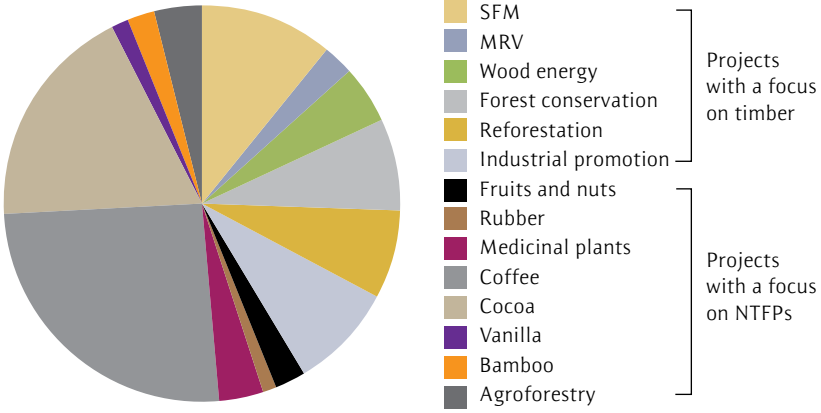
## Forest-related development partnerships

GIZ has managed 82 forest-related projects since the develoPPP.de programme began in 1999. The projects were grouped in two main categories based on their relationship to forests and then classified according their specific project focus.

Figure 2 shows that 32 of these projects focused on timber (e.g., promoting sustainable natural forest management (SFM), reforesting degraded land, vocational training for employees in the timber industry), while 50 projects focused on non-timber forest products (NTFPs); e.g., improving value chains of individual NTFPs.[2]

DeveloPPP.de mostly supports activities that focus on capacity development, technology transfer and the promotion of certification according to existing certification schemes.

**Figure 2. GIZ forest-related development partnership, 1999–2012**



## Projects with a focus on timber

These projects focus on a broad range of issues, such as SFM, developing Monitoring, Reporting and Verification (MRV) systems, wood energy, forest conservation, reforestation and support for the timber industry.

Of the 32 timber-related projects, nine focused on capacity building for SFM, incorporating aspects such as certification in forestry operations. For example, a development partnership with the Forest Stewardship Council (FSC) was set up to support small- and medium-sized forest enterprises (SMFEs) in Cameroon during the certification process. The project improved the sustainable management of forests and provided access to growing international markets for sustainable/certified timber.

FSC also established a strategic alliance with GIZ to support the reform of regulatory conditions for SFM in the Amazon region, Central America, China and the Congo Basin. This was accomplished by overcoming the economic and structural shortcomings of the FSC's National Initiatives (NIs), which promote SFM and forest certification in these pilot regions. Project activities focused on organizational restructuring, capacity building and support for institutional networking and negotiating capabilities for the NIs.

Two projects with satellite companies focused on improving MRV of forest areas, mostly through technology transfer and capacity development. One project is summarized in Box 1.

Six reforestation projects have been conducted (Figure 2). For instance, a German engineering company increased technical experience among the local population in Morocco to restore degraded soils through piloting the use of mycorrhiza for agricultural production and forestry. A cement company is rehabilitating its mining sites in Tanzania by planting trees in cooperation with GIZ.

**Box 1. Supporting REDD+ MRV development in Ghana**

Astrium GEO-Information Services, a leading provider of geo-information products and services, is engaged in a development partnership with GIZ as part of the develoPPP.de programme. The aim of the project is to improve national MRV capabilities, quantify deforestation and forest degradation and monitor forest resource management in Ghana. In order to achieve these objectives, the Centre for Remote Sensing at the University of Accra and the Forestry Commission of Ghana are receiving technical training in the use of radar-based remote sensing technologies. The project also provides training in the assessment of emission factors and the validation of remote sensing data based on in-situ measurements. This will support an accurate and transparent quantification of Ghana's forest cover and will contribute to the establishment of a national REDD+ MRV system.

The six projects focusing on forest conservation worked mostly on local awareness campaigns or the development of sustainable tourism in order to help local communities to recognize the commercial value attached to their forests.

## Projects with a focus on NTFPs

Most forest-related projects focused on NTFPs. The main goal was to make NTFPs more profitable by improving management and/or value chains. Working with NTFPs offers many opportunities for achieving the dual objectives of improving local livelihoods and improving forest conservation. Timber products can take a significant time to deliver economic benefits due to their slow growth rate, but NTFPs — such as cocoa, fruits and nuts and medicinal plants — can be harvested sooner.

Some NTFPs offer employment and income generating opportunities and therefore provide considerable value to poor people. Investments in training and the improvement of value chains can help to realize this potential (Box 2).

Coffee and cocoa make up the largest part of all NTFPs projects. The development of sustainable business models, e.g., by including improved processing, commercialization and collaboration with local farmers, was the focus of most of these projects.

**Box 2. Improving value chains of vanilla from Madagascar**

Madagascar is the world's leading vanilla producer, supplying up to 70% of the natural vanilla used in food production. The income of more than 70,000 families in the country is directly linked to vanilla production. The vanilla sector in Madagascar is characterized by low productivity and high vulnerability to climatic conditions. In addition, several periods of civil unrest and political uncertainties have disrupted production and made investment scarce. The whole value chain of vanilla needs to be supported in order to ensure a long-term sustainable supply.

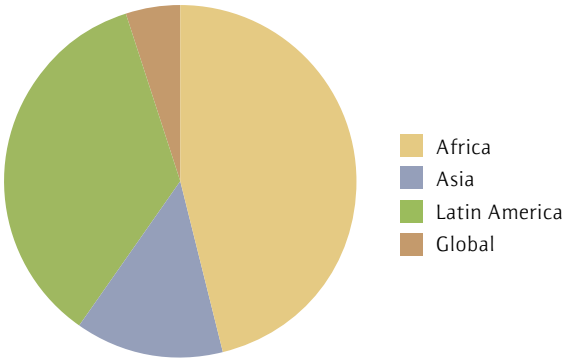
In the framework of develoPPP.de, GIZ and Symrise, a global supplier of fragrances, flavorings, cosmetic active ingredients and raw materials, have initiated a development partnership. It aims to introduce a sustainability baseline in the vanilla sector and improve small-scale vanilla farmers' incomes through enhanced market competitiveness and income diversification. The partnership works with small-scale farmers and farmer cooperatives from the Diana and Sava region in northeast Madagascar. Approximately 1,000 farmers are targeted directly. Small-scale growers are trained and advised on how to improve yields and quality. The focus of the training is environmentally friendly and sustainable production methods that are in line with criteria for conservation of biological diversity.

## Regional distribution of projects and partner companies

As shown in Figure 3, most of the 82 projects are located in Africa (38) and Latin America (29); fewer (11) are located in Asia. Four projects are strategic alliances and have a transnational scope.

Most partner companies (49) are based in Germany, 10 are in other European countries, 17 in Africa,[3] 5 in Latin America and 1 in North America. The high number of German companies is due to the programme targeting German and European companies in particular. Local companies in developing and transition countries are also eligible if EU-registered companies or European citizens hold more than 25% of company shares.

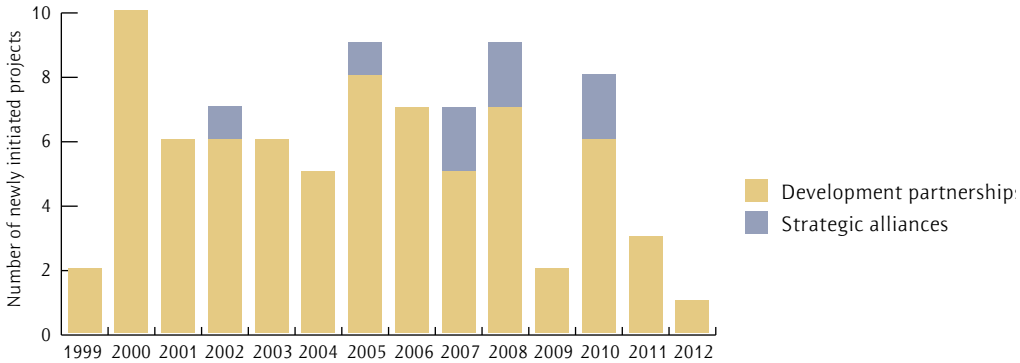
**Figure 3. Geographic distribution of GIZ forest-related development partnerships**




## The financial leverage of development partnerships

An average of eight forest-related projects have been initiated each year (Figure 4). Since 1999, forest-related investments of about €41 million have been channelled through the develoPPP.de programme. By investing €14 million, the public sector achieved financial leverage of €27 million.

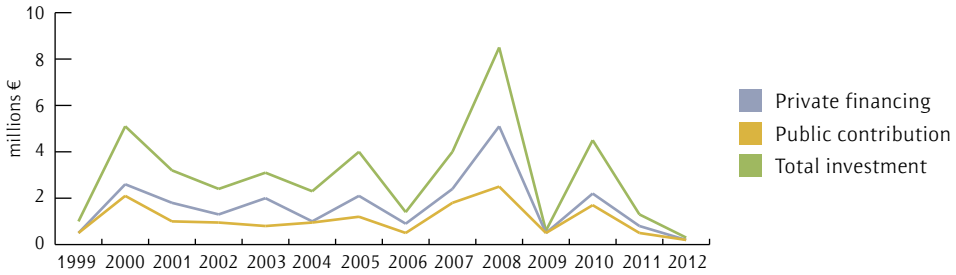
**Figure 4. GIZ forest-related development partnerships and strategic alliances, 1999–2012**



Approximately €4 million of the €27 million in private financing was delivered via third-party contributions (other private companies, non-governmental organizations, institutes, etc., who cannot be a sole partner in a development partnership).

Figure 5 depicts the flow of investments since 1999 and illustrates the sources of finance (public/private) of new forest-related development partnerships.

**Figure 5. GIZ investments in development partnerships and strategic alliances, 1999–2012**




## Private-sector perspectives

The authors interviewed companies who participated in development partnerships. Most companies had similar reasons for entering a partnership with GIZ:

- risk mitigation in new markets;
- access to local producers (e.g., small farmers/producers);
- a willingness to achieve positive social impacts;
- wanting a good reputation in the partner country; and
- a lack of experience in capacity development.

Companies considered GIZ an important partner, mainly because of its in-country presence — GIZ operates throughout Germany and in more than 130 countries worldwide — and expertise in capacity development. They also valued GIZ's large network of experts and access to country governments, decision-makers and stakeholders.

The outcomes of most development partnerships fulfill and sometimes even surpass the expectation of the companies, especially regarding benefits for the company (e.g., market access, improved value chains). Although a few companies felt that their goals were too ambitious, they were generally very satisfied with the outcomes of their projects.

In most development partnerships the benefits for the project target groups (e.g., small farmers, producer groups, local communities) materialized, although many companies felt the project cycle was too short and capacity development required more time. Some companies criticized the fact that to date no systematic monitoring and evaluation tool was being used to assess the real impacts of development partnerships on local stakeholders.

Most companies rated the overall success of the development partnerships and collaboration with GIZ as very good. Some companies mentioned that communication should be improved, especially for new partner companies who require more information and capacity with regard to initiating projects. The presence of GIZ experts is considered very important; it gives the development partnerships in the countries an image of official importance.

Based on their experience, all companies would enter another development partnership with GIZ.

