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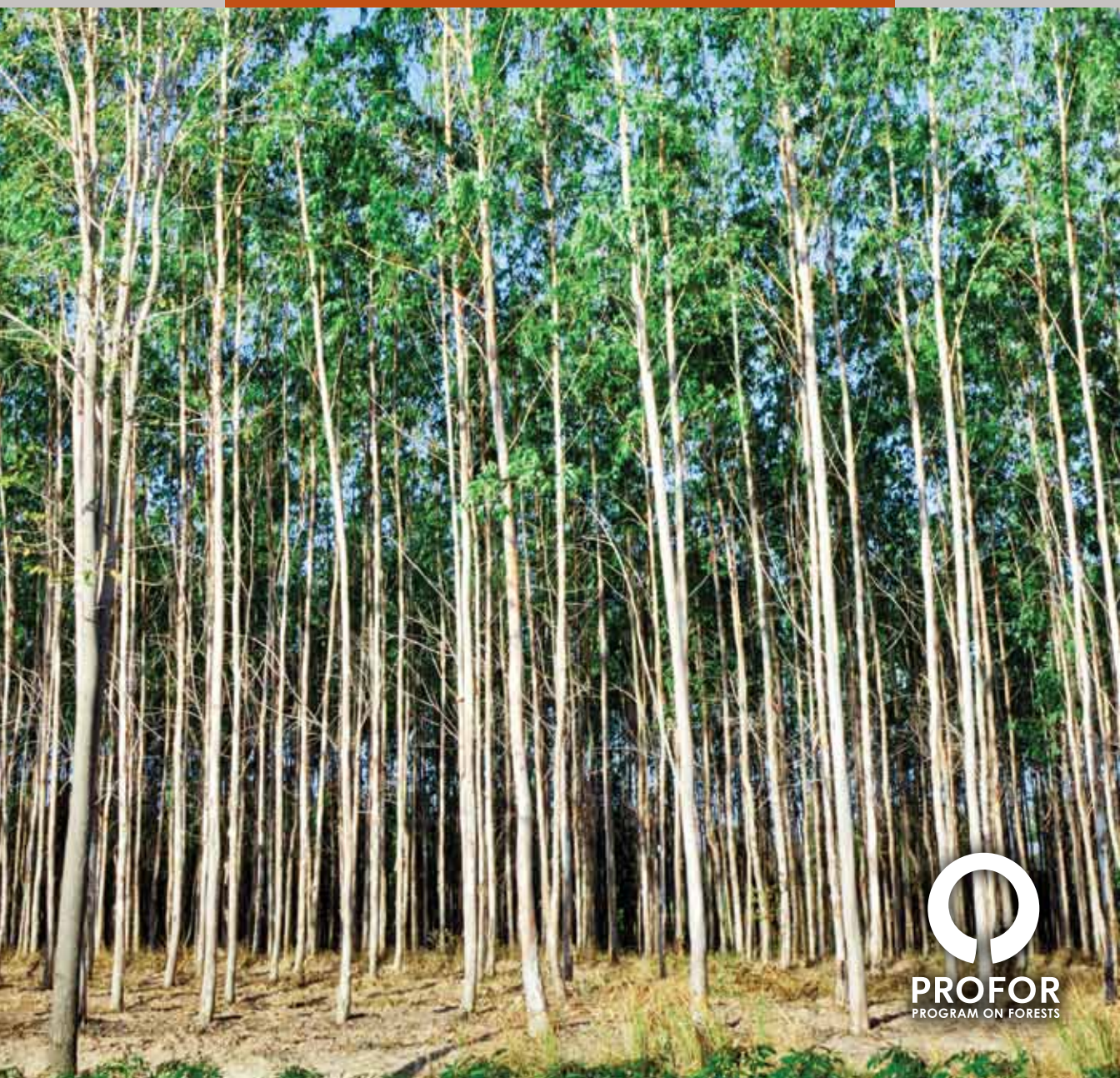
PRIVATE FINANCING FOR SUSTAINABLE FOREST MANAGEMENT AND FOREST PRODUCTS IN DEVELOPING COUNTRIES–TRENDS AND DRIVERS



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PRIVATE FINANCING FOR SUSTAINABLE FOREST MANAGEMENT AND FOREST PRODUCTS IN DEVELOPING COUNTRIES—TRENDS AND DRIVERS

Authors: Castrén
Tuukka
Marko Katila
Karoliina Lindroos
Jyrki Salmi

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Program on Forests (PROFOR)
1818 H Street, NW
Washington, DC 20433, USA
profor@worldbank.org
www.profor.info/knowledge

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ABBREVIATIONS

ABRAF	Associação Brasileira de Produtores de Florestas Plantadas
ADB	Asian Development Bank
AGF	Advisory Group on Finance (of UNFF)
AHEG 2	Ad Hoc Experts' Group on Forest Financing (of UNFF)
A/R	Afforestation/Reforestation
ARR	Afforestation, Reforestation, and Revegetation
ATP	A Danish pension fund
BEA	Bureau of Economic Analysis (United States)
BERL	Bio Energy Resources Ltd (Malawi)
BNDES	Brazilian Development Bank
BoP	Balance of Payments
BRACELPA	Brazilian Pulp and Paper Association
CAN	Andean Community
CDC	Commonwealth Development Corporation
CDM	Clean Development Mechanism
CFR	Central Forest Reserve
COMESA	Common Market for Eastern and Southern Africa
CPF	Collaborative Partnership for Forests
CSR	Corporate social responsibility
DAC	OECD Development Assistance Committee
DDI	Domestic direct investment
DFI	Development Finance Institution
DFID	Department for International Development
DI	Domestic investment
EAC	Eastern African Community
EBRD	European Bank for Reconstruction and Development
ECOWAS	Economic Community of West African Studies
EIB	European Investment Bank
EMBRAPA	Brazilian Company of Agricultural Research
ESG	Environmental, social, and governance
ETFRN	European Tropical Forest Research Network

EU	European Union
EUR	Euro
FAO	Food and Agriculture Organization of the United Nations
FD	Department of Forestry
FDI	Foreign direct investment
FIC	Forest industry company
FIP	Forest Investment Programme
FSC	Forest Stewardship Council
GDP	Gross domestic product
GEF	Global Environment Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GPFLR	Global Partnership on Forest Landscape Restoration
ha	Hectare(s)
HAP	Hazelnut Plantations (Georgia)
HCPF	The Holistic Conservation Programme for Forests
IC	Investment Committee
ICIMOD	International Centre for Integrated Mountain Development
IFC	International Finance Corporation
IFI	International financing institution
IGAD	Intergovernmental Authority of Development
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
ITC	International Trade Center
ITTO	International Tropical Timber Organization
KVTC	Kilombero Valley Teak Company
MPRP	Merang Pilot REDD+ Project (Indonesia)
NAFTA	North American Free Trade Agreement
NFP	National Forest Programme
NGO	Non-governmental organization
ODA	Official development assistance
OECD	Organisation for Economic Cooperation and Development

PEFC	Programme for the Endorsement of Forest Certification
PF-CT	Private Forestry and Carbon Trading Project
PGGM	A Netherlands pension fund
PPP	Public-private partnership
PROFOR	Program on Forests
PSD	Private sector development
R&D	Research and development
REDD+	Reducing emissions from deforestation and forest degradation
SADC	Southern African Development Community
SC	Steering Committee
SFF-PPP	Sustainable Forestry Fund—Public-Private Partnership
SFM	Sustainable forest management
SME	Small and medium-sized enterprise
SPE	Special purpose entity
SPGS	Saw Log Production Grant Scheme
SRI	Socially responsible investment
TA	Technical assistance
TFF	Tanzania Forest Fund
TGA	Tree Growers Association
TIMO	Timberland investment management organization
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environmental Programme
UNFCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNPRI	United Nations Principles for Responsible Investment
UPM	Forestal Oriental
US ITC	United States International Trade Commission
VCS	Verified Carbon Standard
WB	World Bank
WIR	World Investment Report
WWF	World Wildlife Fund

KEY CONCEPTS

Brownfield investment
Acquiring existing equity through mergers and acquisitions.

Domestic investment (DI)
Resident entity obtaining an interest in an enterprise in the same economy.

Downstream investment (in forest value chain)
Investment into primary or secondary processing.

Financing mechanism
Institutional arrangement that produces a transfer of financial resources between a provider and a beneficiary.

Foreign direct investment (FDI)
FDI is recorded in the financial account of the balance of payments (BoP), which is part of national accounting. The International Monetary Fund's *Balance of Payments Manual* is globally considered as the source for definitions of BoP variables such as FDI. According to the manual, FDI is "category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another economy."

Forestry company
Direct owner or user of forest resource.

Greenfield investment
Establishment of new operational facilities and productive assets.

Institutional investor
A pension fund, endowment or other institution that invests, for example, in forest assets usually through TIMOs and Forest Funds.

Investment
Application of economic resources to one or several activities, with the aim of obtaining quantifiable returns within a specified period.

Loan
An amount of money granted in exchange for a promise to repay, and the payment of interest for use of the same.

Portfolio investment
Holdings of liquid financial securities, such as foreign stocks, bonds, or other financial assets, without active management or control.

Private sector financing
Application, by other than public sector stakeholders, of financial resources drawn from formal or informal capital markets with the objective of obtaining profit through investing within a specified period.

Risk
Degree of variability or contingency of the returns from an investment. In general terms, it can be expected that the greater the risk, the greater should be the profitability of the investment.

Subsidy
Economic or material (in kind) benefit that a government grants to national producers to stimulate certain activities, often in order to strengthen its competitive position against others.

Upstream investment (in forest value chain)
Investment in natural forests and plantation forestry

EXECUTIVE SUMMARY

How to finance sustainable forest management (SFM) has been a question of perennial interest and concern for the forestry community. It has been estimated that the required funding for SFM is in the order of US$70–160 billion per year globally. At present, official development assistance disbursements to forestry cover about 1 percent of the estimated total financing needs for SFM, and other available public sector financing sources barely double that amount. To scale up SFM, to create value-added economic growth and employment and protect forests from competing unsustainable land uses, domestic and foreign private financing and investments need to increase significantly.

Despite the importance of the private sector, information on private forest financing is scarce and inadequate at all levels. Studies related to finance flows in the private sector have begun to emerge in recent years, and data of varying quality—especially on international private investments in wood processing—have become available in selected public statistics. However, there is no coordinated and systematic effort to collect and synthesize information on private investment flows in the forest sector. Also, none of the ad hoc studies have tried to provide a comprehensive, global picture of these flows. Although it is a matter of consensus that the private sector must in the future play an even bigger role in the financing of forestry, surprisingly little is known about why this potential has not been fully realized and what the main impediments are.

OBJECTIVE, SCOPE, AND AUDIENCE

The objective of the study is to provide updated, comprehensive information to inform global dialogue on the role of private financing for SFM, including forest plantation development, and to the production of forest products. This report (i) reviews what private forest sector financing data are available, (ii) provides a snapshot of different financing flows in the forest sector, (iii) improves our understanding of challenges related to forest financing, and (iv) presents a roadmap for better information and improved access to finance. The scope of the report is forestry and forest industry investments in developing and emerging countries, with more focus on foreign direct investment than on domestic investments, mainly due to data constraints. The target audience includes the national governments in developing countries, donor agencies, international finance institutions with particular reference to the World Bank Group, other stakeholders of the United Nations Forum on Forests, and other forest finance practitioners.

DATA ON PRIVATE FINANCING

Data on private forest financing are not reported systematically by either global or regional databases. Foreign direct investment (FDI) on downstream processing investments is somehow documented, but reliable data on FDI in forestry are not available. Data on domestic private investments are collected only in few developing or emerging countries, and there are no related regional or global statistics. Information on private commercial plantation investments can be estimated for many countries from physical data on commercial plantation development that are recorded by some private databanks.

There are an estimated 65.7 million hectares (ha) of commercial, production-oriented forest plantations in developing countries, of which about a third are privately owned, with significant regional differences. The amount of privately-owned (established) plantations in Latin America is 18.7 million ha, (78 percent of total commercial-production plantations), 5.1 million ha Asia and Oceania (14 percent), and 0.3 million ha in Africa (6 percent).

Total private sector plantation investments in developing countries are estimated at US$1,763 million in 2011, excluding investments in Reducing Emissions from Deforestation and Forest Degradation (REDD) and landscape restoration. Investments by households and communities as well as by most of the small and medium forest enterprises (SMEs) are not included. Most of the investments are in industrial pulpwood production. Investments in Latin America account for a large majority of the global total amount—US$1,464 million (83 percent)—while investments in Asia and Oceania are estimated at US$279 million (16 percent). Estimated annual average private investments in plantation forests in Africa are very small in comparison, at about US$20 million, or 1 percent of the total value. Even within the regions, there is little diversity; for example, Brazil accounts for over 80 percent of the regional total.

Thematically, an information gap relates to financing the management of natural forest management. Another major gap in many developing countries is related to the limited information on domestic investment flows in plantation development and wood processing. There are a few exceptions—countries like Brazil and Indonesia, where domestic direct investments in forestry and processing are of significant scale and are documented.

DRIVERS OF FOREST INVESTMENTS

Forest investments are allocated unevenly among countries. Tree growing conditions, access to markets, and quality of business environment, including political and economic stability and security of land tenure, are major determinants of investment flows. Most investors are concerned with gaining new markets and maximizing risk-adjusted returns, and prefer investing in countries with a combination of good growing conditions and a stable investment environment.

It goes without saying that countries cannot change their location or growing conditions. However, there are plenty of opportunities to improve other elements of the investment environment and

influence the investment decision making of smallholders, communities, SMEs, and large domestic and international companies and timberland investors. These enabling elements are related to national policies, legislation, regulations, governance, transparency, information availability, and infrastructure—in short, the investment environment. There is a need to inform and influence national decision makers and donors to plan and implement reforms to improve the investment climate.

International timberland investments by timberland fund managers, financed primarily by institutional investors such as pension funds and endowments, have emerged as a new source of financing of sustainable forestry in developing and emerging countries. The total assets under management have already reached an estimated US$80 billion worldwide. But the total volume of institutional timberland investment into developing and emerging countries is still quite limited, and heavily focused on a few countries in Latin America.