## Assistance and obstacles

Companies felt that crucial factors in success were GIZ's local presence, its contacts with politicians and organizations and its knowledge of the respective socio-cultural environment. Another important factor was the cooperation with a project partner in the partner country itself (e.g., local governments, producer associations, universities, etc.). Overall, good coordination between all project partners and members was considered to be key and good technical personnel were an important ingredient for overall success.

The two most important obstacles mentioned are linked. The burden created by bureaucracy in the project countries consumes a lot of time and energy. This made worse the perceived obstacle of the relatively short project duration of development partnerships (three years). However, companies are aware of the difficulty of synchronizing the achievement of economic objectives and that of development goals.

## Lessons learned

Even though companies perceived some obstacles in realizing development partnerships, they described the partnerships as being goal oriented. This approach encourages direct market access and is well suited for trying out new markets while overcoming any related uncertainties with the help of an experienced partner. The partnership model is perceived as tool for risk mitigation that integrates elements of corporate social responsibility, leading to improved market access and easier market expansion for a range of private-sector actors.

However, companies wish for less bureaucracy and would appreciate greater public contributions; project budgets were considered too small. Furthermore, some companies require more support during the conceptual design phase. Most of these lessons learned are general and might apply to initiatives other than forest-related development partnerships. They could still help improve existing development partnership arrangements between the public and private sector or be useful when setting up new partnerships.

It is striking that most of the forest-related development partnerships focused on improved management of NTFPs and their associated value chains. It can be assumed that by doing this German development cooperation can deliver a substantial contribution to sustainable development, since the economy of its partner countries is often based on small-scale agricultural and forestry production systems.

Public-private development cooperation in the forest sector and beyond constitutes an attractive tool for German development agencies. It allows them to leverage technical and financial resources from the private sector in order to promote sustainable management practices, build local capacities and reduce poverty. The challenge remains to link these opportunities to local industries and community participation.

## Endnotes

1. Additional information on the criteria of development partnerships can be found on the develoPPP.de website.
   See www.developpp.de/en/index.html?PHPSESSID=ukdmkfgap60b27aujcmgfgoispcfu8ni.
2. For a critical discussion of the definition of NTFPs, see Belcher 2003.
3. BMZ also established the Africa Facility, a financing instrument for the promotion of development partnerships with Africa-based companies. The Africa Facility encourages firms located in African partner countries to become involved in a sustainable development process. This explains the relatively high number of African partner companies.

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# 4.3 Shared investment in small-scale woodlots in the Bolivian Amazon

DENNIS BERGER and ANKO STILMA

## Introduction

Private equity investment has the potential to stimulate forestry activities among smallholders in frontier regions of tropical lowlands. The ArBolivia project in the Bolivian Amazon basin illustrates this potential. The project started in 2007 as a portfolio of Small Scale Afforestation and Reforestation Activities under the Clean Development Mechanism (CDM-SSC-AR) in the Bolivian tropics with small land-owners (UNFCCC 2009).

The dual goals of the CDM are to promote sustainable development and reduce greenhouse gas emissions. The outcomes of a CDM project should therefore directly or indirectly improve the living conditions of all people (UNFCCC 2011; UNFCCC 2012). UNFCCC (2011) states that one of the goals of sustainable development is poverty alleviation. Small-scale CDM projects must be developed or implemented by low-income communities and individuals (UNFCCC 2012).

The CDM-AR framework resulted in transparency mechanisms that in turn attracted private equity investors.

Although CDM projects should improve local livelihoods, they provide limited financial benefits. Further, the CDM regulations for forestry activities create technical barriers for participating smallholders. Secondary effects prove to be more beneficial, provided that the project is validated and registered under the CDM and by a voluntary carbon certification scheme. This is crucial to engage private equity investors.

The interplay of carbon credits and private equity investment within the ArBolivia project was necessary for its successful implementation. The project engages with more than 950 smallholder families and covers more than 1,800 hectares (ha) of forestry plantations, with mostly native timber species.

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## The ArBolivia project

ArBolivia is reforesting subtropical lowlands along the fringes of the Amazon Basin in Bolivia through small-scale woodlots with local farm families, using native tree species almost entirely. The project, which began in 2007, includes the on-farm establishment of ecological corridors, protective plantations[1] and sustainable agricultural land use. The project implements activities through an association between local smallholders and "ethical" investors and is a example of practical ways to combat global deforestation, climate change and poverty.

The project area is located in the Vilcabamba (Ecuador)-Amboró (Bolivia) ecological corridor, close to the border of the national parks and protected areas of Madidi, Pilón Lajas, Carrasco and Amboró. Subsistence agriculture is encroaching on these parks, which lie between the Andean plateau and the Amazon Basin. For decades, these tropical lowlands of Bolivia have been deforested (Berger and Stilma 2006; Zomer, van Straaten and Stilma 2006). Driven by desperation, settlers have moved down from the Andes regions and have laid claim to virgin rainforest, exploiting the valuable timber and establishing smallholdings to eke out a living from the land. After decades of harmful agricultural practices and lacking the capital to invest in a viable alternative, the smallholders are forced to continue their slash-and-burn methods in order to maintain their meagre existence.

Alarmed by the negative consequences of these practices, and concerned about the ecological importance of the area's protected areas, various national[2] and international development agencies[3] became involved. Their goal was to promote sustainable land use and conservation of natural resources among rural migrant families. Most of their projects aim to introduce forestry practices that made use of native species.

This implementation of forestry plantations on a small scale with migrant farmers was carried out through publicly funded development projects. The projects were supported by several factors:

- favourable local growing conditions for trees;
- a wide variety of native high-quality timber species;
- the vulnerability of soils to agriculture or livestock raising;
- the availability of land for reforestation activities, since it was not being used for agricultural purposes; and
- relatively high international prices for tropical hardwood.

Under these circumstances, forestry plantations seemed to be the best option for sustainable rural development in both environmental and economic terms.

### *Meeting socio-economic needs*

Forestry plantations, however, had limited success in stabilizing the precarious livelihoods of local smallholders in the project area. The CDM feasibility study carried out in 2006 (Berger and Stilma 2006), and the field results from the socio-economic impact evaluation of the project in 2012 (Berger 2012), showed that small-scale farmers rarely take part in

(re)forestation projects; other forms of land use better meet their direct socio-economic needs. Indeed, the livelihood needs analysis (Berger and Stilma 2006) listed important requirements of farmer families that should be met (at least partly) by alternative land uses:

1. income within a relatively short period;
2. direct access to capital in case of emergencies;
3. relatively easy access to known markets, preferably without the intervention of an intermediary stakeholder (middleman, community or producer organization, etc.);
4. relatively easy management of production (not involving hard labour or technically complicated processing);
5. constant and secure markets for farm produce;
6. labour demand for farm produce that can be met by existing family labour capacity;
7. low requirement for financial investment (due to a lack of capital); and
8. a positive cost-benefit analysis.

Without clear incentives such as these it is unlikely that low-income communities and smallholders will implement and manage plantations by themselves. Commercial forestry plantations do not address points 1, 2, 3 or 7 as effectively as traditional land use systems do (Berger and Stilma 2006).

Also, as Evans (2001) points out, plantations are not a quick fix. Farmers and investors need to be assured that sufficient funding is available when needed. Commitment over time is needed to make a plantation successful (Evans 2001). In projects that promoted reforestation in the area, but were financed for only a relatively short period, the plantations established had problems in later years. This was due to a lack of effective management, resulting in low quality, low survival rates or complete failure of the plantations (Cetefor-Sicirec 2008).

In order to assure local acceptance, the sustainable transfer of timber production to local small-scale farmers requires a long-term project that assures technical assistance, investment alleviation and a well-managed commercialization of production. It is difficult to provide these components through short-term development projects.

The ArBolivia project provides a long-term commitment through a combination of ethical equity investments and the sale of certified emission reductions (CERs) under the CDM. Under this financing mechanism, smallholders from timber plantations earn immediate income or investment returns from the sales of carbon credits and through capital provided by equity investors. At the same time, investor capital creates a shared interest for plantation development and increased timber sales from future plantation production, which has to guarantee its short-term and long-term external monitoring and technical assistance.

## Obstacles

Several obstacles impede the implementation of small-scale reforestation activities with an extensive number of smallholders under the CDM framework. The CDM scheme is meant to meet some of socio-economic needs discussed above. Unlike most ODA projects, which have a four- to six-year time limit, the commitment to CER production is based on the entire tree growing cycle. However, although based on the entire tree growth cycle, CDM-AR engagement within reforestation projects, such as ArBolivia, has demonstrated two main shortcomings when put into practice:

- limited revenues from carbon sales; and
- limitations due to CDM-AR regulations.

### *Limited revenues from carbon sales*

The revenue from the sale of carbon credits does not provide sufficient funds to implement reforestation activities in the ArBolivia project.

The data from plantations in the Bolivian lowlands (Stilma and Peñaloza 2007; UNFCCC 2007), demonstrate that the costs to develop, validate and verify[4] carbon projects are high compared to the revenue from carbon sales. For projects on less than 400 ha, these costs might even exceed the revenue from carbon credits. This was the case in 2007; since then, carbon prices have increased only slightly (Diaz, Hamilton and Johnson 2011). The numbers are similar for voluntary schemes (Peters-Stanley and Hamilton 2012).

Since revenue from carbon credits will cover only a small portion of the total costs of reforestation activities, farmers feel that they are subsidizing the emission trading of rich countries, instead of the rich countries reducing their emissions.

### *Limitations due to CDM-AR regulations*

In technical and practical terms, CDM AR regulations have created obstacles for participating smallholders during the initial stage of project implementation. Many of the problems are directly or indirectly related to the UNFCCC's high expectations of projects based on CDM AR. Given the practical circumstances in which these projects are implemented, the social, institutional, and economic realities do not coincide with the administrative demands required for CDM registration (Thomas et al. 2009).

The biggest problem with respect to these regulations and administrative demands are the CDM regulations for site eligibility. Site identification for CDM-SSC-AR projects requires procedures that may seem acceptable by distant participants, but create many problems when put into practice by the smallholders.[5]

The CDM criteria for plant site eligibility created a number of misunderstandings — as well as resistance — by the smallholders towards the project in general. Since most areas were considered to be forests at the end of the 1980s as part of a frontier region, entire rural communities were rejected from the project because their land wasn't considered eligible, even though their farms had no forest coverage and they wanted to participate.

In addition, many farmers who did participate had to allocate their forestry plots to small disposable land extensions in compliance with CDM-eligibility criteria, which created conflicts of interest over land use. Most smallholders wanted to establish their plantations in remote areas of their farms and use the more accessible areas for more short-term crop cultivation. However, most eligible land was located in the more accessible areas near the roads.

In general, smallholders were appalled by the idea that the physical condition of their farmland was a decisive factor regarding their participation in the project, Many of them felt that the regulations seemed to reward deforestation; those farmers who completely cleared the forests from their land in previous years were eligible for the project.

The CDM-regulations have influenced the scale of the project, due to the small forestry area per farm and per community. In response to the Bolivian government's decision in 2010 to engage no further in CDM projects, ArBolivia switched to voluntary standards.[6] This dramatically improved local acceptance, since the criteria for land eligibility under the voluntary schemes are more liberal.

## Benefits of CDM-SSC-AR for equity investment engagement

Despite the CDM-AR's low financial contribution and its negative influences on local participation of smallholders, it was vitally important to the establishment of the ArBolivia project. It enabled the commitment of European ethical timber investors for two reasons: by overcoming the disadvantage of scale and the need for technology transfer; and by being transparent.

### *Overcoming the disadvantage of scale and need for technology transfer*

The project has considerable disadvantages for investors, compared to more common large-scale company-owned forestry plantations, due to decreased returns of scale.

In addition, most farmers do not have skills in tree planting and plantation management; training in new technology would require additional costs.

Financial analysis (IMCG 2011) showed that unit costs would be reduced significantly if the project could be scaled up from the current 1,800 ha of woodlots to 6,000 ha, and from about 950 to 3,000 participating farmer families. These reductions would result from a more efficient use of equipment and human resources. Even then, however, it would be difficult for the project to compete with large-scale company-owned plantations. In addition, the project's higher costs are partly compensated by the financial contribution, and by the social and environmental benefits provided by CDM project registration and revenue from voluntary carbon schemes.

### *Transparency*

The CDM-AR regulations — with their high demands for transparency and verification — call for the development of efficient and effective monitoring and assessment mechanisms within the ArBolvia project. These mechanisms allowed project staff to constantly verify the statistics of each plantation, such as surface area (GPS-tracked), former land use, former land vegetation cover and soil quality, and to provide periodic reports on its status and development. The ongoing provision of such transparent and verifiable information to investors proved to be a key factor in maintaining their interest. It also makes it much easier to convince new investors that the project is legitimate. The farmers also benefit from this transparent information; based on this monitoring system a micro-financing organization is providing them with loans, using the plantations as collateral.

### Contribution of equity investment:

Equity investment in the ArBolivia project supported its implementation and ensured its continuity to date. More than 90% of project expenses have been provided by investors. The expected outcomes are high for non-monetary benefits: social benefits, since the project works with low-income communities; and environmental benefits, since it involves small-scale, non-mechanized farming and a wide variety of native timber species., Monetary benefits will be lower, as the internal rate of return[7] remains relatively low. This will influence the type and amount of capital that can be raised.

Elson (2010) divides investors into value investors, social investors and conservation investors. Broadly speaking, value investors seek a real return on capital and require a high rate of return. Social investors pursue goals that are separate from the requirement to earn a return on their money. They may accept risks that are not usually justified by the rate of return. Conservation investors use capital to protect or restore a specific landscape, habitat or species. Like social investors, they are less interested in earning a return on their capital.

ArBolivia's investors have a strong tendency to be social — and, to a lesser extent — conservation investors. According to the loan stock offer for the project (Cochabamba Project Limited 2011), the investment in ArBolivia should be seen as a social investment and not solely an investment for personal gain.

### Results and challenges

The results of ArBolivia's experience with the CDM-AR certification process and private capital investments demonstrate the possibilities for triggering reforestation and forestry production among rural smallholders in Bolivian Amazon. These results should be built on, in order to improve conditions for the potential private financing of reforestation with small-scale local farmers on a wider scale.

The project's context within the CDM-AR framework has resulted in transparency mechanisms, which in turn attracted private equity investors. This equity investment proved to be essential to finance the project's reforestation activities among low-income communities. It is primarily linked to specific niches of social and conservation-focused investors, given the high social and environmental commitment of the project.

In order to expand capital sources for the implementation of low-income community reforestation projects such as ArBolivia, it might be worthwhile to attract the attention of the more value-focused investors, without leaving behind the high social and environmental goals of the project. In order to do so, it will be important to minimize the risks of the project and assure investors that returns can be competitive.

Revenue from carbon should be an important part of this project, but is limited due to low carbon prices and high project costs. The constant provision of transparent and verifiable information, which required for the validation and verification of carbon credits, significantly reduces risks to an acceptable level, even for value-focused investors. But although current revenue from carbon might slightly increase the internal rate of return, it is not enough to make small-scale and low-income community forestry models completely competitive with large-scale company-owned forestry plantations. In order to be more competitive, the profit margin for carbon credits should increase or other sources of revenue have to be found. For social and conservation-focused investors, carbon revenue can make reforestation projects with smallholders feasible.

## Endnotes

1. Protective plantations include introduced and in some cases native species, established mainly to provide services such as soil and water protection, rehabilitation of degraded lands and combating desertification.
2. The Bolivian organization *Fundación Centro Tecnico Forestal* (CETEFOR) has implemented reforestation activities in the Cochabamba Tropics.
3. The Food and Agriculture Organization of the United Nations (FAO) implemented various forestry projects in the area from 1997 until 2009 as part of Alternative Development Programs for coca growers. The Belgian Development Agency (BTC), together with the *Mancomunidad de municipios del tropico de Cochabamba* (MTC) has been implementing a forestry project, including reforestation activities, since 2007 in the Cochabamba Tropics.
4. Validation means the process of independent evaluation by a Designated Operational Entity in accordance with the Kyoto Protocol Rules. Verification means the periodic assessment by a Designated Operational Entity of the GHG reductions generated by the project since the previous verification or, in the case of the first verification, since the start of the Crediting Period.
5. These problems were found when identifying plant sites during the elaboration of the Project Design Document (PPD) on the farms of smallholders within the eligible zone (areas that were deforested before December 31, 1989).
6. The ArBolivia Project is validated against the Plan Vivo Standard and is currently in the process of certification against the CarbonFix Standard.
7. This is the discount rate frequently used in budgeting that makes the net present value of all cash flows from a project equal to zero.

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# 4.4 Principles for private investment in community forestry partnerships in Panama

ANDREW PARRUCCI and CHRIS MEYER

This article proposes four principles for private sector forestry investments in lands that are controlled or owned by indigenous peoples and smallholder farmers in developing countries:

- 1. risk reduction for the land partners;
- 2. reinforcement of land tenure;
- 3. profit sharing; and
- 4. capacity building.

The authors developed these four principles during development work in Latin America over the last ten years. The operating model based on those principles is called Equitable Forestry, and was developed by Planting Empowerment (PE)[1] for its operations. PE leases land from an indigenous peoples' community[2] and from individual smallholders from a local community,[3] both in Panama. The lease aspect is a key component of the Equitable Forestry model and perhaps the most important component of the four principles. PE is financed with private capital, mostly from the United States, but also has significant investments from Norwegian and Panamanian individuals. The firm started as a "tree certificate"[4] type of forestry investment, but recently consolidated its assets to act as a more traditional tropical timber company[5] that is domiciled in Panama.

By employing these four principles for equitable forestry, the private sector can more successfully engage with indigenous peoples and smallholder communities.

Since land acquisition is an important component of and obstacle to forestry investments, private-sector forestry businesses need to engage land-owners in ways that produce shared value and with a modified outgrower model.[6] Although this type of engagement requires more investment in the short term, the risk: return ratio is actually more favourable than that of traditional forestry investment models.

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## Principle one: risk reduction

This principle focuses on risk reduction for the community or the person who leases land to a forestry enterprise. In Panama leasing is necessary, because it is likely that these land-owners and communities don't have consistent sources of income because of the lack of dependable paid work, and due to universal farming challenges such as flooding, pests and drought. For land-owners to engage in a long-term lease agreement of 15 to 25 years — which reduces access to one of their productive assets (land) — they need regular and dependable financial payments that reduce their risk for participating. They need to have almost 100% of the short-term opportunity cost for their land reimbursed in a manner that reflects their needs.

Planting Empowerment pays individual smallholders $ 13.66–18/ha monthly, and the payments increase every five years to allow for inflation. The lease payments are calculated to cover the opportunity cost plus a premium (see Table 1 for more detailed information). The range in the per-five-hectare (ha) amount paid reflects the evolution of leasing contracts; the land-owner receives a lower monthly payment for an increase in future profit sharing (4% instead of 2% of net revenue). Smallholders embrace the monthly payment system because it supplements and reduces the volatility of their monthly income. The monthly payment is equivalent to about half of their minimum monthly income needs.

**Table 1. Value of land lease payments (US$) to community partners**

| smallholder with 4% profit share | monthly/ha | per 5 ha | total 5 ha/year |
|---|---|---|---|
| years 1–5 | 13.33 | 67 | 800 |
| years 6–10 | 15.84 | 79 | 950 |
| years 10–15 | 19.74 | 99 | 1,184 |
| years 16–20 | 25.80 | 129 | 1,548 |
| years 21–25 | 32.16 | 161 | 1,929 |

Additionally, land tenure is often a very delicate subject for indigenous peoples and for smallholders who might have only recently received their land title. Selling land is not an option for most communities with communal land tenure systems, but leasing land over a long time period may be possible. Many adults in the communities with which PE works who are parents of young children, appreciate that the land will return to the community's use after the 25-year lease ends.

Planting Empowerment intentionally chose to lease land from indigenous peoples and smallholders instead of purchasing it. PE recently signed its third 25-year lease agreement with the indigenous community of Arimae, located in Panama's Darien province. Because

the community is still in the legal process of securing its formal land title from the Panamanian government, PE's upfront payment of US$ 2000/ha helped meet their short-term need to finance the effort to secure title.

In the past the community planted about 15 ha of timber plots, and although those plots hadn't been properly maintained, they familiarized the community with forestry as an economic activity and became part of the community's land management plan. Several other indigenous communities with collective land ownership systems and thousands of ha have expressed interest in a similar type of arrangement.

One other consideration for risk reduction for land partners is the importance of not leasing all of the arable land for forestry activities. In Panama, this land generates the most income next to labour. PE's smallholder contracts are 5–5.5 ha each, which represents only 5–10% of a community's total land, and less than 25% of its arable productive land. The land partners prefer to lease a small portion of their land because they can continue to practise cattle ranching and subsistence farming (corn, rice, yucca) on the rest of their land.

Negotiation with potential land partners should include land management planning in order to ensure that current activities can continue in addition to the plantations. PE worked with the community of Arimae, which already developed a land management plan, to locate the agroforestry plantations in areas designated for such activities. This ensured that no community members were displaced from individual parcels and also ensured good access and security.

## Principle two: reinforcement of land tenure

The phrase "land is life" is often heard from indigenous peoples in Panama and throughout Latin America. Land tenure is of utmost importance to most indigenous communities and in Arimae, it was the first short-term priority. Forestry businesses must explicitly address land tenure if they want access to indigenous land. Purchasing land from indigenous peoples' communities is not an option if a communal land tenure system is in place. Any attempt to purchase land outright will likely cause mistrust and will damage any prospects for negotiating a deal; land purchase was never discussed by PE and Arimae. PE and Arimae encountered significant criticism from other indigenous peoples, who were sceptical that the lease agreement was just a trick to seize the community's land.

PE took many deliberate actions in the preliminary consultations and negotiations with Arimae. A lawyer of their choosing drafted a leasing agreement[7] and was explicitly directed to make sure the contract returned control of the land to Arimae after the lease term. Specific points in the contract included access to the land for intercropping and the use of native species in the plantation (with some non-native). Traversing access wasn't explicitly noted in the agreement, but has been an important non-explicit component, allowing community members access to their individual plots near PE's projects.

Individual smallholders also consider their land as their most valuable asset. Land prices rose significantly in the past five years in Planting Empowerment's operating territory and many smallholders have sold their land and pushed further into the forest. Being able to sell their land after the lease period, or even during it, is an important aspect to smallholders when they are thinking about inheritance transfer to their children. In PE's case, it advanced some money to facilitate the formalizing of land tenure from squatter's rights to a title in the land registry. That was seen by the land-owner as a benefit to him. Similar to indigenous communities, opportunities for private intercropping, ability to move through the plantations, and use of native species are all important agreement components to PE's small landholders.