When assessing potential investments, investors in forestry, like in any other business, compare expected returns and risks. Investment decisions are ultimately dependent on risk-adjusted return expectations. Country risks vary considerably, and explain to a large extent together with growing and market conditions why forest investments take place in some countries and not in others.

BARRIERS TO PRIVATE FINANCING

The main barriers to financing private investments in SFM in developing countries are:

Higher real and perceived risks in developing in most emerging countries than in industrialized countries. These include political risks, unsecure land tenure, currency risks, social and environmental risks, as well as reputational risks. Reputational risks can play a major role in deterring the mobilization of institutional (for example, pension fund) money for forestry in developing countries.

Weak availability of both domestic and foreign equity and loan financing. This is true in general and even more so for forestry investments, where scarcity of capital is combined with limited understanding of forestry sector investments within financial institutions. International equity financing is especially difficult to secure for projects under US$20–25 million.

Unfavorable terms for financing. Forestry businesses, except those interested in short-term returns irrespective of sustainability concern, have extreme difficulties raising finance. If domestic debt financing is available, the interest rates can be excessively high (in local currency), and loan payback periods very short (from six months to three years). Furthermore, debt finance is often made available only after sufficient equity is in place, so the scarcity of equity and availability of debt financing are often linked.

Higher up-front costs of preparing investment projects in the forestry sector. This results from a number of factors, including the shortage of information on forest resources and investment opportunities and related risks in general, and higher transaction costs throughout the investment cycle for small and medium-sized projects.

SOLUTIONS AND WAY FORWARD

Strengthening the information base. Weak national reporting institutions need financial and capacity building inputs. Such inputs could be supported by donors and international financing institutions. Capacity building would need to include training and technical assistance. In addition, the data collection methodology and aggregation levels used by international organizations such as the United Nations Conference on Trade and Development (UNCTAD) and the United Nations' Food and Agriculture Organization (FAO) could be reviewed and improved.

Recording and publishing information on domestic investments. Presently, there is no structure for systematically collecting and compiling such information; in many cases this problem is not forest sector specific. Company surveys or use of media search streams, such as those used by fDi Markets, are possible options, both requiring substantial improvements in staff and financing of statistical offices or central banks at the national level. Another option is ad hoc surveys and specific databases (for example, on plantation investments).

Improving access to private financing. Investors are mainly interested in maximizing risk-adjusted returns. Among other factors, they assess:

- Growth potential and access to growth markets, which are very much linked to the location of a country and potential investment sites within a country.
- A country's political, regulatory, and economic stability.
- A country's investment environment and level of governance, of which the single most important factor is perhaps secure and risk–free (social and political risks) land tenure.
- A country's physical and institutional infrastructure (roads, ports, electricity, labor markets).

This report makes a number of recommendations to unlock private financing opportunities. These actions include:

- Strengthening land tenure systems.
- Policy and legal reforms clarifying the role of the private sector, creating a policy framework for private sector investment in forestry and processing, and active investment promotion with targeted incentive schemes.
- Reducing investment risks, both real and perceived, through guarantees, public-private partnerships, and innovative financing (fund) schemes as well as through provision of information.
- Improving access to financing, for example, by developing new financial instruments favoring long-term investments.
- Collecting and improving access to information concerning the availability of suitable land for investments, growth and yield, growing conditions in general, risks, and so forth.
- Improving forest sector governance and transparency.
- Improving transport and other infrastructure.
- Supporting research and development to increase productivity.
- Helping to organize smallholders and communities so that they can enjoy economies of scale, become more eligible for accessing finance, and gain negotiating power.

1 INTRODUCTION

WHY THIS MATTERS

It is widely agreed that financing of sustainable forest management (SFM) requires mobilization of significant incremental financing flows and diversification of financing sources. According to the UNFF-CPF Advisory Group on Finance (AGF) 2012 Study on Forest Financing, the required funding for SFM is between US$70 and US$160 billion per year globally. The estimated amounts required to halve deforestation by 2020 range from US$20 to US$40 billion per year. These financing needs estimates include all the elements and thematic areas of SFM, including conservation.

Comparing the current official development assistance (ODA) flows targeted to forests against the financing needs suggests a major gap between needs and the public resources available. In recent years, ODA flows have been about US$1 billion. Reduced Emissions from Deforestation and Forest Degradation (REDD+) financing has been increasing, but the large commitments are still to be turned into disbursements. For 2010–12, US$4.5 billion was pledged (International Sustainability Unit).

In recent debate on forest financing, it has been estimated that private financing (foreign direct investment and national investments combined) is much greater than public financing, but it is distributed very unevenly. There still remains a role for public sector funding as a source for sustainable delivery of global public goods or as frontier funding for high-risk investments. However, at the same time it is recognized that in order to scale up sustainable forest management and create employment, add value, and generate revenue, private financing from both domestic and international sources should play an increasingly important role.

Despite its importance, information on private forest financing is scarce and inadequate. Studies related to finance flows in the private sector have begun to emerge in recent years, and data especially on international private investments in wood processing have been available in selected public statistics. However, there is no coordinated and systematic effort to collect information on private investment flows in the forest sector. Also, none of the ad hoc studies have tried to provide a comprehensive, global picture on these flows. Further, knowing that the private sector must in the future play an even bigger role in the financing of the sector, surprisingly little is known on why this potential has not been fully captured and what the main impediments are.

The study discusses the weaknesses in public statistics and reasons for those weaknesses, and opportunities provided by alternative commercial information sources. The report outlines elements for a road map for changing the situation, for example, improving reporting standards, incentives for compliance with those standards, and more capacity building for reporting institutions.

The study also analyses the bottlenecks preventing acceleration of private forest financing and the drivers for successful private sector investments in forestry and downstream processing. This study maps a picture of global and regional financing flows into forestry and wood processing in tropical and other developing countries, and assesses the reasons for variations in the investment flows.

This study is part of the emerging theory of change in forest development, linking availability and quality of information with private sector investment decisions which are eventually driving the development of the sector. Improved information and better access to information on private investment flows and investment opportunities can (i) help targeting public sector efforts to catalyze additional private investments, and (ii) trigger new investment projects; business attracts more business. International financing institutions, including the World Bank (WB) and International Finance Corporation (IFC), and donor agencies have an important role in capacity strengthening in related information management. At the same, it is crucial to understand better at the country level, which factors constrain domestic and foreign private investment in the sector and supporting countries' efforts in improving their business climates. This type of assessment can be facilitated by the adoption of diagnostic tools or frameworks which cover the key elements of an (enabling) investment climate from investor perspective. Such approaches have been reviewed in a recent report, "Business Climate for Forestry Investment" (PROFOR 2014).

Traditionally bilateral and multilateral development agencies and financiers have mainly focused on financing the public sector. Private sector financing has been mainly channeled through special institutions like IFC and several national development financing institutions. These institutions aim at promoting global development agenda through providing capital to commercially viable private businesses. This separation is needed to ensure that official development assistance does not lead to unsustainable market distortions.

This separation does not mean that public developing institutions like the World Bank, other multilateral institutions or bilateral agencies would not recognize the importance of the private sector—be it domestic or foreign, large or small—in meeting global development goals. For example, the World Bank (2013) strategy identifies two goals for the organization: ending extreme poverty and promoting shared prosperity.[1] The strategy recognizes the importance of private sector and finance in ensuring growth in global economy. It is also recognized that private sector resources and expertise are critical to achieve the two goals. Particularly it states that the World Bank Group will help countries improve the business environment, and to support the private sector in overcoming constraints to investment and growth—to create jobs; promote innovation, technology, and skills transfer; and develop supply chains and export markets.

As a source of growth, forests and trees can contribute to the development of a diverse economic base, especially when markets for forest products can be tapped at scale. Local markets for timber, wood fuel and wood products are driving the development of small and medium as well as large

1 End extreme poverty: reduce the percentage of people living on less than $1.25 a day to 3 percent by 2030. Promote shared prosperity: foster income growth of the bottom 40 percent of the population in every country (World Bank 2013).

scale forest industries in many parts of developing world. These are creating jobs and income. Much of that employment is in the informal sector, but at a scale which is extensive. The long term future of this informal sector in turn depends on the sustainable management of forests, as does the future of the formal sector as well.

BACKGROUND STUDIES

KEY MESSAGES

Information on private forest financing is scarce and inadequate, at both global and national levels. Data collecting and reporting systems are unreliable and inconsistent in many developing countries.

During the past 10 to 15 years, increasing attention has been paid to financing of SFM globally, regionally, and nationally (CIFOR 2001, ETFRN 2008, AGF 2008, Indufor 2010a, Indufor 2010b, AGF 2012, ETFRN 2012). Financing for the forest sector comes from several sources: domestic public funding, domestic private investments, international donor financing (grants, loans, guarantees, and so on), foreign direct investments (FDI) by the private sector, nongovernmental organizations, and not-for-profit private organizations (for example, foundations, endowments). At present, information is readily available on only public forest financing.[2] There have been no systematic global assessments of private sector financing flows in the forest sector.

According to Organisation for Economic Cooperation and Development's Development Assistance Committee (OECD/DAC) aid statistics, ODA disbursements to forestry were US$0.9 billion in 2011. The 2012 AGF study indicates that forest ODA averaged US$1.2 billion in 2008–10 (in constant 2010 prices). This represents only about 1 percent of the estimated total financing needs for SFM.[3] Overall, the majority of forestry ODA goes to middle-income countries and high forest cover countries (42 percent), or to medium forest cover countries. This trend further exacerbates difficulties in financing forestry in many low-income or low forest cover countries where private sector investment volumes are also low.

The only region from where the AGF 2012 study succeeded to trace information on private sector forest financing was Latin America and Caribbean, where an estimated US$2.7 billion per year is invested by the domestic and international private sectors.

Simula (AGF 2008) came to the conclusion that there is no systematic information available on domestic investment or private foreign direct investment in the forestry sector in developing countries. The study identified US$0.5 billion of private forest sector FDI per year in 2003–05. He acknowledged that much more is likely invested by smallholders, communities, and small and medium-sized enterprises (SMEs) domestically, but there are no data.

2 Even those data are often inaccurate and incomplete.

3 The ODA figures for forestry need to be treated with caution. They are the best estimates available, but it is increasingly difficult to estimate ODA sector flows because of integrated programs (for example, climate change financing and sustainable landscape management) and budget support. The OECD/DAC statistics specifically tagged to "forests" can be assumed to be the lower boundary of estimates.

The Global Partnership on Forest Landscape Restoration estimates (GPFLR 2013) that there are 2 billion hectares of deforested or degraded lands worldwide that could be potentially restored, and in its Bonn Challenge (GPFLR 2011) calls for restoration of 150 million hectares of deforested and degraded lands by 2020. The partnership has not provided estimates on the financing needs. The restoration potentials are not based on economic assessment, but on the physical data on deforestation and forest degradation. The landscape restoration agenda, however, proposes commercial restoration by private investors (see for example, Sayer and Elliot 2005).

Information on private forest financing is indeed scarce and inadequate at both global and national levels. Data scarcity as well as unreliable and inconsistent data collecting and reporting systems in developing countries hinder preparation of solid investment policies and informed national decision making and effective targeting of bi- and multilateral support.

SCOPE AND OBJECTIVES

The objective of the study is to provide updated, comprehensive information to inform global dialogue on the role of private financing to SFM, including forest plantation development, and to the production of forest products. The specific objectives of this study are to:

i) *Improve the understanding of data currently available on private forest finance flows in tropical and other developing countries.*

The report provides a review of what private forest sector financing data are available. It also assesses the quality of the data and provides a way forward for improved data availability and quality.

ii) *Provide a snapshot of different financing flows in the forest sector in developing countries.*

The report presents data at all levels: global, regional, and country. It also analyzes trends in financing flows and compares different types of financing flows. These include investments to forest sector processing, investments to private sector commercial forest plantations and natural forests (to the extent possible), as well as forest ODA for comparative reasons. It is important to note that the study does not aim at having complete global country coverage; this is simply not feasible without a major global research effort.

iii) *Improve understanding on challenges related to forest financing.*

The report presents a variety of developing country and corporate cases that provide practical insights to various challenges, obstacles, opportunities, and solutions related to forest financing. The cases include examples of both domestic and foreign investment. The report includes four country cases and three corporate cases representing a variety of countries, investment environments, and investment opportunities; these cover some typical cases that can be found in many other countries as well.

iv) *Provide a way forward for better information and improved access to finance based on material available.*

Based on global experiences collecting and analyzing data and on factual and anecdotal examples from the various case studies, the report identifies steps for removing constraints and improving access to financing.

The report concentrates thematically on *private sector forest financing*, primarily on foreign direct investment but also on domestic private financing. Official development assistance allocated to the forest sector is also used to provide a more comprehensive picture of overall financing flows and also to put different financing flows into perspective.

The scope of the report is the *developing countries* in Asia and Oceania, Latin America, and Africa that face notable challenges attracting forest financing. However, for lesson-learning purposes, some examples are provided from outside the developing world.

It is also important to note this study does not analyze the impacts of the private investment flows. It is not assumed that all these investments are automatically good for the environment or social well-being. It is commonly understood that it will be essential to increase both domestic and foreign investment flows into forestry development, but naturally the challenge is to increase these investments to support sustainable development. The report addresses investment quality issues whenever possible.

The target audience of the study includes the national governments in developing countries, donor agencies, international finance institutions with particular reference to the World Bank Group, other stakeholders of the United Nations Forum on Forests and other forest finance practitioners.

METHODOLOGY AND DATA

This report has been compiled using various methodologies and existing sources of information. The methodologies used are (i) desk review, (ii) extensive data mining, (iii) consultations of key experts and institutions, and (iv) business, country, and other cases developed by the consultant team working for the report.