PE's founders initially thought that the lease agreement would strengthen Arimae's claim for its land title because the investor capital used to finance the operations would be positively viewed by the government. However, there is little evidence that the lease agreement helped Arimae receive their title. This is likely due to the relatively small size of the amount of land under management (15 ha as of 2012) and the amount of investment (US$ 100,000). A larger investment would bring more centralized political support for the community's title.

The individual land-owners helped open up Darien province 25–30 years ago, and they have a strong connection to the land. They place importance on maintaining ownership and being able to pass the land to their children or sell it in the future. Land prices have increased significantly over the last five years, and their ability to sell the land after 25 years was an appealing part of the contract. As in Arimae, access to the land to harvest *penca* (a palm leaf used for roofing) and other building materials is an important benefit. Although this access initially caused some problems because of damage to fences and saplings, when properly coordinated it provides maintenance benefits and increases goodwill within the community.

## Principle three: profit sharing

Aligning the motivations of local partners, project developers and investors is critical. Through direct or indirect participation in the equity of a project partners have a long-term incentive to ensure success. The mining industry[8] and "clean tech" projects[9] (Brown 2011) have experienced costly delays in implementation or increased costs due to combative land partners.

PE's Equitable Forestry model includes a profit sharing component that gives its land partners a percentage of net revenue. Net revenue is defined as any revenue generated from a partner's land (timber, other crops, seed sales, etc.) minus harvesting and other post-harvest expenses. It doesn't include initial capital or maintenance expenses. In the contract with Arimae, the profit sharing is 10% of net revenue.

The sooner that land partners see financial benefits from profit or revenue sharing, the better. PE is now intercropping plantains in its forests to generate revenue earlier in the plantation cycle. This revenue also makes PE's model a much more attractive overall investment. Additionally, PE believes that partners will stay motivated if they see that financial benefits could end if the project falters. If partners have already received their short-term benefit and there are no benefits in the foreseeable future, they may not continue with the project in the long run.

PE's profit sharing with the smallholders is between 2–4% of net revenue, with another 2% share for the community. The profit sharing rate is lower for individuals because their monthly lease payments are higher. The first individual contract drafted by PE included a higher lease payment, with only a 2% profit sharing component. As a way to reduce up-front capital requirements and increase future profit sharing, the monthly lease payment was reduced and the profit sharing increased was to 4% in the second contract (with a different land-owner). PE believes the 4% is a minimum and will look to increase the profit sharing percentage while reducing the monthly lease payment; this will depend on each individual land-owner's situation. Similar to what was done with the indigenous communities, intercropping plantains or other short-term crops in the short term can help to offset the monthly lease payment through earlier profit sharing.

PE's smallholder model also allocates another 1–2% of net revenues to a community organization. PE believes it is important that projects deliver benefits to all community members and that those benefits are linked directly to the project's success.

## Principle four: Capacity building

The fourth principle to ensure long-term success is building the capacity of land partners. PE often hires unskilled local labourers for the initial work to establish the plantations. As the plantations mature and labour needs decline, there is the risk of ill will towards the project if outsiders are seen as the ones who primarily benefit from the project. PE is working to broaden the idea of shared value to include capacity building and training to fill professional positions.

By increasing these capacities, PE is building a source of expertise for its plantations and making use of local knowledge so that local people can manage their own projects more efficiently. PE is building local capacity through mentoring, subsidizing continuing education (Box 1) and facilitating initiatives that increase partners' abilities to participate in value chain activities related to the forestry project. The capacity-building focus is similar for indigenous peoples and smallholder community partners.

The company considers this to be an investment that can generate significant returns in 10–15 years. A similar programme is in place in the individual land-owner community.

**Box 1. Building capacity through continuing education**

Planting Empowerment is mentoring a university student from Arimae to become its lead forester. PE's professional forester worked with the student to build his skills and will eventually turn over all management to him. The professional forester is available via phone to answer questions, and early on visited regularly to oversee the maintenance of the plantations.

PE also subsidized the student's formal university education to become a professional forester and coordinated a flexible schedule with him so he could attend classes. This mix of mentoring and continuing education has developed a valuable employee for PE and an asset to the community. As PE's operations continue to expand, the mentoring and subsidized education programme will be expanded. This should develop the human capacity to meet PE's ongoing needs as it expands.

By developing local skills, PE has also benefited from the communities' knowledge of the best seeding trees in the area. For the most recent five-ha planting, seeds for some of the saplings were locally sourced; they should be better adapted to local soils. Additionally, PE is making use of traditional knowledge to coordinate pruning and harvesting schedules.

## Conclusion

The authors believe that by employing these four principles, the private sector can more successfully engage with indigenous peoples and smallholder communities in community forestry projects. These four principles can improve the private sectors' risk: reward ratio when establishing forestry projects in the developing world.

Providing up-front or monthly lease payments reduces the short-term risks for PE's indigenous peoples and smallholder partners. The lease contracts reinforce the partners' land tenure while ensuring that partners can continue their traditional activities. PE shares between 2–10% of net revenues with land partners to align incentives and ensure support for the project in the long term. Through investment in local capacity, PE is developing a larger pool of skilled workers to maintain efficient operations and serve as assets to their communities. Adjusting these principles to the local context can help unlock land for reforestation and ensure project success over the long term.

PE will continue to expand in 2013, into a new community and with new small landholders. Although there is significant demand from small landholders and indigenous communities for PE's agroforesty projects, finding capital to take advantage of these opportunities is a challenge. The intercropping of plantains — and the resulting earlier revenue — is expected to help finance expansion while also attracting more capital. Panama is the focus of operations in the near term, but in a number of years PE expects

to expand to the rest of Latin America and to other areas where landholders seek partnerships and better returns.

## Endnotes

1. Planting Empowerment, based in Washington, D.C., creates investment opportunities in sustainable forestry that also produce social and environmental benefits for local communities and the rainforest in Panama.
2. An indigenous peoples' community is defined as a group who self-identify as indigenous and use a communal land mechanism of ownership for the land they control and live on.
3. A local community is defined as being made up of individual land-owners with title or squatting rights to a specific piece of land that they alone make decisions about land-use activities.
4. Tree Certificate is defined as investors only "owning the trees and not the land." For the definition see www.investingalternatively.com/industries/tropicalforestry/investmentModels.
5. Tropical Timber Company is defined as being a fully integrated forestry enterprise that not only owns trees, but also engages in adding value such as milling.
6. An outgrower model could involve a large agricultural company contracting with individual farmers to grow a crop that they promise to purchase at a fixed price. Often, the company provides basic inputs, financing and technical assistance, but the grower bears the risk of crop failure.
7. The leasing contract can be found here: www.plantingempowerment.com/storage/pdfs/Arimae-Planting-Empowerment-lease-contract-Friends-and-family.pdf.
8. See Newmont Mining Corporation 2012.
9. See Brown 2011.

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# Section 5

## Tools and approaches

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# 5.1 Regaining investor trust through enhanced transparency

JUSTIN WHALEN, MARTIJN SNOEP, MAARTEN DEN UIJL and REMCO VAN WIJK

## Sustainable forest plantations

Sustainable forest plantations (SFPs) can be important in taking pressure off natural forests, sequestering carbon emissions, enhancing biodiversity and empowering local foresters in developing countries to attract foreign investment. Such investment can also provide healthy financial returns. Social-minded investors are increasingly interested in SFPs, yet this interest does not seem to translate into much-needed investment.

The main barrier to investment is the gap between the level of transparency required by investors and that currently provided by forest managers. The underlying causes of this transparency gap are described in Table 1. In order for sustainable forestry projects to attract more investors, it will be necessary to create trust between investors and forest managers through enhanced transparency.

A single audit tool can be a pivotal step towards greater transparency in SFP investments.

## Enhancing transparency through innovation

Face the Future and Thauris are developing a single audit tool to improve transparency in forestry initiatives in an efficient manner. Here is how it works: Forest managers who seek investment capital in their proposed SFP project can input all SFP data into a set of easy-to-use forms that are accessible via the internet and hosted on secure servers (i.e., a cloud-hosted platform). These forms provide all the data required for the proposed investment to undergo a comprehensive financial valuation and risk assessment.

Data can be entered into the system only if it meets predefined guidelines. Once the data enters the system, further checks are run internally. Key assumptions are cross-referenced against literature and other forms of available data for similar SFP projects; this flags any omissions or inconstancies. After the data is fully validated and accepted, it is used to create a comprehensive valuation and preliminary risk assessment that will meet investors' requirements and expectations.

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**Table 1. Causes of the transparency gap in forestry projects**

| | |
|---|---|
| **Lack of mutual understanding** | Since plantation forestry is a relatively new asset class, many investors are unfamiliar with its risks and must put a lot of trust in forest managers.<br><br>Forest managers do not always understand investor requirements and therefore do not structure their projects in a way that will attract investors. |
| **Diverse and conflicting interests** | In addition to forest managers and investors, other actors also have a stake in SFP projects. Government agencies, the local population and other participants in the forest products supply chain all exercise influence.<br><br>The interests of these stakeholders are not always aligned and a lack of transparency may benefit some parties.<br><br>Non-transparent forest management practices and irregular business schemes have damaged investors' trust in plantation forestry. |
| **Lack of information** | The current level of reporting by forest companies does not often meet the needs of investors.*<br><br>The information that is available is often outdated, difficult to obtain and non-standardized (and therefore subject to multiple interpretations). |
| **Ineffective audit and control approaches** | Current audit approaches are largely paper-based and therefore vulnerable to manipulation, forgery and physical loss or damage.<br><br>Audits are performed only occasionally, typically once a year, and provide only a summary of the SFP. |
| **High costs of assurance** | The costs involved in obtaining assurance (against financial, legality or sustainability standards) are high, due to labour-intensive audit practices and the lack of coordination between auditors and regulators.<br><br>Auditors rely only to a very limited degree on each other's work. |

* See also www.pwc.com/gx/en/forest-paper-packaging/publications/ias41-fair-value-timber.jhtml.

This assures investors that data provided by the forest manager is complete and that it has been processed using standard industry protocols for forest and agricultural valuation and forestry risk assessment. Furthermore, investors can easily browse through all the uploaded data, assumptions and supporting evidence from anywhere in the world using an internet connection. The forester can also use the platform to pre-evaluate the proposed investment and optimize the offering before contacting investors. Both investors and foresters can view, evaluate and monitor the investment through indicators that can be customized to meet their needs.

The platform will continue to add value to foresters and ensure transparency to investors for the duration of the investment. The platform requires the forest manager to transparently update information on the SFP several times a year so that the investors can monitor the project in real time; this allows them to make informed decisions. For example,

as the trees grow, the forest manager must monitor their growth and mortality using standard industry monitoring techniques and sampling and upload this data to the platform.

Before data is accepted by the platform, supporting evidence is required so that the integrity of the information is maintained. For example, the growth of trees is checked against both predicted growth models and against other models for similar SFPs. Since there is a direct relationship between tree growth and revenue, the manager will be able to monitor the investment's financial health in real time. Having up-to-date information helps investors and forest managers make informed decisions and allows them to take greater control of their venture.

Currently, there is limited information on the growth characteristics of timber species suitable for plantations, especially data about how these are affecting specific environmental conditions. The growth monitoring data provided by the plantation managers will allow valuable site-specific benchmarks to be developed for timber species. Data on soil and climate will also be recorded. The checking of the reliability of data will greatly improve over time, based on the input of the users. Plantation managers will use this feedback to steer expectations of future yields; investors can also rely on yield figures instead of having to rely on overly optimistic projections.

The integrated risk assessment provides accurate information about risks for investors and forest managers. The tool used assesses physical risk, project risk, political risk, environmental risk and social risk. The risk assessment tool is designed using industry-standard risk assessment techniques used in forest insurance.

Sustainability — economic, social and environmental — is a key issue for timber plantations. The long-term viability of timber plantations can be achieved only if there are no negative or unmitigated negative impacts on people and the environment. Therefore, it is crucial for plantation managers and owners to communicate the sustainability of their plantation to investors, regulators and the society as a whole.

Ideally, sustainable management is rewarded. By having a transparent mechanism that demonstrates sustainability, investors can select those plantations that fit their sustainability standard. The integrated risk assessment provides a rating of the project's sustainability based on self-assessment by plantation managers. This includes such factors as social and environmental impacts, conversion of High Conservation Value Forests, compliance with laws and regulations and the use of chemicals and pesticides. A better performance in terms of social and environmental sustainability reduces the risk of conflicts, environmental degradation and harm to reputations.

Investors and other SFP stakeholders increasingly request non-financial information, predominantly related to compliance with legal standards and certification standards. Although this platform is not intended to replace third-party certification, it can facilitate the certification process by providing certifiers the evidence of compliance that they require. A lot of time is spent doing double duty due to these overlapping requests. The platform can reduce the costs of certification, since the same validated data can be used to fulfill a range of reporting requirements. Any tool that lessens the burden of data handling and processing in certification would be welcomed.

Although there is an increased interest in SFP investments, investors are hesitant to participate. Forestry is a very technical science and investors need to feel that they understand the key issues and the risks. This platform gives foresters many useful insights into investor's requirements and allows investors to learn about what is needed to grow healthy trees. This will bring foresters and investors closer together and foster the level of trust needed to encourage more investment in SFPs.

## Platform design

The platform's underlying single-audit approach was developed by Thauris and is already operational in the Dutch food industry (Table 2). The approach is endorsed by several public regulators (e.g., the Netherlands Food and Consumer Product Safety Authority). The underlying design principles collectively provide continuous control of information (Figure 1).

**Table 2. Traditional audits vs. single audit**

| Traditional audit | Single audit approach |
|---|---|
| ▪ paper-based and therefore vulnerable to manipulation, forgery and physical loss or damage<br>▪ summary of the situation at a certain point in time<br>▪ information is generally not up to date<br>▪ data collection efforts overlap<br>▪ verification requires expensive external auditors to be flown in | ▪ largely standardized and automated<br>▪ continuous control of SFP performance<br>▪ timely and easy access to management information<br>▪ efficient re-use of information, and customized reports can be generated for various stakeholders<br>▪ external reliability checks provide highly reliable information.<br>▪ information is collected at the source by the foresters themselves |

Generally, third-party audits aim to obtain some level of assurance over information on an initiative such as a forestry organization or project. An SFP's performance is usually audited against a set of financial and non-financial standards and norms. The auditor

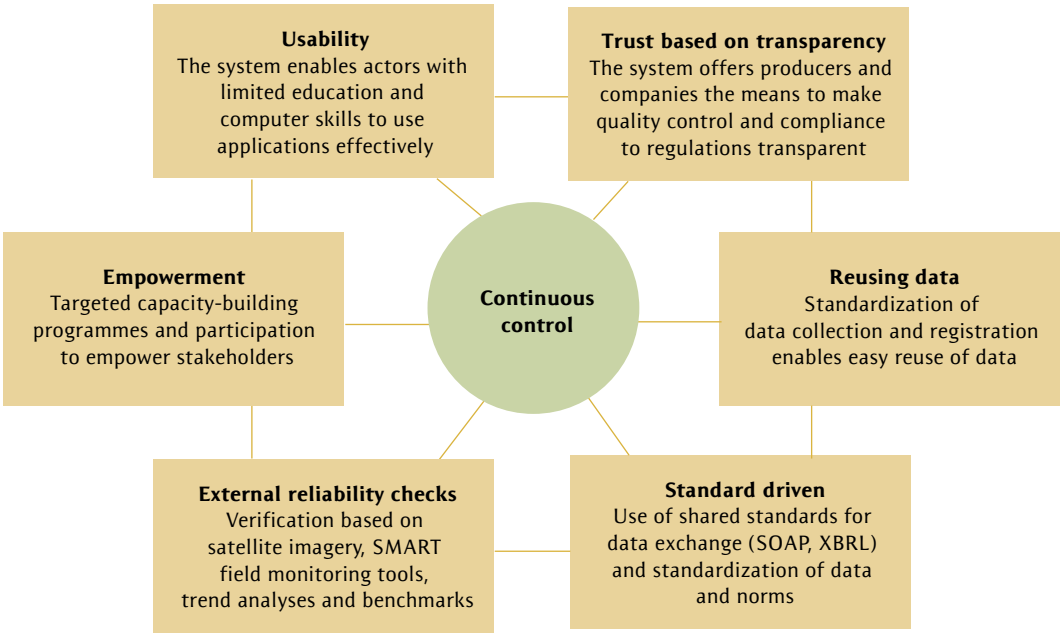
gives his or her opinion on the reliability of information and thereby assesses the level of transparency. The single audit approach integrates, standardizes and verifies information gathering and assessment (Table 2).

## A more transparent future

A single audit can be a pivotal step towards greater transparency in SFP investments. But why stop there? The single audit approach could be applied more broadly within the forest product supply chain. For example, various participants' data could be linked to provide integrated, efficient and effective Chain of Custody solutions, as required by both public and private legislators. This could provide additional benefits to investors, who often provide capital to various actors in the same supply chain. Other chain stakeholders would also benefit from higher transparency at lower costs.

Chain actors can improve their management if they have access to more reliable and easily available information. In addition, they will find it easier to comply with public and private standards. This will provide them with greater access to premium export markets for sustainably and legally produced products. Improved transparency also benefits the general public: it reduces corruption and tax evasion, and more sustainable timber production contributes to a healthier environment.

**Figure 1. Single audit design principles**




Source: Thauris

# 5.2 Boosting investor confidence: the role of corporate social responsibility

MOGENS PEDERSEN and MATTHIAS BALDUS

## Introduction

Africa is witnessing a growing interest on the part of investors. This is clearly demonstrated by the sovereign wealth funds, as well as sector specific investment managers and institutional investors that have invested increased capital on the continent. This includes investments in natural forest management and plantation forestry.

Sustainable management of forest and plantation resources is enormously important to investors, especially since pressure on land is leading to an increased focus on land acquisition and cooperation with local communities. This article illustrates how strategic Corporate Social Responsibility (CSR), if developed and implemented by a forest plantation manager, can mitigate some of the social, operational and environmental challenges experienced in a greenfield plantation investment in Africa. The article is based on the experience of the German company global-woods AG (GW) in managing a pine plantation investment in Western Uganda.

Corporate Social Responsibility can generate positive business and social outcomes if it is an integrated component of company strategies.

## Background

For more than a century, Uganda, like many other countries around the globe, has seen decreasing forest cover and an increasing demand for timber. In the 1960s, in order to respond to this trend and to ensure a sustainable timber supply for future generations, Uganda demarcated national central forest reserves for commercial tree growing. For a multitude of reasons, sustainable forest management was never applied and the areas were left to uncontrolled logging and other land-use practices.

In 2002 Uganda, through its National Forestry Authority, granted a tree-farming licence for the Kikonda Central Forest Reserve to GW. The licence allows GW to plant and harvest trees for a period of 50 years in return for an annual fee. The reserve comprises a total

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area of approximately 12,000 hectares (ha). It is divided by a highway and has an enclave with settlements in its centre, bringing the boundary between state land earmarked for tree planting and private land used for agriculture and cattle rearing to nearly 100 km.

GW was founded to develop sustainable forestry projects in developing countries and has always embraced the concept of social and ecological responsibility. It is a relatively small company, and did not formalize CSR through extensive policy documents and surveys. Its CSR was instead based on an approach of working closely with local staff and being guided by general principles of responsible forest management, such as those of the Forest Stewardship Council (FSC). From the beginning GW wanted to listen closely to the needs of the people living around the estate and — as much as possible — give them a say in the management of the reserve. In practical terms, the staff recruited for leading positions in the company had either lived in the area or settled in villages around the forest. Meetings with community representatives were held at regular intervals and countless talks took place on an informal level on the roadside, in marketplaces and wherever people got together.

A limited livelihood assessment was conducted in 2005; subsequently, a rural development programme was put into place in the villages neighbouring the Kikonda estate. The programme was supported by German development aid (SEQUA). It included training for forest graduates and local farmers and a donation of more than 200,000 seedlings to local farmers. One staff member worked full-time on community outreach. The initiative also sponsored a schoolteacher and drilled a bore hole to provide water in times of drought.

By 2009, GW had planted approximately 1,500 ha of forests. There were some conflicts with neighbouring communities that continued to log and farm in the areas of the reserve not yet planted. This was illegal according to Ugandan rules and legislation.

In 2010, GW increased the annual planting target from approximately 150 to 1,000 ha. To communicate this to the neighbouring communities one staff member was dedicated full-time to the task; in addition, support activities to the communities were increased. The project sponsored more schools, conducted training in health care and herbal medicine, and distributed dairy cattle that were well suited to local conditions. At the same time, however, national food prices started to escalate and staff at the National Forestry Authority changed.

This combination of significantly higher annual planting targets and increasing food prices, along with a continuous influx of people into the surrounding area — had several effects on company-community interaction. Cattle were driven into freshly planted stands, causing substantial damage; and fraudulent land surveyors demarcated land in the reserve and sold land titles, farming licences and grazing permits. Fires for land clearance or hunting moved increasingly closer to the forest reserve and were sometimes set in conservation areas or set-aside areas.

The increased pressure on resources inside and outside the forest reserve meant that the company had to step up its CSR activities. However, increased efforts and expenditures to scale up existing activities did not seem to yield results. This led to questions from the investor about whether the CSR activities were appropriate. As a result, GW decided to develop and apply a more strategic CSR approach. This approach would address the main challenges first and would be linked closely to day-to-day operations to ensure their long-term sustainability.

One of the challenges in attracting institutional investors such as pension funds to direct investments into emerging markets is risk: its assessment, management and mitigation. In land-based initiatives such as forest plantations risks will include operational, social, environmental and governance issues, including land acquisition, labour rights, community relations and forest management certification. Forest management certification is the first and most obvious tool in addressing these potential challenges to improve the long-term sustainability of a plantation. In Africa, FSC certification is the best — and in most countries, the only — choice. The use of guidelines for socially responsible investing, including a Code of Conduct and a strategic approach to CSR, is also needed.

## From shared values to applied strategic CSR

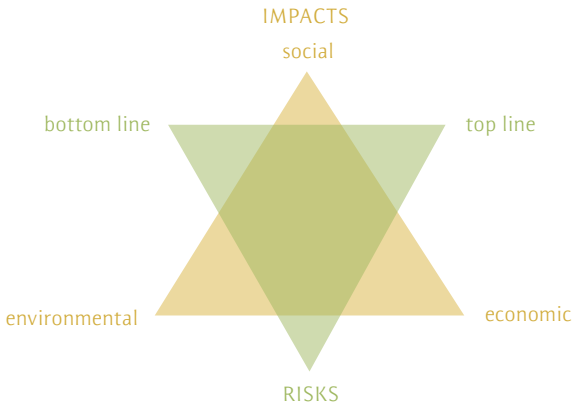
To date, most traditional CSR activities within companies around the world have been motivated by fear of damage to their reputation. Company managers have used CSR as a communication tool whenever an operation would have negative social or environmental impacts. The link between the negative impact and the CSR response was vague at best. Company managers are slowly coming to realize that this is an unsustainable approach to CSR.