Data on private sector investment flows used in this study are gathered from publicly available databases and from the consultant's in-house databanks. The latest available data have been used and time series prepared when possible. An extensive search of publicly available data was carried out to enable quantitative analysis of investment flows and trends. The data search was done at all levels: global, regional, and national. National-level data searches targeted countries known to have significant forest sector investments (see appendix A). In addition, databases with relevant data available were contacted for further information on data availability, classification, and so forth.

In addition to public data sources, this report uses consultant databases as key sources for estimating private investment. The databases contain information of total forest plantation area by country, region, and species as well as ownership data often to a level of company information. Further, for many countries the databases include information on types of investors (for example, timberland investment management organization [TIMO]/forestry fund, international company, or smallholders). The temporal scope of the plantation investment data varies slightly depending on the country; in general, plantation development during 2000–11 is covered. An attempt was also made to assess trends in total volume and allocation between regions and countries, as well as between domestic and foreign investments. However, problems with data availability did not allow systematic trend analysis.

The database analysis was complemented by company-level data, including more than 100 plantation valuations and due diligence projects done in Latin America, Asia, and Africa. These provide information on actual plantation establishment costs in all the key countries, and sometimes within specific areas in the country, for different species. These data were also used to estimate the investments.

The list of 75 countries included in this study on private plantation investments is presented in appendix B. The focus is on countries known to be "forestry" countries, but at the same time an attempt is made to provide an overall picture on how these investments are allocated across regions and countries.

There is no readily available information on climate-change-related private forest investments. To estimate such investments, a rapid assessment of forest carbon projects and funds was carried out. Forty projects with information on private sector funding were identified. It must be stressed that information is not comprehensive, because many private forest carbon projects have not published financial data and the data that are published may not necessarily be the true final investment.

2 PRIVATE FINANCING FLOWS FOR SUSTAINABLE FOREST MANAGEMENT AND FOREST PRODUCTS IN DEVELOPING COUNTRIES

PRIVATE FORESTRY AND FOREST INDUSTRY INVESTMENT FLOWS BASED ON PUBLIC STATISTICS

The mapping and assessment of public forestry and forest industry FDI information sources are presented in appendixes A and D. This chapter summarizes the collected information and presents data on flows related to FDI in developing and emerging countries.

This report covers FDI ***inflows*** and ***outflows*** related to forestry and forest industry; it does not address FDI stocks or income or other investment types such as domestic investment (DI) or portfolio investments. For the last two, information is not available; sector-specific data are available only for FDI.

Forest Sector FDI Flows and Trends

KEY MESSAGES

Inward FDI flows to forestry, for processing of wood and wood products, pulp, and paper have decreased in developed countries and shifted to developing countries and countries in transition. Private sector greenfield investments are clearly larger than forestry ODA in all regions.

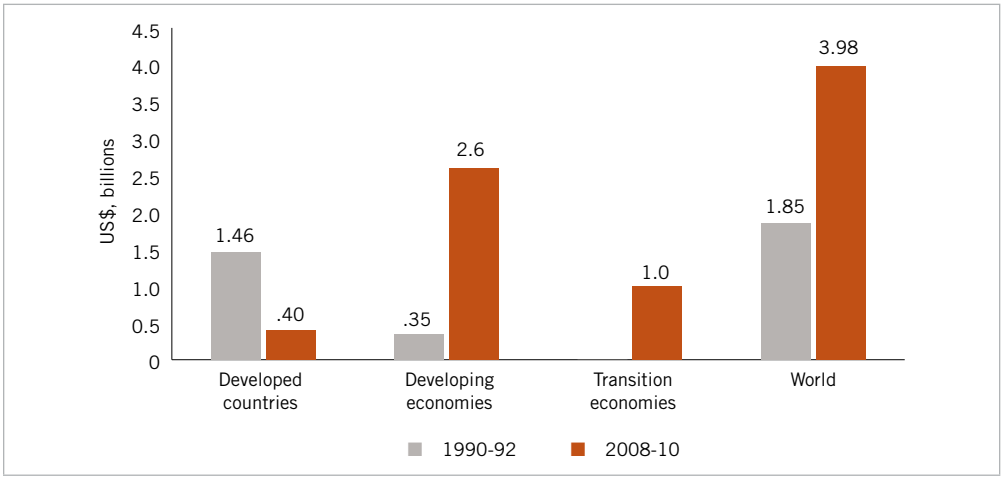
Developing and transition economies together are now, for the first time, attracting more than half of total (across all sectors) global FDI flows (UNCTAD 2011b). Also, outward FDI from these economies is at a record high, most directed toward other countries in the South. Interregional FDI between developing countries and transition economies has been growing rapidly and FDI inflows to developed countries continue to decline.

The same trend is present in FDI flows to the forest sector. Based on UNCTAD (2012) data on FDI inward flows to "wood and wood products," the flows to developing countries seem to have increased significantly from 1990–92 to 2008–10 (figure 2.1).[4] From the data available, it can be concluded that inward FDI flows to the forest sector for processing of wood and wood products, pulp, and

4 However, along with the data, UNCTAD notes that some of the increase is likely explained by use of investment intermediary companies in Hong Kong SAR and in other locations with lax tax legislation. This phenomenon is applicable to other sectors and total FDI as well, not just for the forest sector FDI.

paper have decreased in developed countries and shifted to developing countries and countries in transition.

FIGURE 2.1. WORLD INWARD FDI FLOWS TO FOREST SECTOR PROCESSING 1990–92 AND 2008–10 (US$, BILLIONS)



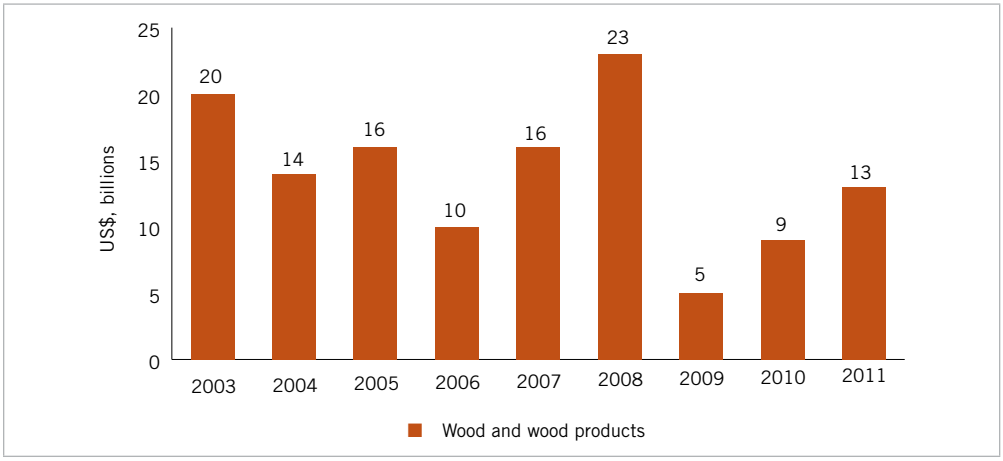
Source: UNCTAD (2012).

Note: "A considerable share of investment in business activities is in Hong Kong (China), which accounted for 37 percent of developing economies and 16 percent of the world total during 2008–10. Hong Kong (China) data include investment holding companies. Data should be interpreted with caution. The world total was extrapolated on the basis of data covering 79 countries in 1990–92 and 113 countries in 2008–10, or the latest three-year period average available. They account for 83 and 90 percent of world inward FDI flows respectively in the periods 1990–92 and 2008–10" (UNCTAD 2012 WIR Annex Table 26. Available at: http://archive.is/ZHzfP).

Greenfield investments are investments into the establishment of new production capacity or assets. Over the period 2003–11, the value of global greenfield FDI inflow to manufacturing of wood and wood products was 3 percent of the value of FDI to all manufacturing and 1.4 percent of the value of all FDI (UNCTAD 2012). Available data show that global greenfield investments into wood and wood products have been volatile (figure 2.2).

As can be observed by comparing figure 2.1 and figure 2.2, there is a notable difference in scale in the value of the **total FDI flows** on one hand and **greenfield investments** on the other. The reason for the difference is not clear, but it is likely explained to some extent by the different methodologies to gather data: Global public databases gather data from country sources such as central banks. The greenfield investment data used by the large databases come from a commercial source, fDi Markets (a publication by the *Financial Times*), which uses a completely different methodology—media search streams. The difference implies that FDI data from country sources are not complete and the data gathering or reporting from country sources is weak.

FIGURE 2.2. VALUE OF GLOBAL ANNUAL GREENFIELD INVESTMENTS, FOREST SECTOR PROCESSING, 2003–11 (US$, BILLIONS)

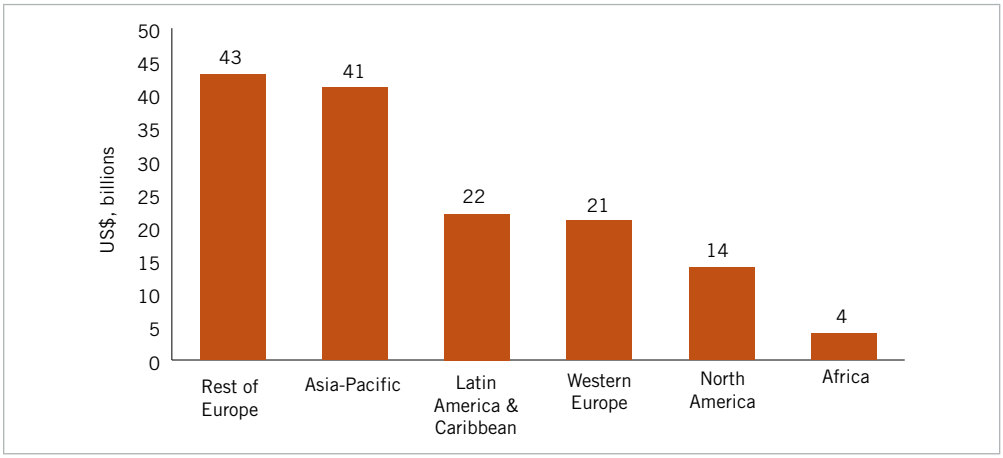


Source: UNCTAD (2012) based on data provided by the fDi Markets.

Note: Data refer to estimated amounts of capital investment. Definition and coverage of industries may be different from those of M&As (merger and acquisitions) and other FDI tables. They refer to the sector or industry of the project.

Of the developing regions, Asia-Pacific has received the largest share of greenfield investments to forest processing, more than US$40 billion over 2003–12 (figure 2.3). Latin America has also attracted significant investment, more than US$20 billion. Investments are notably limited in Africa, only about US$4 billion.

FIGURE 2.3. CUMULATIVE GREENFIELD CROSS BORDER INVESTMENTS TO FOREST RELATED PROCESSING 2003–12 (US$, BILLIONS)

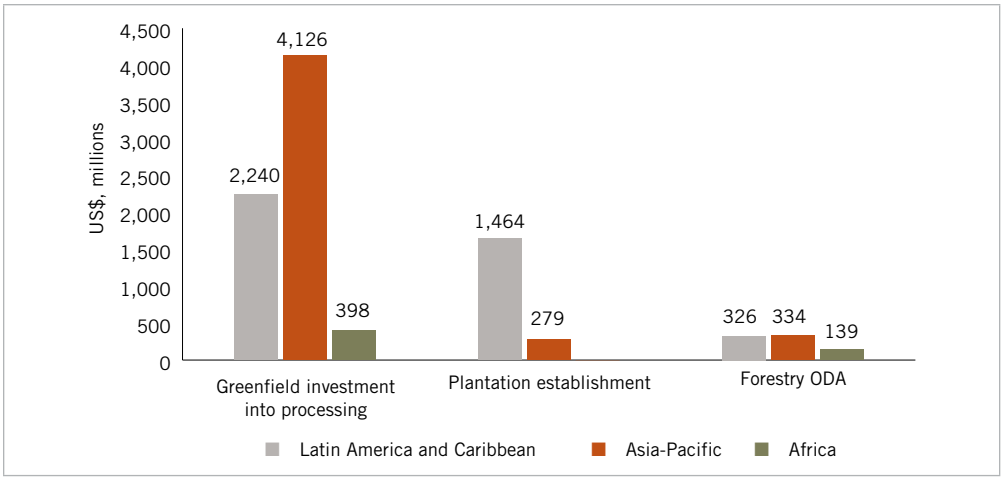


Source: Economic Commission for Latin America and the Caribbean (ECLAC)/fDi Markets.

Note: As defined in fDi Markets: Western Europe includes 20 countries, and Rest of Europe 23 countries; see: http://www.fdimarkets.com/explore/.

Private greenfield investments are clearly larger than ODA in all regions (figure 2.4). Only in Africa is forest ODA a significant source relative to private sector investment. A clear majority of investment flows to plantation establishment has been directed to Latin America, and the majority of processing-related greenfield investments to Asia-Pacific.

FIGURE 2.4. ANNUAL AVERAGE INVESTMENT FLOWS TO FOREST SECTOR IN DEVELOPING REGIONS (US$, MILLIONS)



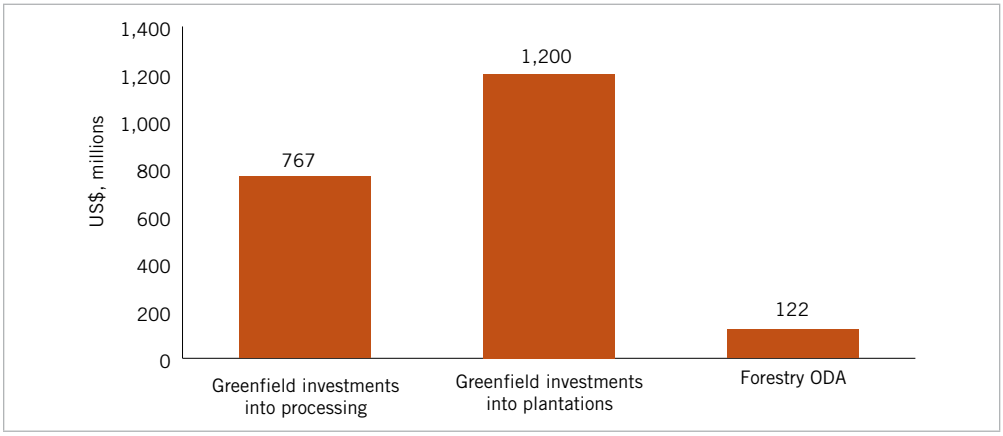
Sources: ECLAC/fDi Markets, Indufor Plantation Databank, OECD Creditor Reporting System (CRS).