One of the reasons for the change in approach to CSR was a discussion among scholars regarding the role of CSR and, perhaps more profoundly, the role of business.[1] The basic idea they proposed was that a business creates more value for itself and society than from an approach that focuses only on profits.

In adapting the idea of shared values to a plantation operation in the developing world, proponents emphasized reducing risk at an operational level while improving local living conditions and creating possibilities for permanent and sustainable community development. This new approach was termed "strategic CSR."

A key element in strategic CSR is a focus on aligning external initiatives such as community programmes with business development. Any actions taken by the company to address negative impacts on stakeholders or environment should either reduce risk or increase revenue. This ensures that external activities are embedded in the day-to-day management of the company (Figure 1).

**Figure 1. Strategic CSR: risks and impacts**




Focusing the CSR strategy on each company's core competencies and objectives identifies relevant partners, often NGOs. Once they have been identified, the company and its partners develop the best solution to the issues identified. This link between a company and its partners strengthens the process and increases the impacts of any measures undertaken.

## Strategic CSR applied in global-woods Uganda

Since previous social and environmental interventions by GW did not seem to address the increasing challenges from land pressure and lack of good governance, the company adopted a strategic CSR approach.

Where the company initially focused on "being a good neighbour," it now also tried to ensure that interventions helped minimize risks for the company and increase the sustainability of the forestry operation. This meant making sure that the risks and impacts shown in Figure 1 were addressed in all CSR-related activities.

### *Step 1*

As a first step in implementing this new strategic approach, GW held a workshop that focused on the challenges and opportunities for tree farming in Uganda. The company invited NGOs, government institutions and private companies with a potential stake in large-scale commercial tree growing in the country. The outcome of the workshop was a better understanding of the current situation for tree growers in Uganda. It was hoped that this would reduce the risks and increase the returns of plantation forestry.

### *Step 2*

The company conducted a substantial survey, interviewing more than 500 people in the villages surrounding the forest estate. The key finding of the survey was that the lack of formalized rule of law resulted in significant insecurity in relation to land-use rights. This situation was made worse because of insufficient and even contradictory information about the way the forest reserve was meant to be used. The survey also revealed details about the reasons for illegal land use in the reserve; these included ill will, negligence and lack of alternatives.

### *Step 3*

The company identified NGOs and development agencies who had interests aligned with its own. The company urges these organizations to plan future interventions in the communities surrounding the forest reserve. One example is the German development agency *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ), which has partnered with GW for several years on financial literacy training and village saving and loan schemes.

### *Step 4*

The company looked for additional funding for more strategic CSR activities. NGOs and private companies are not the only ones interested in boosting rural development. Donors are constantly looking for initiatives that can produce results and at the same time are reliable in terms of reporting and tracking progress. The basic idea behind strategic CSR is that all interventions are linked to day-to-day operations and should therefore not need external funding. However, if additional money is available CSR activities can be scaled up.

As a result of these four steps, GW now focuses its talks on individuals and groups who have the biggest negative impact on tree farming. It has also implemented a rural development programme to support practices that allow people to make a sustainable living while having fewer conflicts with the company and with each other. This company-driven rural development not only gives funding and training, but also provides a platform to external NGOs to deliver their services. NGOs are being selected and a schedule is being put in place to monitor the performance of the partner organizations.

## Conclusion

The key achievement to date has been the establishment of a plantation in an adverse environment of legal insecurity. Moreover, trees are growing and the majority of people living nearby do not oppose and in fact support the project.

Yet, it is clear that the project is operating in a challenging legal context. Rules — especially those codified in laws and contracts — are not always respected, even by the contract partners or authorities who are supposed to safeguard them. As a consequence, for every conflict there is still a need to find a set of guidelines and a forum that is accepted by the stakeholders and that has power to implement the ruling or compromise found.

To a certain extent, strategic CSR can compensate for a lack of legal certainty. Usually, the law would provide a framework in which to operate safely. If that framework is absent, strategic CSR can clarify the reasons for conflicts, identify the parties involved, investigate standards and ethics that can provide guidance and propose interventions that reduce conflict and provide benefits. Nevertheless, it is important that the project

management not take over responsibilities that are assigned to public authorities and consequently create a framework that interferes with legal state power.

In the case of the Kikonda Forest Reserve, the strategic CSR approach constantly needs to identify the main hurdles to successful implementation of the investment. It is vital to communicate the overall message, including potential benefits, using a clear message that targets the authorities and involves service providers for rural development. This will be crucial in achieving a sustainable future.

## Endnote

1. Michael E. Porter and Mark R. Kramer were among the first to formulate this interpretation of CSR in their article, "Strategy and Society: The link between competitive advantage and corporate social responsibility" in the *Harvard Business Review*, November 2006. http://ef-northamerica.com/documents/events/ccc2008/Mark-Kramer-Keynote/Strategy-Society.PDF.

# 5.3 How integrated investment approaches can help safeguard forests

MICHAEL SAHM

## Rising to the challenge

Tropical forests are the lifeblood of our planet. To date, they have mostly been used to provide timber and fuel, or burned to make space for cattle and palm oil. Yet, forests offer so much more than that; they provide vital ecosystem services that sustain the climate, water supplies and soils, as well as human health and livelihoods from villages to cities. The annual value of these ecosystem services is beyond price. Nevertheless, these services have to date been largely unacknowledged in policies and economics. Forests have been considered to be worth more dead than alive.

To secure the many functions of tropical forests for society worldwide, policies, mechanisms and economic incentives are needed that reward their full value and the ecosystem services they provide. Moreover, this effort needs to be attractive to private investors and to companies that wish to offset their ecological impacts.

Policies, mechanisms and economic incentives are needed that reward the full value of tropical forests.

Most efforts to deal with unsustainable forest management are supported by forest certification schemes such as that of the Forest Stewardship Council (FSC). Despite ongoing criticism about lacking control of some FSC auditors, they have overall proven to be successful. FSC operates predominantly in developed and industrialized countries, however, and mostly in temperate forest areas where the production and use of timber and bioenergy are ecologically less challenging than in tropical forest regions. Latin America, Africa and Asia make up only 15% of FSC's total certified forest areas.

Most attempts to address unsustainable forest management, deforestation and forest degradation in tropical and subtropical forest regions rely on capitalizing carbon assets through a project or on foreign aid support (i.e., companies planting trees as an CSR effort). Neither approach alone will be successful at the larger scale; nor will it attract the long-term investment and enormous amounts of money required. Moreover, both

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approaches risk displacing deforestation rather than stopping it. The fundamental shortcoming of both approaches is inadequately understanding or addressing the local, regional and global economics of land use.

Destructive forest management practices in Latin America, Africa and Southeast Asia will continue until more profitable, and sustainable, opportunities for wood, food and fuel production are created. Strategies are needed that integrate the sustainable production of forest products, renewable energy (primarily from biomass), more intensive, profitable and sustainable farming methods, and environmental benefits (i.e., carbon, water and other payments for ecosystem services), especially from reduced deforestation and reforestation.

Such an integrated, multi-layered approach aims to provide steady levels of return with lower risks than most terrestrial carbon projects. It has the potential to mobilize the large-scale resources required to permanently change forest land-use for the better, most of all in tropical developing countries.

## The Forest Carbon Group

The Forest Carbon Group (FCG) engages private-sector actors in projects that are mostly geared to forest and ecosystem protection as well as restoration. The underlying mechanism is forest and "green carbon" (the carbon sequestered through photosynthesis and stored in natural forests); FCG primarily deals with offsetting some or all of the carbon emissions of private companies. The company also examines whether it can partly compensate for companies' impacts on water and biodiversity by leveraging through forest restoration, conservation and management projects. For instance, FCG did some work for a German energy giant that needed to know how biodiversity offsets could help them shift their strategic goals toward sustainability, and whether they could be linked to carbon markets and forest protection; another client wished to address its impacts on water through forest projects.

FCG also combines the carbon financing element of projects with other factors, such as impact investment and revenue for partners, investors, communities and businesses. These efforts are part of emerging initiatives that combine sustainable forest management (SFM) with carbon markets and strategic impact investments. This could be the model for future forest protection and forest management. This approach is being adopted by traditional timber investment businesses and institutional investors. Timber trade organizations such as the UK Timber Trade Federation promote the linking of carbon financing and sustainable forestry investment. Private companies such as Forest Finance and BaumInvest in Germany have also built their business models on combining traditional forest investment products and/or private equity funds with carbon financing products; they operate solely in tropical forest countries. An important step forward is the strategic alliance of The Gold Standard

Foundation (which certifies carbon projects) and the FSC to promote a more holistic approach to SFM and land use, particularly in developing countries.[1]

There are three main overlapping changes in carbon markets:

- moving beyond the international climate negotiation process;
- moving beyond carbon; and
- moving beyond timber.

## Beyond the international climate negotiation process

Instruments that recognize the multiple functions and values of forests beyond timber include compensations for reduced emissions from deforestation and degradation (REDD+); reforestation efforts; and improved forest management techniques supported through carbon sales. They have been discussed, designed and implemented for several years and could be an important part of the funding needed to protect threatened forests. However, a global compliance market that accepts large amounts of forest carbon credits is unlikely to be established before 2020.

As a result, parallel processes — involving bilateral or multilateral deals — will be developed. National and regional compliance schemes, particularly in North America and Australia, will be implemented, which will increase the demand for land-use and forest carbon assets by private-sector buyers. For many of these buyers, political uncertainty and fragmented carbon markets make them likely to support the integrated approach described above. In addition, the stalemate at the international climate negotiation level shifts the focus from the politics of climate change and sustainability to private companies' engagement.

## Beyond carbon

The appeal of forest carbon projects is their multiple benefits. A growing number of companies that want to invest in carbon projects and purchase carbon credits prefer the greater range of benefits of these projects to the carbon neutrality and emission-reduction aspects. Conserving biodiversity, safeguarding natural resources, maintaining vital ecosystem services, promoting local development and alleviating poverty are the issues that businesses want to be associated with. Carbon is and remains a currency to pay for this. In addition, carbon financing through land-use projects can potentially lead to other revenue for local communities and businesses: Restoring mangroves helps fish stocks recover; cash crops such as coffee and cocoa grow under a forest canopy, and agroforestry benefits both wood and crop production.

Until recently it seemed difficult to make those projects and investments attractive to institutional investors. The Livelihoods Fund[2] shows, however, that this can be done. The fund, which started at the end of 2011 with €30-40 million, supports ecosystem restoration projects (reforestation, agroforestry) to improve rural communities' economic and social conditions. Their projects must result in storing substantial amounts of carbon. The carbon offsets generated by the fund's projects will be delivered to investors as a return for their investment. The fund assumes that corporate leaders look beyond carbon

and define "return" in a much broader sense. This will lead to new business opportunities and prepare companies for possible new regulations in the future, e.g., on integrated reporting and ecological impacts.

## Beyond timber

Investors, standardization bodies, conservation organizations, farmers, local communities, public authorities — and slowly, the timber industry — realize that forests offer more than timber, and that there are more ways to make money than just from harvesting trees. There is a shift in perspective: forests are no longer seen as a single resource, but as a multiple-resource landscape.