Note: CRS filtering selection used in this and subsequent ODA related graphs is following:

Sector: "312: III.1.b. Forestry, total," Flow: "Official Development Assistance," Channel: "100, All Channels," Amount type: "Constant Prices, USD 2010 million," Flow type: "Gross Disbursements," Type of aid: "100, All Types, Total."

Two countries, Brazil and Uruguay, were analyzed to demonstrate investment flows at the country level. In both countries, the private sector was the main source for forest financing, and the role of forest ODA was much smaller. The largest investments flows were directed to plantations in Brazil, US$1.2 billion (figure 2.5). Investments in processing capacity were also high, at almost US$800 million. Forest ODA remained at about US$30 million (see appendix E). In Uruguay, the investments were concentrated in processing, with US$1.1 billion (figure 2.6). Plantation investments were lower, at about US$48 million, and ODA was negligible.

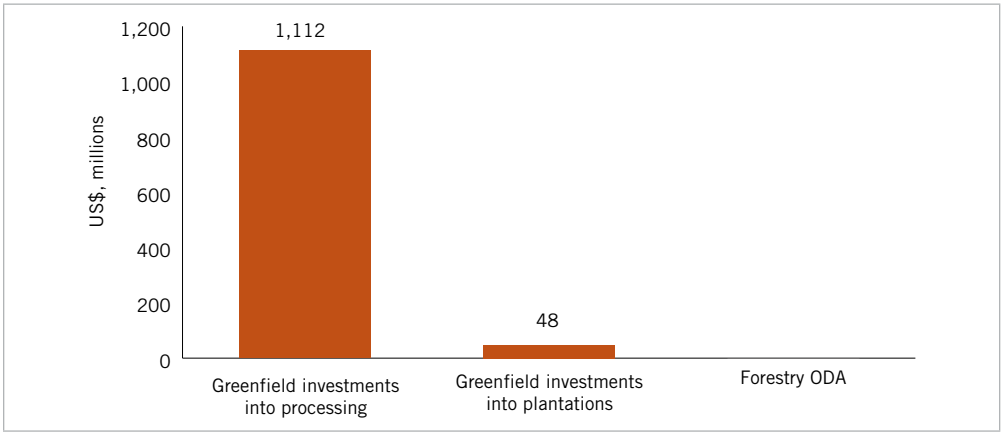
FIGURE 2.5. ANNUAL AVERAGE INVESTMENT FLOWS IN BRAZIL (US$, MILLIONS)



Sources: ECLAC/fDi Markets, Indufor Plantation Database, OECD CRS.

Note: Greenfield processing investment is an annual average for 2003–12. Greenfield plantation investment is an annual average for 2000-12. ODA is an annual average for 2007–11.

FIGURE 2.6. ANNUAL AVERAGE INVESTMENT FLOWS IN URUGUAY (US$, MILLIONS)



Sources: ECLAC/fDi Markets, Indufor Plantation Database, OECD CRS.

Note: Greenfield processing investment is an annual average for 2003–12. Greenfield plantation investment is an annual average for 2000–12. ODA is an annual average for 2007–11.

GLOBAL SNAPSHOT ON PRIVATE FOREST INVESTMENT FLOWS

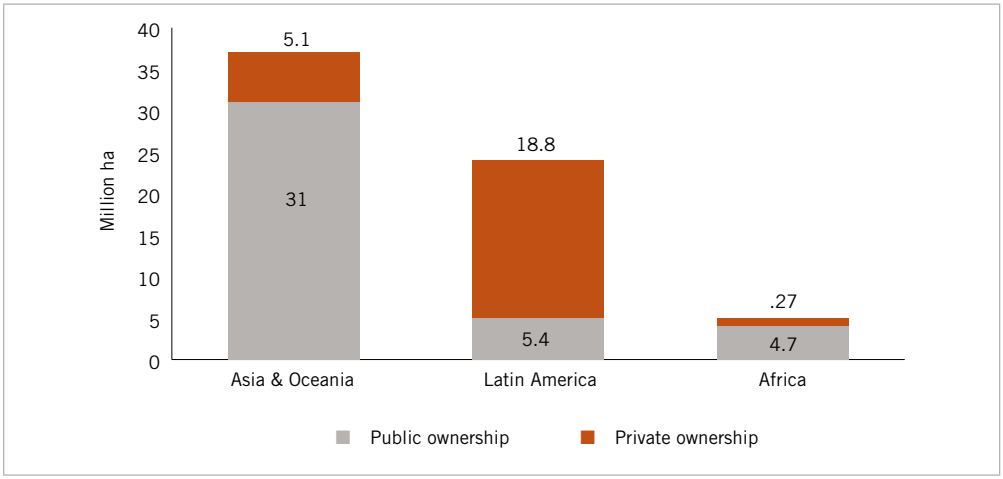
Overview of Private Investments Flows in Plantation Forestry

KEY MESSAGES

The vast majority of private plantation investments go to Latin America (83 percent), followed by Asia and Oceania (16 percent), and Africa (1 percent).

The total commercial-production-oriented forest plantation area in the 75 target countries (see appendix B) was estimated at 36.5 million hectares (ha) in Asia and Oceania, 24.2 million ha in Latin America, and 5 million ha in Africa (figure 2.7). The amount of privately owned (established) plantations in Latin America is 18.7 million ha (78 percent of total commercial-production plantations), 5.1 million ha Asia and Oceania (14 percent), and 0.3 million ha in Africa (6 percent).[5]

FIGURE 2.7. AREA OF PUBLIC AND PRIVATELY OWNED FOREST PLANTATIONS IN 2011 IN SELECTED REGIONS



Source: Indufor Plantation Database.

Total private forest plantation investment in developing countries is estimated at US$1,763 million in 2011, excluding investments in REDD and landscape restoration or investments by private households, local communities, and most SMEs. Most of the investments are in industrial pulpwood production. Investments in dedicated energy wood plantations are a new development. They are taking place mainly in Latin America, but such investments have also been reported in Africa and Asia.

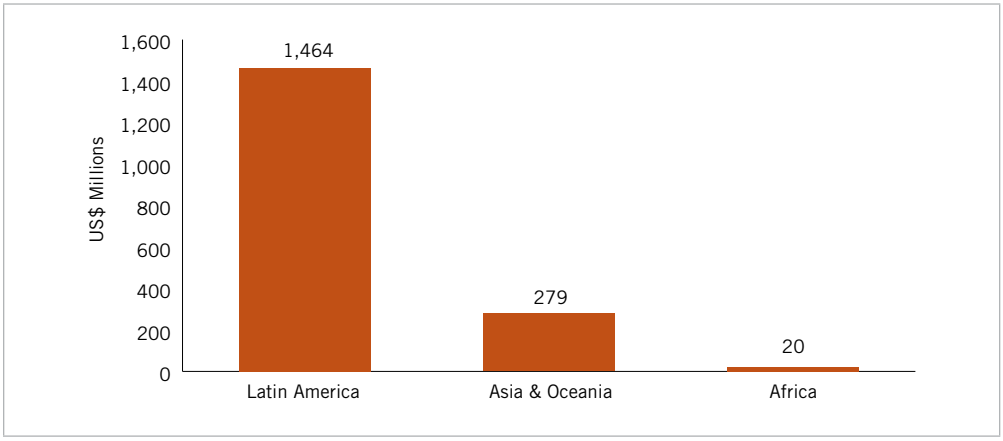
Investments in Latin America represent the majority of the total amount: US$1,464 million (83 percent), while investments in Asia and Oceania are estimated at US$279 million (16 percent).

5 Here and elsewhere in the report, plantations established for watershed and other protection purposes are not included in the statistics.

Estimated annual average private investments in plantation forests in Africa are very small in comparison to the other regions, at about US$20 million, or 1 percent of the total value. Figure 2.8 illustrates total private sector investment in forest plantations in developing countries in Latin America, Asia and Oceania, and Africa. For country-level details on private sector plantation investments and investment trends, see appendix C.

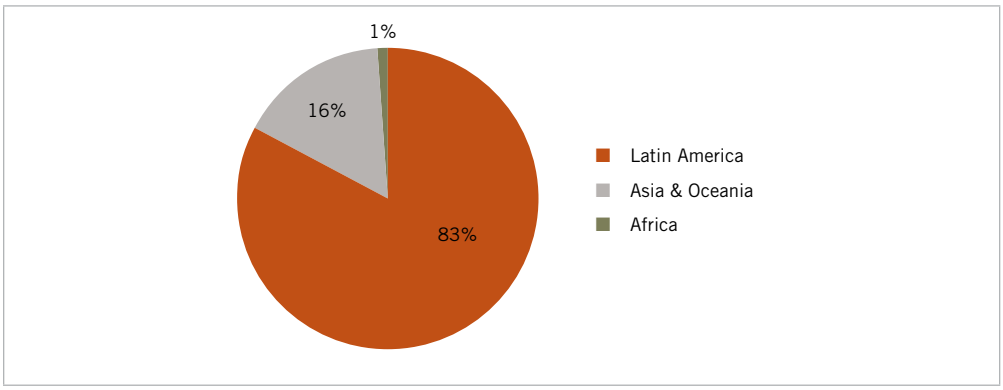
The countries included in the figures have been selected mainly because they are the most important forestry countries or because private investments have played a major role. However, for some countries with significant forest resources, no data on the share of private investments in the forest resource development were available.

FIGURE 2.8. TOTAL PRIVATE FOREST PLANTATION INVESTMENT IN DEVELOPING COUNTRIES IN 2011



Source: Indufor Plantation Database.

FIGURE 2.9. PRIVATE SECTOR PLANTATION INVESTMENT SHARE BY REGION IN 2011

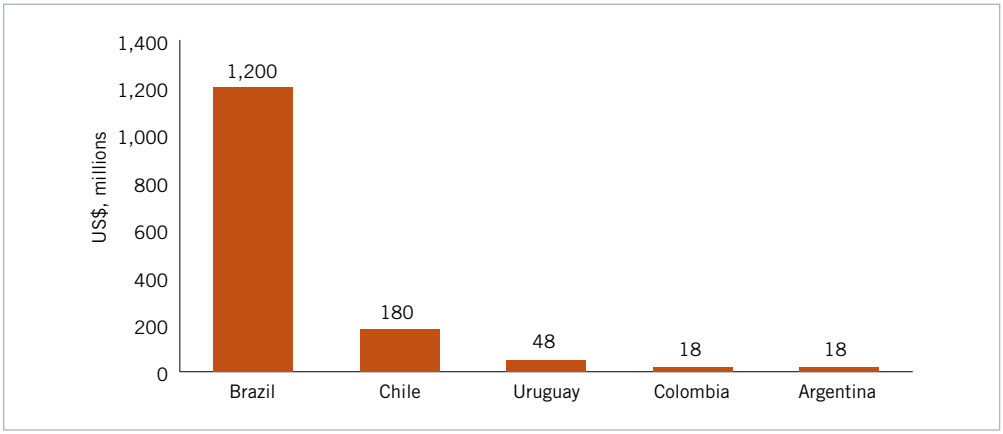


Source: Indufor Plantation Database.

Latin America

Total plantation area in Latin America is estimated at approximately 24.2 million ha, of which about 18.8 million ha are estimated to be privately owned. Major investments are concentrated in five countries: Brazil, Chile, Uruguay, Colombia, and Argentina (figure 2.10).

FIGURE 2.10. PRIVATE SECTOR PLANTATION INVESTMENT IN LATIN AMERICA BY COUNTRY IN 2011

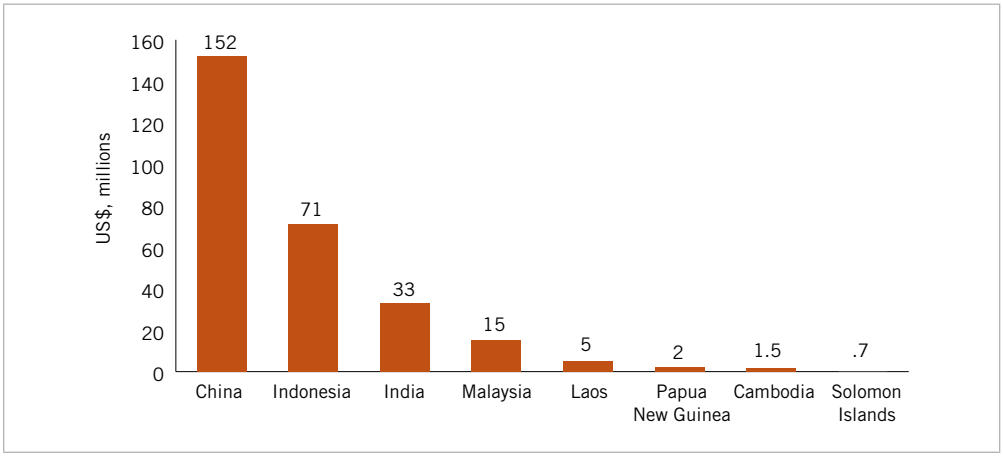


Source: Indufor Plantation Database.

Asia and Oceania

There are an estimated 36.5 million ha of productive industrial forest plantations in the developing countries of Asia and Oceania, of which about 5.1 million ha are privately owned (Indufor Plantation Database). Two major plantation countries stand out (figure 2.11). In China and Indonesia, there are about 2.8 million ha and 1.6 million ha of privately owned forest plantations, respectively.

FIGURE 2.11. PRIVATE SECTOR PLANTATION INVESTMENT IN ASIA AND OCEANIA BY COUNTRY IN 2011



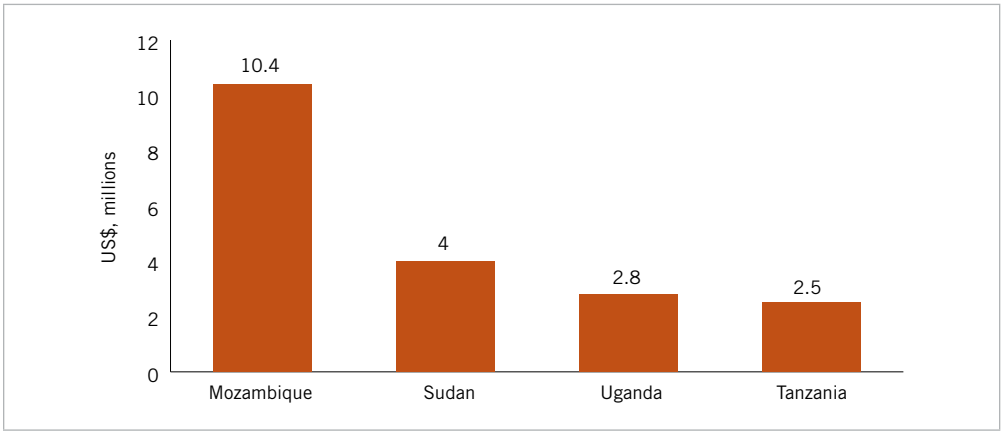
Source: Indufor Plantation Database.

Africa

The total forest plantation area in Africa is small on a global scale, about 4.9 million ha, and an even smaller portion, about 274,000 ha is estimated to be in private ownership. Figure 2.12 shows investment levels in selected African countries. Some countries, such as Ghana and Liberia, could not be included, because reliable data on private sector investments were not available. South Africa is a major plantation country, but is not included because in recent years there has not been much ***new*** greenfield investment and expansion. Most of the investments, for example by TIMOs, have been acquisitions of existing assets.

Domestic investment into small and medium scale plantations is increasing. According to Ruhombe (2012) in Uganda plantation investments grew four-fold from 2002 to 2008, much of which has been accredited to domestic small scale tree growers benefiting from the support of a specific PPP incentive scheme. Outgrower schemes have been used to facilitate small scale production. Plantation investments in Africa are likely to increase in the future because of favorable market conditions and low production costs. According to Green Resources (2011), plantation establishment costs in East Africa are very competitive, which explains their interest in expanding forest plantations in Tanzania and Mozambique. Also the European Investment Bank (EIB) (2011) foresees expansion of round wood production in Africa with estimated 25 percent increase in 2005–30. See also a recent Indufor (2013) report for an analysis of forest financing in Africa.

FIGURE 2.12. PRIVATE SECTOR PLANTATION INVESTMENT SHARE IN AFRICA BY SELECTED COUNTRIES IN 2011



Source: Indufor Plantation Database.

CLIMATE-CHANGE-RELATED PRIVATE INVESTMENT IN SFM

KEY MESSAGES

There is no readily available information on climate-change-related private forest investments. It is estimated—based on a combination of sources—that the private sector has invested in or contributed to REDD+ demonstration projects cumulatively between US$600 and 800 million.

Inadequate data on private sector engagement in forest and climate change projects makes it difficult to estimate the total private sector contribution. Indufor review of afforestation/reforestation (A/R) and REDD+ projects from third party standards websites and databanks revealed that about 200 forest and climate projects globally account for emission reduction. Previous studies have suggested that most projects are being developed in Latin America, where the private sector is a more important source of finance than it is in Africa and Asia.

Most REDD+ initiatives appear to be financed by public sources and only one-third of the projects have significant investments or other contributions from the private sector. Financial data were available on 73 percent of these projects. The total accumulated amount is about US$360 million,[6] from a wide range of private actors such as Air France, Marriot International, Marubeni Corporation, Coca Cola, BNP Paribas, The April Salumei Foundation, American Electric Power, British Petrol, and PacifiCor.[7] This list already demonstrates the wide range of private actors engaged in REDD+. A selection of these projects can be found in appendix F.

Indufor estimates[8] that REDD+ projects financed by the private sector, but for which amounts are not disclosed, represent about US$24 million of private sector investment or other engagement. Therefore, the total cumulative private sector investment and other contribution to REDD+ projects identified under this study sums up to US$384 million.

To complement these data, several REDD+ funds (appendix) recently created to invest in REDD+ at large scale, were identified. There are at least five funds being driven by private sector actors with considerable private investment sources: BioCarbon Group Pte Limited, Althelia, Livelihoods Fund, Conservation International Carbon Fund, and Terra Global Investment Management. The aggregated amount of the five funds is about US$430 million. However, as some of the funds are also attracting public sector contributions, the private sector contribution could be in the range of US$300–400 million.

Based on these two set of information (identified REDD+ projects and REDD+ funds), it can be concluded that the private sector is investing in and contributing to REDD+ demonstration projects in a cumulative range of US$600–800 million.[9]

6 Note that project length varies. The average is about 30 years, but there are projects proposing to last for 99 years. The first projects started in the 1990s, and some will finish as late as 2090.

7 Several projects rely heavily on the sales of carbon credits.

8 Based on a combination of public and confidential information from various sources; a consultant estimate prepared for the study.

9 Due to the confidentiality of some of our sources, the source information cannot be fully disclosed in a tabular form (however, see appendix F for examples of non-confidential information). Serious attempts at cross-checking have been made to avoid the risk of double-counting, but Indufor cannot fully guarantee that there is no double-counting.

3 ASSESSMENT OF THE QUALITY OF INFORMATION AND DATA SOURCES

CONCLUSIONS ON DATA AVAILABILITY AND LIMITATIONS

KEY MESSAGES

FDI data, of varying quality, are reasonably well available on processing but not on forest management nor on plantation investments.

Data on domestic investments are not available in most developing countries.

The key conclusions on data availability and limitations are:

- In public databases (for example, International Trade Center, UNCTAD, OECD/CRS, OECD/DAC, Eurostat) data are available for FDI but not for domestic investments or portfolio investments;
- International public databases depend for the most part on national reporting organizations, and hence the available data is of varying quality (box 3.1, box 3.3);
- Data on processing are more widely available than data on forestry investments (box 3.2);
- Cross-country comparison suffers from different data collection methodologies and double-counting of international flows (box 3.3); and
- Multi-sectoral nature of forest investments makes classification of investments difficult and often inconsistent (box 3.4).

BOX 3.1. FDI DATA SOURCES

FDI is recorded in the financial account of the balance of payments, which is part of national accounting. Typically, central banks and similar institutions report data for investment databases. Different types of investment flows, such as greenfield investments, are generally not recorded separately in public databases. However, the private sector for-fee database, the fDi Markets of the *Financial Times*, provides sector-specific data on cross border greenfield investments. The methodology of this database differs from that of the public databases because the fDi Markets collects data through media search streams. Public databases often use fDi Markets' data to complement the data collected from countries.

BOX 3.2. FDI DATA LIMITATIONS

Public databases typically report forest sector data under manufacturing for "wood and wood products," which includes FDI into processing of wood, wood products, pulp, and paper. Data collection methodology would allow collection of FDI on forestry but databases typically report aggregate data for primary sector "agriculture, forestry and fisheries." Under that class, a sub-class "forestry" exists but data are not available, likely due to limited country reporting. However, even if the data on forestry investments were available, there would be major challenges in separating investments in sustainable natural forest management from exploitative, unsustainable investments, which tend to dominate in many parts of the developing world. The investments into sustainable natural forest management would include a variety of activities, such as forest rehabilitation, land use and forest management planning, road construction and maintenance, forest monitoring, and certification. Compiled data on such investments are not readily available for developing countries except in (usually) one-off case studies.

Public databases do not report data on investment into forest plantations separately. The alternative data source, the fDi Markets, does not provide disaggregated data for forestry investments, only for processing. Some private forestry and forest industry consulting companies have databases on private greenfield plantation investments.

QUALITY OF PUBLIC DATA SOURCES

Data comparisons across countries and time series should be considered indicative based on issues concerning data comparability discussed in this chapter. The reliability of FDI flows is an issue to all public databases. FDI data cannot be reliably compared across countries because of the following key challenges:

- Many reporting countries depart from common definitions and do not collect data for all FDI components (box 3.3).
- Countries differ in methods for data collection (box 3.3).
- Some FDI can be counted more than once, if intermediary financing entities are used (box 3.3).
- All forest sector investments are not recorded under the forest sector because of the recording methodology (box 3.4).

BOX 3.3. MAJOR CHALLENGES OF DATA QUALITY

The International Standard Industrial Classification (ISIC) of All Economic Activities is a United Nations system for classifying economic data. Global and regional databases typically use ISIC or a system derived from ISIC. Common classification helps when combining data from multiple sources, as long as the classification system and respective revision used are known. (UN 2008)

According to UNCTAD (2008), there is a notorious lack of comparability of the FDI data of different countries. Most reporting countries do not fully follow common definitions, for example, those of the International Monetary Fund (IMF), and do not collect data for each component of FDI (equity capital, reinvested earnings, and intra-company loans). According to UNCTAD, it is often difficult for a country to comply with the recommended definitions and report on all three components. This is because data are derived from foreign exchange records of the central bank and, hence, are only able to account for capital that crosses borders, not reinvested earnings. The same applies for domestic investments; they are not recorded by these institutions because the capital does not cross a border. For this reason, some countries supplement their exchange records data with annual company surveys.

Countries also differ in data collection methods. Many countries do not follow the IMF *Balance of Payments Manual*, which is the primary guide for countries compiling balance of payment statistics and related data on international investments. According to UNCTAD (2008), there are difficulties of identifying the ultimate beneficiary as opposed to the immediate beneficiary of FDI. When funds are channeled, for example, through holding companies or intermediary investment funds, these are likely to be recorded rather than the ultimate investment entity and country. This leads to inaccuracies in geographical and sectoral distribution of FDI, and can also lead to double-counting investments channeled through holding companies or intermediary funds, which can be seen, for example, in significant forest investments in Singapore.

According to the International Trade Center, double-counting "results in a non-negligible overestimation of world FDI flows." According to UNCTAD (2005), double-counting results from the use of special purpose entities (SPEs)—that is, financing intermediary entities. SPEs are regularly established in low-tax countries and used to channel the funds to, and borrow funds from, third countries, and have no economic activity of their own. The statistics employed by OECD Stat are able to overcome double-counting caused by finance intermediaries.

Sources include: UN 2008, UNCTAD 2005, 2008, IMF

BOX 3.4. MULTI-SECTORAL NATURE OF FOREST INVESTMENTS

One major challenge affecting data reliability is the multi-sectoral nature of forest investments. An investment into forest land can be recorded under other sectors such as real estate or the financial sector. Databases generally record FDI inflows according to the sector of the receiving company, and the company receiving forest investment might not be registered as a forest sector company. For example, in the OECD Stat, besides the relevant class "wood, publishing and printing," there are at least two other classes under which forest relevant investment can end up recorded: "financial intermediation" and "real estate, renting and business activities." Forest investments (FDI inflows and outflows) by the financial sector, such as timberland investment funds, are often recorded not under forestry but under finance or real estate. Investments in tree crops such as rubber wood are typically recorded under agriculture.

In a specific case, the greenfield FDI investment data used in the 2012 UNCTAD World Investment Report (WIR) are based on information provided by the fDi Markets of the *Financial Times*. The WIR tracks all new cross-border greenfield investment projects and expansion of existing investments. In some cases, the data refer to estimated rather than actual amounts of capital investment. According to the fDi Markets, "Information sources to collate and validate those projects include *Financial Times* newswires, nearly 9,000 media sources, project data received from over 1,000 industry organizations and investment agencies, data purchased from market research and publication companies. The data are cross-referenced against multiple sources and over 90 percent of them are validated with company sources." The data are classified according to the North American Industry Classification System, but the classes are also slightly modified, so comparisons to other data sources can be considered indicative.

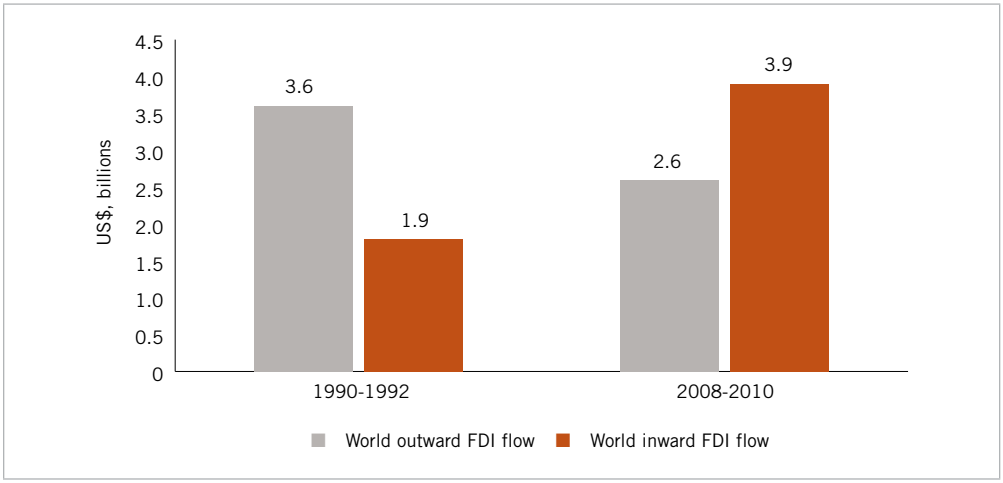
Sources include: UNCTAD 2008 and 2012, OECD Stat statistical database and fDi Markets

The discrepancy between FDI outflow and inflow data exhibits the unreliability of the data. Figure 3.1 illustrates the magnitude of discrepancies between FDI outflow and inflow data. According to UNCTAD (2011b), the reasons for the discrepancies are:

- Different methods used by host and home countries recording the same transactions;
- Uneven coverage of FDI flows between countries (for example, treatment of reinvested earnings);
- Different exchange rates used for recording FDI transactions; and
- Increasing sophistication of FDI-related transactions (in the same package involving funds from parent firms, government loans, and development assistance) often make it difficult to attribute exact values to FDI.