### *United States*

Although the Bethlehem watershed project in Pennsylvania is not located in a tropical country, it is still a useful example. The city of Bethlehem recently made use of a new asset in its watershed. The Bethlehem Authority announced that a forest management plan had been completed by the environmental group Nature Conservancy, with certification from the Forest Stewardship Council; both components supported the generation of carbon credits. The city sold four years' worth of carbon credits to a manufacturing company. This deal to preserve a watershed, certify timber and sell carbon credits is the first of its kind in the world.[3]

### *Canada*

In British Columbia, the Forest Carbon Group AG financed and jointly developed the Darkwoods Forest Carbon Project with its partners. The project protects and sustainably manages an old and ecologically diverse forest on land owned by the Nature Conservancy of Canada. This initiative, one of the largest conservation projects in Canadian history, was made possible through carbon financing and allows selected areas to be used for sustainable forestry.[4]

### *Democratic Republic of Congo*

FCG's Mai Ndombe project in the Democratic Republic of Congo will use REDD financing as a catalyst to introduce alternative fuelwood and charcoal production and new agricultural techniques to the communities involved. These changes will allow them to diversify crops and increase yields, both of which will reduce the pressure to clear more forest land.

### *Brazil*

In Brazil, one of the first combined REDD/FSC projects has been finalized. The Cikel Brazilian Amazon REDD APD project, validated by the Verified Carbon Standard and the Rainforest Alliance, is expected to receive carbon credits over the next ten years, based upon a projected reduction of 9.4 mtCO2e in emissions. The project leverages sustainable logging practices certified by the FSC to avoid the deforestation of 27,000 hectares of rainforest.[5]

### *Peru*

Another innovation is linking reforestation efforts with carbon markets and "green farming."[6] UK-based Cafédirect and Peru-based Cepicafe — a Cafédirect supplier — have launched a pilot project with Peruvian coffee growers to boost the sustainability of local farming. Farmers are reforesting and managing degraded lands at high elevations to increase the nutrients and water available for lower-elevation coffee plants, and to provide a sustainable source for firewood. The carbon credits from the newly planted forest will be sold to buyers in the supply chain and a percentage of the revenue will go to Cepicafe. Cafédirect is pre-paying carbon credits in order to get the project up and running.[7]

## Landscape-level approaches

In order to further increase the chances of SFM, particularly in developing countries and emerging economies, approaches to land management are needed that consider the structure and functions of the broader landscape. This is necessary to diminish the pressures that cause deforestation, largely from expansive agriculture, and to gradually move toward sustainable land use.

For years, development banks, donor countries and policy advocates have lamented the insularity of foreign aid and rural development programmes and the carbon market. It is time to implement practical methodologies that integrate climate concerns and sustainable agriculture, agroforestry and forestry.[8]

## Conclusion

Understandably, people in poor countries care much more about livestock and survival strategies than they do about carbon stocks. Several carbon projects already underway are trying to achieve the integration of livelihood concerns with carbon sequestration.[9] One key factor to successfully develop and operate these projects is to identify local or regional organizations and small businesses that have roots in the involved communities and to cooperate closely with them. In this way a project avoids being seen as imposing an outside foreign agenda, but instead is seen as supporting local concerns.

Despite these forward-thinking projects it needs to be stated that even an integrated approach and innovative finance will not stop deforestation and enhance SFM in tropical countries, given the complexities of land-use economics. Such initiatives can only drive sustainable land use to a certain extent. Project proponents must also be aware of — and, where necessary, reform — political support, tax breaks, subsidies and other governmental practices that encourage the conversion of old-growth forests into farmland or worsen the condition of marginal land. Without incorporating these changes, the shift to more sustainable land use practices will be difficult.[10]

## Endnotes

1. The Timber Invest Europe conference has been looking at this issue. For further information, see www.arena-international.com/timberinvest. For information about the Forestry, Biomass and Sustainability 2012 conference organized by Environmental Finance, see www.environmen tal-finance.com/events/view/50. See also the conference organized by the Forest Carbon Group with the Agrion international business network in February 2012, which drew considerable private-sector and institutional investor interest: www.agrion.org/sessions/agrion-de-Investment_Solutions_for_Ecosystem_Services_Perspectives_from_Practioners.htm.
2. See www.livelihoods.eu/livelihoods-fund.html.
3. For further information, see www.mcall.com/news/local/bethlehem/mc-bethlehem-water-authority-forest-plan-20120712,0,7869831.story.
4. For more information, see www.forestcarbongroup.de/Projects-of-the-Forest-Carbon-Group-Darkwood-Details/343. The underlying carbon methodology can be found here: https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=607&lat=49.348783&lon=-116.786823&bp=1.
5. See www.prnewswire.com/news-releases/first-ever-redd-project-in-amazon-rainforest-receives-registration-under-the-verified-carbon-standard-158410975.html; also: https://vcsprojectdatabase2.apx.com/myModule/interactive.asp?Tab=Projects&a=2&i=832&lat=&lon.
6. Green farming is broadly defined as practices and technologies that maintain and increase productivity and profitability while ensuring sustainability and protection of environmental resources.
7. For further information, see www.guardian.co.uk/environment/2012/may/13/peru-coffee-climate-change-carbon-trading.
8. See http://blog.cifor.org/9829/landscape-approaches-can-end-the-debate-that-pits-agriculture-against-forests-say-experts/#.UCo4F0SBAfq; also: www.cifor.org/crp6/crp.html.
9. See www.environmental-finance.com/news/view/2610; also: http://wbcarbonfinance.org/Router.cfm?Page=BioCF&FID=9708&ItemID=9708&ft=Projects&ProjID=9632; and http://wbcarbonfinance.org/Router.cfm?Page=BioCF&FID=9708&ItemID=9708&ft=Projects&ProjID=9634.
10. See Gutierrez-Velez et al. 2011. "High-yield oil palm expansion spares land at the expense of forests in the Peruvian Amazon." *Environmental Research Letters* Vol. 6, No. 4. doi:10.1088/1748-9326/6/4/044029.

# 5.4 Industry-level frameworks to improve access to REDD+ financing

GABRIEL THOUMI and JOHN WAUGH

## Context

Deforestation and forest degradation are estimated to contribute to at least 15–20% to global greenhouse gas emissions (Van der Werf et al. 2009). Tropical forest conservation is an important component of the global effort to reduce emissions and store greenhouse gases. Between 2000 and 2005 gross carbon emissions from tropical forests were estimated to be 0.81 petagrams (810,000,000 metric tonnes) of carbon per year (Harris et al. 2012). Sathaye et al. (2001) estimated the potential for carbon storage from a combination of natural forest management and forest plantations to be 1.3 petagrams per year.

At an estimated cost of US$ 9 per metric tonne of carbon equivalent (in 2006 dollars; Naidoo and Ricketts 2006), a significant contribution to reductions in atmospheric $CO_2$ appears to be possible. Actions to conserve tropical forests would help mitigate climate change and support biodiversity and socio-economic benefits, known collectively as Reduced Emissions from Deforestation and Degradation (REDD+). The effective and efficient use of forests as a tool for climate mitigation will require investment levels of between US$ 12–23 billion annually, as estimated by the United Kingdom government (Eliasch 2008).

There is an important correlation between sound governance and enabling environments for investment risk and return and stakeholder protection.

The prospect of forest conservation through official development assistance (ODA) is increasingly dim, however, due to the stagnation and even decline in ODA budgets (OECD 2012). Tropical forest conservation will benefit from — and may increasingly depend on — capital market investment to fund climate change mitigation activities.

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## Standardizing feasibility studies and internal rate of return

The criteria to secure public and/or private capital markets[1] funding for a REDD+ project differ from those of international donors because of the requirement for an internal rate of return (IRR) from the capital invested. In its simplest form, IRR is the sum of the money gained on an investment minus the cost of the investment divided by the cost of the investment. This allows for comparisons between various estimated scenarios for a project and for comparisons between projects. The IRR calculation is flexible and easily modified to each project scenario.

To obtain funding, project proponents must demonstrate to capital market partners that a project is financially feasibility throughout its life. This feasibility study, from the capital markets' perspective, has the following basic criterion for gauging whether to invest in a REDD+ project or programme: the project's projected IRR, based on conservative financial projections for all project revenue and expenses throughout the project's tenure must align with all implementing partners' capacities.

In the REDD+ market, institutions carry out tropical conservation management services for money to fund activities that conserve tropical forests with biodiversity and socio-economic benefits. The units of measurement for these transactions are metric tonnes of carbon dioxide equivalent (mtCO2e). All benefits are bundled into a single ecosystem service, and need not be quantified in financial terms or stacked.[2] Environmental and socio-economic benefits are key criteria for a transaction to qualify as REDD+. This creates the conditions that permit benefits and relevant safeguard procedures (e.g., Free, Prior and Informed Consent) to be formally incorporated in REDD+ transactions.

All transactions are based on a standardized legal contract called an Emissions Reduction Purchase Agreement (ERPA); its terms and conditions, rights and responsibilities and pathways for recourse are set in advance by all the parties. An ERPA includes criteria such as schedules where profit-sharing changes as mtCO2e sales prices increase. The most essential criterion is the legal definition of the parties to the contract. This legal definition describes the firm and how each party will meet the terms of the contract. This allows for tropical forest conservation funding using mtCO2e in exchange for financing.

As described above, understanding how an ERPA works will help to structure feasibility studies. If feasibility studies that include IRR become the industry norm, it will greatly improve access to capital market financing for the overall REDD+ industry and in turn for all REDD+ participating institutions. This is because the use of standard operating procedures to determine the inputs for feasibility studies will accurately show that REDD+ is attractive to capital markets.

As shown in Table 1, this will positively affect capital markets access through outcomes that promote transparency, increase liquidity, provide risk mitigation, and support a trustworthy exchange of units of carbon for funding. It is possible to put tropical forest conservation in a framework that more easily secures financing from capital markets to fund tropical conservation activities.

**Table 1. Components of industry frameworks to improve access to REDD+ financing**

| Financial process | Requirements | Activities | Outputs | Outcomes | Impacts |
|---|---|---|---|---|---|
| Regulatory and accounting | Standardize accounting and tax frameworks | Determine frameworks | Accurately accrue revenues and taxes | Create a trustworthy marketplace | Capital invests |
| Risk management | Apply insurance and regulatory best practices | Describe risk mitigation parameters | Assign and price risks properly | Make risk mitigation available | Assure contract completion |
| Valuation | Develop parameters for enhancing returns | Establish financial analysis frameworks | Develop valuation capacity | Increase liquidity | Value and transact investments |
| Performance analysis | Integrate scientific and financial information | Implement data integration tools | Perform independent audit | Increase transparency | Report investment impacts |

Source: Thoumi, Prell and Kent 2010

## Risk and return

Public-and private-sector capital market investors frame decisions in terms of risk and return. This risk-and-return framework applies to both individual projects and a portfolio of projects and is based on mitigating risk while enhancing and/or maintaining returns. As project risks increase, the IRR needed to secure financing puts a greater burden on the project proponent. He or she must demonstrate in the feasibility study that the IRR of the project will be high enough to compensate for the risks. The riskier the REDD+ project is, the greater the IRR required to secure financing. The less risky the REDD+ project is, the lower the IRR required to successful complete the project. This would be assessed in the feasibility study, making it easier to finance the project (Thoumi et al. 2012).