According to UNCTAD 2011a (page 6), "considerable efforts by UNCTAD and other international organizations are underway to harmonize definitions and data collection, it can be expected that the discrepancy between reports on inflows and outflows will narrow over time."

FIGURE 3.1. ESTIMATED WORLD OUTWARD AND INWARD FDI FLOWS FOR WOOD PRODUCTS IN 1990–92 AND 2008–10 (US$, BILLIONS)



Source: UNCTAD (2012).

ASSESSMENT OF THE QUALITY OF INFORMATION AND DATA SOURCES: REDD+

Challenges associated with estimating private sector investment in climate change include the following:

- Lack of clarity on what private sector investment means. For example, some private companies "donate" resources without requiring a return, and some private companies or foundations channel resources through nongovernmental organizations (NGOs) without making such transfers public.[10]
- Up-front finance values, as well as carbon sale transactions and amounts, are hardly ever disclosed to the public.
- There is no central databank to track private sector contributions to forest and climate projects worldwide. Sources such as the Voluntary REDD+ Database[11] and the REDD Desk[12] only list pledges made by developed countries (that is, public resources), and a bulk amount being allocated to a specific (readiness or demonstration) project, without discriminating between sources. Additionally, the United Nations Framework Convention on Climate Change (UNFCCC) does not require countries to report contributions that come from the private sector.
- Several standards or schemes[13] available in the marketplace set rules for projects to be developed. These schemes keep a list of projects being implemented under their framework, but a quick

10 In some cases, an NGO contributes financial resources to "'jump start" an investment fund, when it is not clear where these resources originate; for example, the Althelia Fund received US$1.35 million in seed financing from the environmental NGO Conservation International late last year to "jump start" the fund.

11 Available at www.reddplusdatabase.org.

12 Available at http://www.theredddesk.org.

13 Standards and registries include: Clean Development Mechanism (http://www.cdmpipeline.org); Verified Carbon Standard (http://www.vcsprojectdatabase.org); Climate, Community and Biodiversity Alliance (http://www.climate-standards.org/category/projects/); Plan Vivo; American Carbon Registry; and Carbon Fix (now Gold Standard).

review of some Project Design Documents reveals that they do not provide information on up-front project financing.

- Some projects report on the funds already committed while others focus on the total amount of funds needed from the private sector.

4 CASE STUDIES—EVIDENCE FROM PRIVATE SECTOR FOREST FINANCING

CASE STUDIES

The case studies presented below focus on analyzing constraints to private financing and lessons learned in resolving these constraints. Case studies are not systematic and the sample is relatively small. Rather, they have been selected strategically to represent relevant country, investor, and industry typologies. Detailed case studies include Brazil, Malawi, Tanzania, Lao PDR, and Russia (emerging country cases). These case studies are presented in detail in appendix E.

In addition, this study includes reviews of two major types of international investor categories: *timberland investors and funds and commercial plantation developers*. In the following sections, the challenges faced by international timberland investors in investing in developing and emerging countries are analyzed, along with basic factors constraining or driving commercial forest plantation investments in Argentina, Brazil, China, Indonesia, Malaysia, other countries in Southeast Asia, and Africa.

Thorough analysis of the factors influencing the financing trends is beyond the scope of this study. However, the various case studies combined with analysis of investment flows in selected countries provide a good basis for drawing some conclusions.

The case study countries represent situations faced commonly by a range of investors (smallholders, SMEs, large forestry and forest industry companies, timberland funds, concessionaires). They cover Asia, Africa, and Latin America and small and large countries at different stages of development. They enable more global observations concerning factors positively influencing investment flows and also factors acting as barriers to domestic and foreign forestry investments.

OPPORTUNITIES AND CHALLENGES IN PRIVATE TIMBERLAND INVESTMENTS: INSTITUTIONAL TIMBERLAND INVESTORS

Institutional Timberland Investment Trends

KEY MESSAGES

The institutional timberland investment universe is expanding, creating potential for emerging and developing countries.

The total volume of institutional timberland investment into developing and emerging countries is still quite limited, and heavily focused on only a few countries in Latin America.

International timberland investment by timberland fund managers that is financed primarily by institutional investors such as pension funds and endowments has emerged as new source of financing for sustainable forestry asset development in developing countries. Total assets under management have already reached US$80 billion globally, most of it in the developed countries.

Global institutional timberland investment has its origin in the United States, which still dominates the sector with an estimated 70 percent of the total global investment value, followed by New Zealand and Australia. The key underlying drivers for the emergence of this investment class are the forest industry companies' need to concentrate on their core manufacturing business, bolster balance sheets and shareholder value, and increase liquidity. This often means divesting forest and land assets. For their part, institutional investors drive the change by seeking investment opportunities in alternative asset classes in order to diversify their investment portfolios. Increasingly in the case of greenfield investments—in developed or developing countries—industrial assets and plantations are separated. This creates space for timberland investors, who can supply wood raw material to the industries.

In the United States, forest product industries have more or less divested their timberland assets; presently, secondary markets dominate. A similar divestment process is starting taking place beyond the United States, bringing investors, timberland funds, and industry together for mutual benefits to be derived from timberland investing (PEI 2010).

The global timberland investment universe is expanding beyond the United States and developed countries, driven by several forces including the following:

- The U.S. market has become very efficient, which, combined with poorer long-term prospects of the U.S. forest industry, has dampened return expectations. Investors and timberland fund managers are looking for new markets with more attractive return expectations and growth opportunities.
- In Europe, many industrial forest owners are following the American model and divesting their forest assets. At the same time, increasing demand for wood-based bioenergy all over the world has opened opportunities for partnerships between power companies or energy-using industries, and timberland investors. In Europe the key driver for the increasing demand is European climate and energy policies and related subsidies for bioenergy. This trend is also visible in Latin America (for example, wood biomass supply to fuel the pig iron industry).

- In the former communist countries in eastern and central Europe, a lot of forest assets of varying sizes have been privatized and are looking for active managers after the restitution processes. Timberland investment funds are increasingly entering these markets and offer a useful vehicle to improve the efficiency of forest management.
- A major structural change is taking place in the global forest industry. Rapid economic growth in emerging countries—led by China and India—is driving the global demand for forest products and the location of new forestry and forest industry investments.
- Over time, forests will become an increasingly scarce resource, resulting in positive long-term price developments and incentives to expand the forest resource base through new, more productive plantations. These will be increasingly established in developing countries.

In the past 5-10 years, funds specialized in timberland investment in emerging and developing country markets have been introduced in both the United States and Europe. According to Dasos Capital (2013) there are currently about 25 TIMOs in the United States and about 10–12 funds in other countries managing timberland investments, with a total value of some US$70–85 billion. New players, such as International Woodland Company funds, Dasos Capital, Cambium, New Forests, the Forest Company, and Phaunos, have entered the market. Many of the smaller fund managers offer institutional investors access to this broadening timberland investment universe and to new geographic markets and investment strategies. Further, in Brazil and Chile, one can find national or regional forestry funds.

However, despite these developments, the total volume of institutional timberland investment into developing and emerging countries is still quite limited and heavily focused on Latin America, and even there, in only a few countries. The available data on private investment flows in forestry demonstrate clearly that Brazil, Uruguay, and Chile account for some 80 percent of the institutional timberland investment into developing countries. There are only a few (five to seven) known investment cases in Africa and even less (four) in Asia, and none of these are big.

Main Barriers to Investing in Developing Countries and Frontier Markets

The following analysis is based on the experiences of one of the leading European timberland investment funds, which has raised some US$330 million for investing in developed and emerging or developing countries, and on a review of recent studies on challenges attracting timberland investments into developing and emerging countries (Glauner et al. 2012, Tomaselli 2009, and PEI 2010). It draws on an assessment of more than 50 forestry investment pre-due diligence and due diligence cases covering Asia, Africa, and Latin America, as well as Europe.

During the past 10 years, the value of forest investments has continued to increase rapidly: 2005–06 institutional investments in timberland were estimated to be US$15–30 billion, of which 91 percent were in North America, 5 percent in Oceania, and less than 4 percent in emerging markets. By 2008, the estimated allocation of total investments had increased to more than US$50 billion, and at present they are estimated at about US$75–80 billion.

The emerging markets' share of timberland investments has grown as the drivers behind the higher returns, identified during the 1990s, have become stronger. In addition, new rising trends, such as environmental services, climate change mitigation, and demand for wood-based energy, have enhanced the attractiveness of emerging markets. Most of these investments go to a few countries,

including Brazil, Chile, and Uruguay. Timberland investments in Africa and Asia are still nascent but growing. With support from the British development finance institution, the Commonwealth Development Corporation (CDC), the Africa Sustainable Forestry Fund was launched in 2010, but the fund has faced challenges raising capital from the private sector.

The barriers to investing in developing and emerging countries must be analyzed at two levels: (i) institutional investors' portfolio allocation principles influencing forestry as an asset class; and (ii) portfolio allocation policy and principles of an operating forestry fund (investment manager).

KEY MESSAGE

Most of the mainstream institutional investors beyond the United States do not yet have timber as a clear asset class in their portfolios.

Forests is a well-established asset class among institutional investors mainly in the United States, Australia, and New Zealand. The asset class is becoming better known in Europe and Latin America, but the reality is that most mainstream institutional investors beyond the United States do not yet have timber as a clear asset class in their portfolios. Those who do may have it in their real estate portfolio, or in an alternative asset class, or in a category of "inflation hedge" products like in case of the California state pension fund (CALPERS). Whatever the case, timberland's share of the portfolio is very small and it has to compete against much more familiar and established assets like real estate. In fact, the big challenge in Europe is still to make the institutional investors understand the product and recognize the asset class. When they do, their primary interest is in investing in safer markets in the United States and Europe; not in developing countries. In the United States, institutional investors with good knowledge of the asset class have already gradually started venturing into emerging countries.

When considering timberland investment returns and risks at a micro level, it is important to understand that risk-adjusted[14] returns vary greatly by region. As in the case of any (financial) security, the return and scope for arbitrage of timberland investments are related to the "perfectness" of information and "efficiency" of the market. The discount rate must reflect the availability of information (risks) and efficiency of the market. In effect, this means that expected returns should be 10 percent (or even more) higher to compensate for all the risks. In practice, it is very difficult to find such investment targets (17–25 percent) in developing countries, so they may be screened out during the due diligence process, or even earlier.

Ultimately, the question is about risk-adjusted return expectations. A review of the latest country risk premiums[15] demonstrates the point. The country risk premium for the United States and Finland is zero, for Brazil 2.63 percent, for Argentina 9 percent, for Uruguay 3 percent, for Nicaragua 9 percent, for South Africa 2.25 percent, and for Senegal 6 percent. For most African countries, one cannot obtain country risk premiums at all. The applied discount rates for investments in Brazil and Uruguay are much lower than for Argentina, which partly explains why Brazil and Uruguay have been favored.

14 A concept that refines an investment's return by measuring how much risk is involved in producing that return. The investor will not only look at the expected return but needs to have returns that are comparable with each other after adjusting for risks, which vary between countries and also by the nature of the investment (greenfield investment has usually higher risks than a brownfield investment).

15 Aswath Damodaran. http://people.stern.nyu.edu/adamodar/

Box 4.1 demonstrates how in investment calculations, higher country risk leads to higher expected (required) returns.

BOX 4.1. EXAMPLES OF INVESTMENT CALCULATION FORMULAE

Weighted Average Cost of Capital (WACC) is calculated as follows:

Cost of equity, R_E

$R_E = R_f + ß_E * (R_M - R_f)$

R_f is the risk-free rate

R_M is the expected return on the market (higher for riskier markets)

$ß_E$ is the systematic risk of the equity

$ß_E * (R_M - R_f)$ is the market risk premium

Cost of debt, R_D

Cost of the used debt instruments:

$WACC = (E/V) * R_E + (D/V) * R_D$

E is the market value of firm's equity

D is the market value of firm's debt

$V = (E+D)$

Note that discount rate is firm- and asset-specific in addition to country-specific.

In the future, a shift of focus by investors from mature areas (North America, Oceania, and parts of South America) to new regions and countries can be expected. Investors are conscious of, in addition to the direct financial result, their reputation. As the global competition for arable land will most likely intensify, investors may tolerate higher risks and move to new, more demanding areas in the future. Investors from Asia, mainly China and India, are already active in the land markets in Africa and South America. Africa will become a more desired location and new areas will be explored in South America. Asia will continue to be an attractive target for investors, in spite of concerns regarding quite challenging land lease processes in some countries and concerns for environmental performance.

BOX 4.2. SELECTED EXPERIENCES IN TIMBERLAND INVESTING IN DEVELOPING COUNTRIES

A leading European timberland investment fund has been investing in international forestry assets since 2009. The allocation of investments of this fund follows the global statistics quite closely. Most of the investment has gone, and is likely to go, to developed countries. This reflects partly the fund's investment policy that targets developed countries but also the challenges of investing in developing countries.

In practice, these challenges are reflected already during fund-raising. It is not easy, or sometimes even possible, to arrange meetings with many of the biggest pension funds in Europe because they simply do not have forestry as an asset class. Those who are interested in timberland investments are mainly driven by the expectation of low volatility, low correlation with other asset classes (portfolio diversification benefit), and the perceived low-risk nature of forestry investments and their capability to act as an inflation hedge. The big question in the minds of the institutional investors is whether forestry investments in developing countries provide these benefits.

On the contrary, for many institutional investors the combination of a new or relatively new (alternative) asset class and a developing or emerging country is seen as too risky. Some of the contacted institutional investors were not interested in the fund simply because its investment policy allowed investments in developing countries. In one case, a meeting was aborted midway because the pension fund saw it as a waste of time because Russia and African countries were included as potential investment targets. In the end, two major institutional investors committed tens of millions of dollars but at the same time influenced the fund investment policy so only three African countries could be considered for investments. Forestry in developing countries is often seen as a major reputational risk, and investors would rather stay out of it, particularly investment in natural forests. The European Investment Bank's forest investment policy does not allow investment or provision of loans to projects associated with utilization of tropical natural forests.

A timberland investment manager must be responsible for its clients—the institutional investors—for taking good care of the money and providing an acceptable return to the investors. This is to everyone's benefit. The risk management policy influences greatly how investments are allocated. Very good growing conditions, cheap available fertile land, favorable domestic markets, availability of qualified local forest managers, and good access to major international markets can compensate for the additional risks. However, in practice, various risks act as investment barriers. In the case of this fund, the most serious barriers to investing in developing countries have been, and still are, the following:

- Lack of political and economic stability;
- Weak governance systems overall and also specific to forestry (reflected, for example, in extensive corruption and weak enforcement of contract legislation);
- Limited availability of good quality land at a reasonable price in countries currently favored by investors;
- Difficulty having the forest certified under Forest Stewardship Council (FSC) standards due to strict conversion rule (areas which have been converted to plantations after 1994 are not eligible);
- Lack of easily available information on sites, growth rates, matching species to sites;

(box continued on next page)

- Risks of land conflicts because of weak (forest) land tenure and inadequate (enforcement of) property rights;
- Lack of capable, reliable local partners and management and leadership skills (can be overcome with right leadership and training);
- High transaction costs affecting the entire investment cycle; and
- Weak domestic markets for forest products, and limited exit opportunities (a common problem in many developing countries).

OPPORTUNITIES AND CHALLENGES IN PRIVATE TIMBERLAND INVESTMENTS: INDUSTRIAL PLANTATION INVESTMENTS IN DEVELOPING AND EMERGING COUNTRIES

The analysis of private sector investment flows makes it clear that financing flows are uneven (chapter 2). This is natural because the investment contexts (opportunities and risks) vary significantly. Most industrial investors are ultimately after a profit in growth markets, although some may also have social and environmental objectives. Small (household) investors often have multiple objectives including contributing to subsistence needs and security.

Commercial investors' investment decisions are influenced by many factors beyond the forest sector policy instruments and measures that can influence parts of the investment environment.

KEY MESSAGES

For most international industrial investors, intrasectoral factors such as growing conditions, good and safe access to quality land, and access to growing markets may carry more weight than the business climate.

The following have been identified as ***common key factors for success*** in stimulating both domestic and private industrial forestry investments:

- Ease of land acquisition and clear land tenure arrangements;
- Strong demand for wood in domestic industries or in areas close by; size and growth potential of the domestic and export market;
- Abundant skilled workforce;
- Access to arable land and suitable climate; good or excellent growing conditions;
- Lack of competition from other crops and land uses;
- Access to sea routes or other infrastructure;
- Local government willing to subsidize investments; and
- Supportive overall investment climate, including political and economic stability, presence of "rule of law," simple and fair taxation, security of land tenure, and simplified bureaucracy.

Existing large domestic markets for roundwood in several sectors including pulp production, sawmilling, wood-based panel production, and bioenergy have turned out be very important investment drivers in countries such as Brazil and China.

In the following sections, the various factors influencing allocation of private sector investment flows are described for selected countries.

Brazil

The main driver of the plantation investments since the 1990s has been industrial development supported by foreign investments, development bank loans, and financing from local sources, mainly from the Brazilian National Development Bank (BNDES). The *key factors for favorable forest investment development* have been:

- Available land;
- Good growing conditions;
- State-of-the-art plantation technology;
- Infrastructure;
- Access to markets;
- Environmental legislation;
- World's largest area of arable land;
- Possibility to coppice eucalyptus stands; and
- Use of eucalyptus in pulp, saw logs, poles, bioenergy, and tree-based carbon trading.

The key factors that have enabled increasing participation of small- and medium-sized tree growers are:

- Social pressures to assist local communities;
- Raw material sourcing; and
- Collaboration with formal companies (technology and market access has increased professional tree growing).

Argentina

In Argentina, domestic direct investment (DDI) dominates forestry sector investments; the share of FDI has been only 10–20 percent annually. The government has actively promoted private tree growing through different schemes starting with the Forest Plantations Promotion Regime in the 1990s. This scheme provided direct financial support as subsidies. The 1999 Forest Promotion Law introduced a scheme that promoted investments in forestry through a combination of tax benefits and financial subsidies. For example, Argentinian policies provide an incentive value-added tax refund (21 percent) on the purchase of goods and services used in investing in new forest plantations. As a result, plantation area has started expanding, creating jobs in rural areas.

However, FDI flows in the Argentinian forest sector have remained limited. There have been no major foreign industrial or large-scale plantation investments, even with available land and growing conditions as favorable as in Uruguay. Even TIMOs have not shown much interest in Argentina.

Political instability and insufficient financial discipline in Argentina are the overriding reasons for low volumes of forestry FDI. As a recent example, the conflict over construction of the Metsä Botnia (later UPM-Kymmene) pulp mill in Uruguay positioned the Argentinian government as an opponent of forest industry and rational business development policies in the minds of many investors.

China

China is the world's biggest and fastest growing market for many forest products and wood fiber, the main driver for industrial investments and plantation development in the country. The country is suffering from a critical wood deficit, an important investment factor in China, that has led to rapid increase in wood imports. Among the fast-growing emerging markets, China is the definite "hot spot" for wood fiber flows and forest-related investments in the world. China has recently become the largest paper market in the world and demand is expected to increase by 5–7 percent a year. China's pulp production increased by 120 percent during the past 10 years (10 million tons in 2011), requiring an additional 25 million m^3 of roundwood annually. More notably, between 1990 and 2010, production of paper and board tripled, production of sawnwood quadrupled, and production of wood-based panels increased fivefold. This type of growth has attracted major FDI in recent years despite major barriers to private foreign investment. China is a good example of a country where barriers related to the overall business environment, which would practically stop FDI in most countries, are compensated for by the huge, rapidly growing market, providing significant revenue-earning opportunities.

KEY MESSAGES

In China, the main barriers are related to scarcity of land and bureaucracy, but these are compensated for by rapid growth in the market.

The *main barriers* are related to *scarcity of land and bureaucracy*. For Western companies, acquisition of land can be very time-consuming because of an unstandardized, complex process of land tenure license transfer, bureaucracy, corruption, risk of social conflicts, and related reputational risks. In a number of investments, these problems have materialized; investors have *problems with land tenure,* which have resulted in conflicts, delays, and major reputational damage. TIMO's generally view China as too risky, and hence their investments in China have been minimal compared with those made by domestic and international forest industry.

Indonesia

Indonesia's plantation sector has been expanding fast, driven mainly by DDI, supported by various government incentives that have changed over time. Indonesia's population and economic growth, coupled with an increase in domestic demand for wood products and fiber, and proximity to Chinese markets are driving domestic investments.

Most of the plantation expansion is based on clearing degraded natural forests. Related global reputational risks together with the scarcity of suitable free land are major barriers to FDI in the Indonesian forest sector. There have been no investments by TIMOs in Indonesia, primarily because of corporate governance issues (corruption), and social, environmental, and reputational risks. It is very difficult to find areas that could become SFM certified, and there are also problems with land

tenure that can cause social conflicts. Further, all the land is owned by the state, and lease and concession regulations are often unclear.

There is intense competition for land with traditional agricultural land uses and, particularly in the past decade, with the major expansion of palm oil plantations. Some sources estimate that oil palm is over 10 times more profitable than pulpwood plantations. Only a few industrial investment programs have attempted to attract investments, with poor results. Also, the success of the REDD+ program in Indonesia is not assured because the carbon price is not high enough to compete with revenues from palm oil production. This will constrain private sector investments in sustainable natural forest management.

Indonesia is an example of a country unlikely to attract major FDI (maybe with an exception of FDI from China) in the forest sector unless there are major improvements in the overall governance of the sector. Good growing conditions, large domestic markets, and good access to the fastest-growing market for forest products to China have not been enough to compensate for all the risks. These various risks are reflected also in a high country risk premium.

KEY MESSAGES

Global reputational risks together with the scarcity of suitable free land are major barriers to FDI in the Indonesian forest sector.

Malaysia

The expansion of forest plantations in Malaysia is driven by export demand, especially to China but also to Vietnam. The government has a policy supported by an incentive scheme to establish 25,000 ha of plantations annually. However, the program is available only for Malaysian companies.

Based on general investment climate indicators (for example, Doing Business by the World Bank Group), Malaysia is one of the most attractive Southeast Asian countries for investors. Growing conditions are favorable and access to Chinese and other Asian markets is good. All the land is owned by the state, but there are clear policies and legislation providing long-term secure land tenure. Political and economic climates are stable and tax policies favorable. The country risk premium is low. These are key factors for why the few investments made by TIMOs in Asia have targeted to Malaysia.

However, there is huge competition for land; peninsular Malaysia does not have much land left for major forest investments. The available land areas are in Sabah and Sarawak where competition with oil palm and other tree crops is making large-scale investments in forest plantations challenging. In the future, Malaysia's growing furniture industry may drive opportunities in developing plantations, focusing on more valuable saw logs and veneer logs.

Vietnam, Lao PDR, and Cambodia

Investments in forest plantations remain limited in Vietnam, Lao PDR, and Cambodia. In the past, the focus has been on concessions exploiting natural forests. In Lao PDR, most of the investment in forestry has been in exploiting natural forests, although in the past decade, plantation area has increased, driven mainly by FDI, though lately there have been restrictions on plantations (see

the Lao case study). In these countries, the wood processing industry consists mainly of small-scale sawmills, wood-based panel manufacturers, furniture production industries, and woodchip producers. Industry land ownership is also scattered in small units which reduces the efficiency of operations. In small plantations, the mixture of species is very diverse and the yields are low in comparison with other Asian countries. Governance issues have been a major concern for many respectable investors.

Also, in Vietnam, foreign investments in the forest plantation sector have been increasing in the past 10 years. The most productive plantations in Vietnam are joint ventures between Korean or Japanese companies and Vietnamese state forest enterprises. These companies have invested in fast-growing acacia and eucalyptus plantations, integrated with woodchip production. Some leading European wooden furniture manufacturers and packaging paper companies have also invested in Vietnam. The Ministry of Agriculture and Rural Development has implemented a number of measures in recent years to encourage FDI in sustainable plantation forestry, including tax exemptions to businesses that invest in reforestation and wood processing projects in targeted areas. In addition, investors have received low-interest loans, support for transportation, and personal income tax exemptions for the staff. Different provinces in Vietnam compete with each other in attracting FDI, and offer additional incentives.

The introduction of the new Land Law in 2003 clarified forest land tenure in Vietnam and also enabled long-term leases with strong lease rights. Forest tenure or utilization rights by households, individuals, and the private sector, including foreign companies, is recognized and is long term. All these factors together with a rapidly growing domestic market and proximity to the major export markets explain why some major international companies have invested in Vietnam, both in primary production and processing.

KEY MESSAGES

Problems with security of land tenure and scarcity of good quality land are constraining investments in many Asian countries.

However, in most Southeast Asian countries, land scarcity is constraining major investments in sustainable plantation development. There are serious problems with land tenure; for example, in Lao PDR the government has allocated concessions, especially for palm oil, to areas where indigenous people live. Further, the Mekong countries and most Southeast Asian countries are known for serious forest governance problems. Most of the investments in forestry are for unsustainable exploitation of natural forests.

Some foreign companies have been testing investments in the area. However, a significant increase in foreign investments will not occur until there is increasing clarity and transparency in forest lease practices.

Africa

In most countries in Africa—even in areas with rich forest resources and the potential to grow tree crops—unclear land tenure, poverty, corruption, inadequate infrastructure, scarcity of arable land and skilled workers, and an unsupportive business climate often linked to political and economic

instability act as major constraints to private sector investments in long-term forestry development. Rather, the usual though not exclusive practice is to go for short-term profit and exploit existing forests unsustainably.

However, the analysis indicates that countries, such as South Africa, Mozambique, and Tanzania, with good growing conditions, adequate infrastructure, and stable policy and economic environments have been able to attract private sector investment in sustainable plantation development. Domestic markets are growing rapidly in many African countries, driven by growing economies and populations. In countries such as Mozambique, large land areas are potentially available for development. Tanzania and Mozambique have also sufficient port infrastructure and good access to the Asian market. These are some of the positive factors that explain recent FDI in forestry in these countries. However, even in the more successful countries, many foreign investors have withdrawn or have not made progress after analyzing the conditions more closely.

In Africa, the barriers are typical business climate issues (see PROFOR 2014). Inadequate infrastructure and bureaucracy as well as corruption are the main barriers to private sector investment. Domestic investors also suffer from a serious shortage of own capital and very weak access to financing.

KEY MESSAGES

Inadequate infrastructure and bureaucracy, corruption, and weak access to financing are the main barriers to private sector investment in many African countries.

5 OVERVIEW AND DISCUSSION OF FINDINGS

This chapter summarizes the main findings concerning information on private sector investment flows in the forest sector in developing and emerging countries and constraints to private sector financing. It also puts the case studies in a broader perspective by relating them to information from other sources. Further, this chapter synthesizes the findings into a conceptual framework concerning private sector investment environment determinants (constraints).

INFORMATION CONSTRAINTS

The review of existing data sources and additional analysis of private financing flows reveal some conclusions on financing trends. However, it needs to be acknowledged that there are gaps concerning the level and scope of domestic investment, in particular by smallholders, communities, and SMEs. There is increasing evidence on accelerating investments in tree growing and related small-scale processing by local controlled resource owners (for example, ETFRN 2012). Often these activities take place outside of officially classified forestland (for example, roadsides and farms) and of the formal economy, and consequently are not captured by any statistics.

Another major gap in information is related to investment in sustainable natural forest management in the tropics. The fact that tropical forests are being deforested and degraded rapidly in different parts of the world implies that many investments there are focused on exploiting the forests or converting the land (for example, into agriculture) rather than managing forests sustainably. However, there are also examples of sustainable investment in tropical forests management—by private companies, such as Precious Woods in the Amazon and Gabon rainforests and especially by communities, for example, some in the Amazon manage large areas of Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC) certified forests. Such investments are related in forest certification costs, improved forest management planning, community consultations and corporate social responsibility investments, improved harvesting practices, and so on. There are no comprehensive statistics on this type of investment nationally, regionally, or globally.[16] Therefore, the *analysis is biased toward investments in*

16 Under the Amazon Alternative (public-private partnership), 42 forest and timber companies, 5 community organizations, and 18 local and international NGOs, networks, and service providers are managing almost 850,000 hectares of FSC-certified natural forests. The target is to bring a total of 0.8 million hectares of Amazon forest under sustainable management (http://www.theamazonalternative.org/).

processing and forest plantation development, which represent the majority of the total investment universe.