The feasibility study is an important tool for tropical forest conservation project managers who wish to secure capital market financing (Thoumi et al. 2012). Project proponents first must estimate realistic returns for their REDD+ investments. Next, they quantify and qualify their project's risks. Finally, they list their project's constraints: time horizon, taxes, liquidity, legal issues, and individual circumstances such as biodiversity and socio-economic benefits (Table 2). This process results in improved communication with public-and private-sector capital markets and results in greater access to capital market financing.

Other financial best practices to consider include errors and omissions insurance and directors and officers insurance for firms performing technical work, such as monitoring, reporting, and verification under REDD+. Furthermore, best practices dictate that project proponents have annually audited financial statements that demonstrate solvency. Project proponents may also want to obtain political risk insurance, such as that provided to U.S. investors through the U.S. government's Overseas Private Investment Corporation (OPIC).[3]

## Practical examples

The following examples from Belize, Ecuador and Peru describe how these investment frameworks have been applied. These examples demonstrate that REDD+ can borrow from investment frameworks in other sectors and that these frameworks can increase the commercial attractiveness of REDD+ projects and programmes to capital market investors.

### *Belize*

The Bull Run Overseas Forest Carbon Project is located in Belize within a neotropical mixed broadleaf forest. The 666-hectare (ha) project is privately owned by a family who has lived on the property for close to 60 years. The project has been validated to the Climate Community & Biodiversity Standards (Second Edition) and validated and verified to the Verified Carbon Standard. It is under immediate threat of being converted to coffee growing.

Independent title analysis has been conducted on the property. Carbon financing funds systematic patrols and monitoring of vegetation, biodiversity and communities. The project protects documented populations of IUCN-listed[4] flora and fauna, such as jaguar, ocelot, tapir, peccary, ocellated turkey and big-leaf mahogany. The property was the largest employer in the region when it operated as a timber concession. With carbon financing focused on ecosystem restoration, the jobs created include data collection, road maintenance, fire prevention and patrolling. The project also provides an educational scholarship fund for local youth.

**Table 2. Factors to incorporate in a feasibility study for a REDD+ project**

| Category | Metric | Example | Discussion |
|---|---|---|---|
| return | percentage | Internal rate of return | describe required IRR |
| risk | percentage (can be based on standard deviation) | 1. Likelihood of a default (lender, borrower, proponent, community, or purchaser)<br>2. Change in policy or law<br>3. Environmental factors | effective risk management lowers cost of capital for project |
| time horizon | years | 1. Duration of project<br>2. Tenure of offset<br>3. Time between validation and verification | financing needs to be managed to all time horizon criteria |
| taxes | percentage | 1. Tax assets and liabilities (for all counterparties)<br>2. Include income, social security, health care, value-added, property, deeds and carbon licensing, etc. | tax assets and liabilities impacts must be calculated |
| liquidity | currency | 1. Regular operating costs (e.g., MRV, salaries and profit-sharing)<br>2. Contingency<br>3. One-time expenses (e.g., feasibility studies, baseline inventory, land titling review) | project viability includes sufficient income streams to cover liquidity constraints |
| legal | contract | 1. Emissions Reduction Purchase Agreement (ERPA), Agency agreement<br>2. Free Prior and Informed Consent (FPIC)<br>3. Local service and management contracts | includes clarity on rights and responsibilities, economic distribution models, schedules, and profit-sharing ladders, pathways for recourse, and description of process for settlement and clearing |
| other | no universal metric | 1. Community co-benefits<br>2. Biodiversity factors<br>3. Carbon buffer pool determination | |

The project has conducted thorough legal due diligence of timber, land, mineral and water rights, based on Belizean and British common law. It is legally organized as a limited liability company (LLC) that owns the timber concession on and title to the property. Because the LLC owns the timber concession, the LLC can be paid in exchange for mtCO2e to sequester carbon on its property. This allows the project to easily execute an ERPA through a three-party account involving a bank, Bull Run Overseas Forest Carbon Project LLC and the buyer of the mtCO2e.

An appropriate portion of each mtCO2e sale is put into a trust or similar account. This money will provide the required liquidity for the project's future monitoring, reporting and verification (MRV) costs throughout its time horizon. By applying the framework in Table 2 and by legally organizing the firm, it is easy for the project to forecast IRR for investors over the project's time horizon. This gives it access to capital markets, as demonstrated through support from the Code REDD Corporate Champions.

The project also demonstrates other financial best practices. Its employees are paid regularly net of income tax, health care taxes and social security tax, with salaries wired to their bank accounts. If an employee of the forest carbon project does not have a bank account, project managers will help him or her obtain one. Employees receive paid vacation and significant health and safety training, including training in sexually transmitted diseases. Scholarships are available for the children of employees. Because the project has an annual financial audit of its carbon business available to investors as a component of its feasibility study, it has lowered its project risk.

### *Ecuador*

In Ecuador, the *Programmea Socio Bosque* is a national payment for ecosystem services scheme for forest conservation by private landowners. It generates more than US$ 3 million per year and protects nearly 900,000 ha. The programme provides an opportunity for more than 90,000 local individuals to participate and protect properties at risk. It benefits from the support of the Ministry of Environment.

For the programme to have access to capital markets, land tenure needs to be clarified: project proponents must have the right to and responsibility for trading mtCO2e. The structure of *Programmea Socio Bosque* would benefit from consistent annual financial audits according to international best practices. This would give investors a better understanding of the legal basis and financial soundness of the programme.

Incorporating the factors in Table 1 would in turn facilitate investment through an appropriate Government of Ecuador mechanism. In return, *Programmea Socio Bosque* could provide and/or guarantee production of independent third-party-audited mtCO2e that meets international criteria. In this example, the legal recourse for non-performance needed to be clarified at the beginning. Political risk insurance could be secured through The World Bank's Multilateral Investment Guarantee Agency and OPIC.

Investors could require the programme to demonstrate that transparent financial distribution mechanisms were in place, with appropriate local oversight through an institution such as *Servicio de Rentas Internas del Ecuador.* This would guarantee that funds promised at the local level — after paying for MRV through an independent third-party institution — would be distributed to the rights holders: the individuals and communities who live on or near the REDD+ properties. It meant that pay-for-performance financing could be secured with the guarantee of independent third-party-audited REDD+ activities measured in units of mtCO2e, but not transacted as REDD+ offsets.

### *Peru*

Peru's national REDD+ development programme is a combination of REDD+ project types. Approximately 30 projects are being implemented by public-private partnerships, government, private entities or NGOs. Peru is developing a system where REDD+ activities will include local initiatives.

Technical and financial capacities must first be developed at the regional level (Chagas et al. 2011). The following examples illustrate the way that voluntary certification schemes have clarified risk management techniques and tools, and measures that the government and project proponents could take to advance conservation through improvements in financial governance.

In 2010, ScotiaBank Peru voluntarily offset its 11,000 tonnes of domestic $CO_2$ emissions by 140%. It did this by purchasing 16,000 mtco2e of domestic forest carbon offsets, bought at roughly US$ 7 each. These offsets were purchased from the Maderacre sustainable forest management project (pers. comm., Javier Campodónico, ScotiaBank Peru; Hajek et al. 2011). This set of investments and transactions demonstrates that Peru's financial services sector is willing and able to lead in funding tropical forest conservation activities by offsetting their emissions. The transaction would have benefited if the Government of Peru issued carbon business licences to counterparties engaged in private REDD+ transactions. Applying a regulatory and accounting framework increases transparency and ease of financial due diligence (Table 1).

In 2010 Grupo Wong purchased 90% of the Maderacre forest carbon project and timber concession from the Cardoso family for an estimated US$ 2.8 million, approximately US$ 65 per ha, including the property's audited carbon offset project. Grupo Wong applied IRR models to forecast possible returns in its investment in the project. The commercial rationale was to secure carbon offsets to develop long-term revenue; this would decrease the variability associated with the FSC-certified forestry concession on the same property. By managing liquidity constraints, the company hoped to lower the risk (Table 2).

Maderacre S.A.C. pays part-timer labourers and full-time employees net of taxes and social security on a monthly basis in a consistent, timely and convenient manner via wire transfers to the local bank in Iñaparí, Madre de Dios. This demonstrates that financial distribution mechanisms are in place, which will allow a financial audit of forest carbon project activities (pers. comm. and Hajek et al. 2011). This in return will result in increased transparency and liquidity (Table 1).

The *Comunidad Nativa Bélgica* REDD+ project focuses on the territory of the Bélgica Yine Indigenous Community, on the border between Brazil and Peru. It covers 53,394 ha. The estimated 18 families in the community hold rights to the forest through a timber concession title and a *cesion en uso* (assignment for use) contract. The community members have raised some seed capital from at least four private individuals and institutions to fund the project. The timber-concession operator, Maderijya S.A.C., manages an FSC-certified timber-extraction programme on the same property. The project has received many offers for ex-ante sales of their REDD+ offsets and for further financial assistance from the private and public sector (pers. comm. and Hajek et al. 2011).

The parties would benefit from systematic due diligence questions and processes. Typical due diligence questions address references, proof of bank account, proof of business in good standing, and demonstrable proof of following all local, national, and international laws. These questions would allow project proponents, including community members, to forecast the project's IRR and develop a feasibility study. Then they would know which financial questions to ask of parties who approach them and empower themselves by choosing which if any parties to work with.

## Lessons

These examples show the correlation between sound governance and an enabling environment for investment. Foreign direct investment, whether directly or indirectly from the public sector and/or private-sector capital markets, is sometimes perceived as a tool to enhance economic growth at the expense of environmental protection, producing a "race to the bottom" (Gray 2002). However, calculating risks and returns (Table 2) within a broad financial framework (Table 1) can inform the parties to a REDD+ financial transaction by clarifying standards and operating procedures (Thoumi et al. 2012).

To date, inadequate attention has been paid to the financial conditions required — regulatory, voluntary or other — to support REDD+ activities. Without these conditions, the potential for payments for ecosystem services, including conserving tropical forests to mitigate climate change, could be seriously constrained.

The laws that protect investors must also protect other stakeholders, including forest-dependent rural communities with insecure tenure. Additional effort should be made to

analyze how international best practices in financing can help deliver social and environmental benefits in REDD+ initiatives. The same financial analysis techniques commonly used by investors to determine the viability of an investment should also be used by parties — including NGOs and communities — to determine whether a REDD+ project will work in their best interests and to identify weaknesses in a proposal. However, technical assistance for parties and forest-dependent communities, including so-called safeguard measures, rarely includes the financial analytical capacities required to analyze risk and return and to communicate these results effectively to the public sector and to private-sector capital markets.

## Endnotes

1. In this article, the phrase "capital markets" refers to how public-sector and private-sector institutions can secure financing, either directly or indirectly, to fund REDD activities.
2. Stacking refers to payments for multiple ecosystem services generated on a single unit of land; stacked credits are sold separately, unlike the bundled credits employed for REDD+ (Cooley and Olander 2011).
3. This insurance package (designed for any REDD+ project or programme under project-based or jurisdictional-based accounting), provides tools that mitigate risks associated with policy changes by the host country, expropriation by the host country, and currency convertibility between host country currency and the foreign currency used by the investor.
4. See The IUCN Red List of Threatened Species: www.iucnredlist.org.

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The mission of Tropenbos International (TBI) is to improve tropical forest management for the benefit of people, conservation and sustainable development. By making knowledge work for forests and people, TBI contributes to well-informed decision making for improved management and governance of tropical forests. TBI's longstanding local presence and ability to bring together local, national and international partners make it a trusted partner in sustainable development. TBI is ETFRN's coordinating member and national focal point in the Netherlands.

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