KEY MESSAGES

Most private sector forestry and forest industry investments go to a few developing and emerging countries, in particular in Latin America and China.

MAIN CONSTRAINTS IN PRIVATE SECTOR FINANCING IN FORESTRY AND FOREST INDUSTRY IN DEVELOPING COUNTRIES

Most of the private sector forestry and forest industry investments go to a selected few developing and emerging countries in particular in Latin America (Brazil, Uruguay) and to China (see chapter 2). Despite recent positive developments in Africa, for example, in Tanzania and Mozambique, private sector investments in sustainable forestry (both plantations and natural forests) are there still quite limited, and pale in comparison to the investments aimed at exploiting the forest resources, frequently unsustainably. The same applies to the investments in processing; just a few countries in Latin America (Brazil and Uruguay) and in Asia (in particular China) receive most of the FDI. When it comes to the ODA flows, high forest cover countries receive the majority of the forest-ODA. Thematically, one of the major gaps is in the financing of sustainable management of natural forests in the tropics. Another major gap in many developing countries is related to the limited domestic investment in plantation development and sustainable processing. Again, there are only a few countries where domestic direct investments in forestry and processing are of significant scale such as Brazil and Indonesia.

The main constraints to financing private investments for SFM in developing countries are:

- ***High real and perceived risks in developing countries:*** political risks, insecure land tenure, currency risks, social and environmental risks, as well as reputational risks. The past can play a major role in deterring the mobilization of institutional (for example, pension fund) money for sustainable forestry in developing countries.
- ***Weak availability of both domestic and foreign equity and loan financing***, combined with limited understanding of forestry sector investments within financial institutions. It is more difficult to get international equity financing, especially for smaller projects (less than US$25 million).
- ***Insufficient access to debt financing in developing countries*** because of the domestic banking sector's low liquidity. Forestry businesses, except those interested in short-term returns irrespective of sustainability impacts, have extreme difficulty raising financing. If domestic debt financing is available, interest rates can be prohibitively high in local currency, and loan payback periods very short (from six months to three years).
- ***Debt finance is often made available only after sufficient equity is in place***, so equity and debt financing are often linked.
- ***The lack of information on forest resources and investment opportunities leads to higher (up-front) costs*** to prepare investment projects, and higher transaction costs through the investment cycle for small and medium-sized projects.

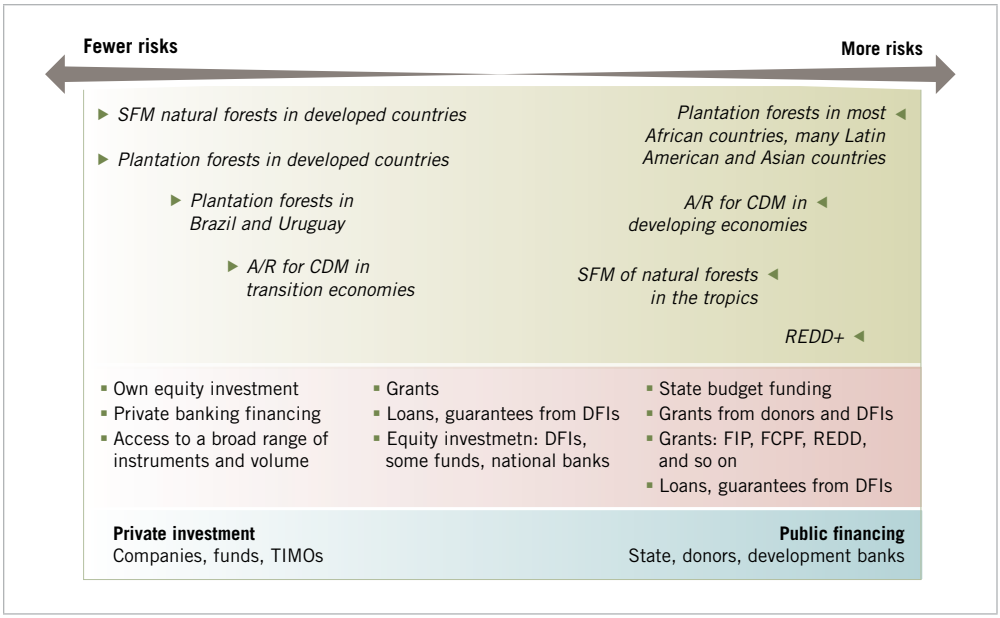
- The public goods nature of some aspects of the investment cannot be translated to cash flow benefits because there are not enough markets for environmental services.

SUSTAINABLE FOREST INVESTMENTS AND ACCESS TO FINANCING

Figure 5.1 demonstrates conceptually where the gaps are in terms of access to financing of SFM and access to various financing instruments, and where private sector financing is playing a key role.

Investment in sustainable natural forest management in *developed* countries in temperate and boreal forests is common and is regarded as a safe investment in most cases. This type of investment, as well as investment in plantations in developed countries and countries such as Brazil and Uruguay, is seen as mainstream investment, facilitated by good access to financing and a broad range of financing instruments. In most developed countries, natural forest management is financed by both the private sector and public sector with limited funds; the latter giving more weight to conservation and multiple-use of forests (UNECE 2013). In most tropical countries, state financing still tends to dominate. This is often supported by grants and loans from (international financing institutions) IFIs and other development partners. In terms of attracting financing, major constraints emerge when combining new investment categories—such as REDD+ and A/R for carbon—with developing country environments, mainly due to the accumulated risks. When it comes to REDD+, much of the financing (for example, through the Forest Investment Programme [FIP], the Forest Carbon Partnership Facility, and UN-REDD) goes to readiness activities; there is not much private sector investment yet. It is assumed that the investment into readiness activities will later on create a more enabling environment for accelerating private sector investments into REDD+ projects.

FIGURE 5.1. SUSTAINABLE FOREST INVESTMENTS AND ACCESS TO FINANCING

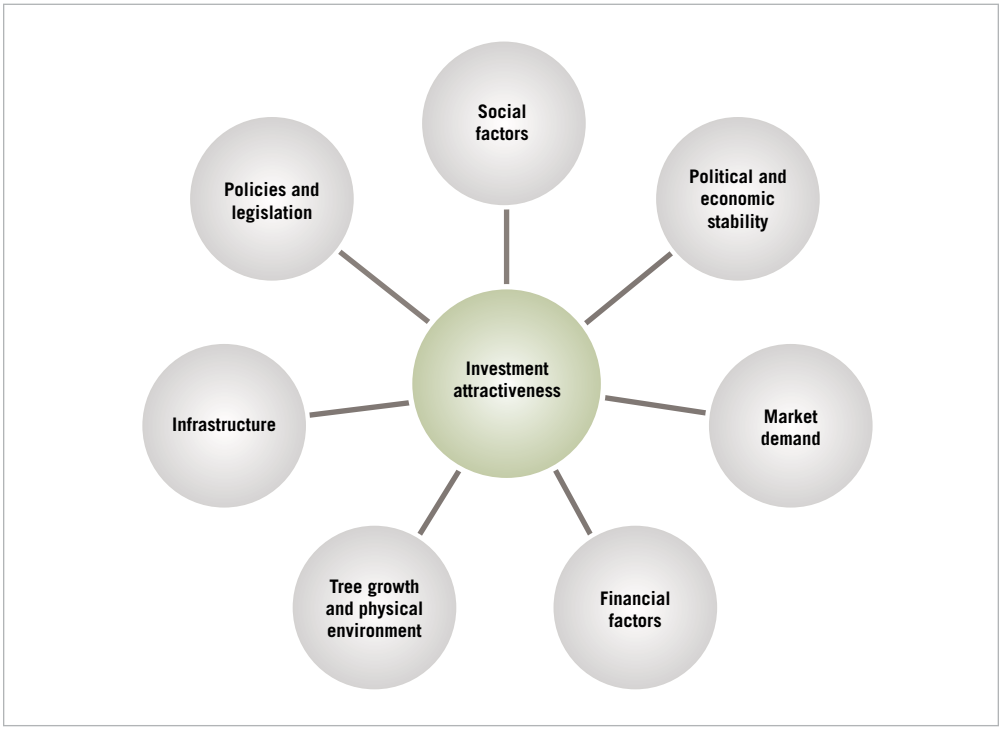


The case studies shed light on some of the issues discussed above. They also demonstrate that private investment flows—from domestic or foreign sources—are influenced by a number of factors related to the general business environment (see figure 5.2 Forest Investment Framework). Access to financing is one important factor, but not the most decisive one. In fact, *most private investors assess in their investment decision-making a range of factors that then are integrated into a consolidated estimate of expected risk-adjusted returns. This is a function of intrasectoral and extrasectoral factors and related constraints, opportunities, and risks.* Some of the inherent factors (for example, location and growing conditions) cannot be influenced, but others such as those related to policy, legislation, information, and infrastructure can be directly influenced by government action. International industrial investors in particular are ready to accept problems with the business environment if they can be compensated for by excellent growing conditions and good access to land close to growing markets. There are always trade-offs.

KEY MESSAGES

In the promotion of private sector investments, some inherent factors, in particular location, cannot be influenced. Other factors—such as policy, legislation, and information, as well as infrastructure—can be directly influenced by government action. Investment decisions always incorporate trade-offs between objectives and conditions.

FIGURE 5.2. FOREST INVESTMENT FRAMEWORK



IMPORTANCE OF LARGE AND GROWING MARKETS

Access to growing domestic and international markets affects both the volume and allocation of investments. Brazil is one of the world's biggest and fastest-growing economies. Industrial export and domestic demand for forest products and bioenergy demands are driving forest plantation investments there. In Uruguay, rapidly growing export demand is the main determinant of increased investment activity. Foreign pulp and paper companies that have invested in plantations and processing in Uruguay are driving private investments in the sector. In a study by Laaksonen-Craig (2008) on the determinants of FDI in the Latin American forestry and forest industry, *growing markets was found to be one of the key determinants of investments.*

In Uruguay and Brazil, and to some extent Lao PDR, forestry investments are driven by escalating demand for all types of wood and forest products in China. On the other hand, in many countries, local markets are growing rapidly providing new investment opportunities. For example, in Tanzania, smallholders and organized villagers see opportunities in growing trees for the local and national markets, where wood has become increasingly scarce and expensive.

Increasing demand for wood products is driven by the following megatrends:

- Continuing population growth, with most of the growth in developing and emerging countries; in 2050, an estimated 90 percent of global population will live in developing and emerging countries.
- The growing economic importance of emerging markets, with China and India as well as Brazil at the forefront.
- The shift toward a low-carbon "green economy" from the traditional fossil-fuel-based society, and consecutively increased use of wood biomass for energy and construction, driven by climate change, energy policies, and reduced stocks of traditional energy sources.

Dasos Capital (2012) has estimated that about 45–55 million hectares (much larger figures are presented by GPFLR 2011) of new industrial planted forests (both fast-growing plantations and semi-managed planted forests) would be needed worldwide to fill the projected round wood gap of some 700 million m^3 in 2030. This would require investments in the range of EUR 80–100 billion in the coming two decades, about US$4–5 billion per year. In addition, wood is needed for household, local, and industrial energy uses, and forests are needed for carbon sequestration and other environmental services. These trends imply major investment opportunities but also suggest that unless private sector investments are accelerated, pressure on the remaining natural forest will increase. Over time, forests will become an increasingly scarce resource, resulting in positive long-term price development and incentives to expand the forest resource base through new, more productive plantations and more efficient management of existing plantations and natural forests. These price incentives and opportunities are available for a range of investors and forest managers, including smallholders, communities, and large-scale investors.

KEY MESSAGES

The gap between sustainable supply of wood and demand for wood will increase in the coming decades, creating new investment opportunities in developing and emerging countries.

There is increasing private sector interest to invest in tropical forestry but mainly in plantations and processing.

INVESTMENTS IN PLANTATIONS VS. NATURAL FOREST IN DEVELOPING COUNTRIES

A key driver for the increase of plantations is the higher profitability of short rotation plantations compared to the sustainable management of natural forests. There are also considerably higher social and environmental risks in the management of natural forest compared to the same risks in plantation forestry. Illegal logging of natural forests is common in many developing countries, and negatively impacts further investments in sustainable natural forest management because illegally produced timber cuts the timber prices and reduces the profitability of legally and sustainably produced timber. The analysis of investment flows in chapter 2 and case studies suggest that there is increasing interest in investing in tropical forestry and wood processing. FDI has increased rapidly. At the same time, in some countries such as Brazil and China, domestic private sector investments have become dominant. Another remarkable development in countries such as Brazil and Uruguay is the accelerated investment in integrated industry and sustainable plantation operations. This may take some pressure off natural forests.

These investments are not without social and environmental risks, but represent a positive change from the industrial investments of the 1980s and 1990s, which were based primarily on the unsustainable exploitation of natural forests. Sustainable long-term production from natural forests is challenging particularly in situations where illegal logging competes severely. This trend is not expected to change quickly, because of the combination of weak governance and low profitability of sustainable tropical forest management. On the contrary, various types of land-resource, mining, and infrastructure concessions increasingly threaten tropical forests and rights of local people. The Lao case study demonstrates how various concessions already cover 10 percent of the land; a large share of them is associated with clearing natural forests with "land grabbing." In Malawi, increased private sector investment in the forestry sector has primarily meant short-term concessions aimed at harvesting existing plantations at minimum cost.

GEOGRAPHY: GROWING CONDITIONS AND ACCESS TO MARKET AS KEY DETERMINANTS OF INVESTMENT ACTIVITY

KEY MESSAGES

Market access and physical factors influencing the competitiveness of wood or industrial production are major investment drivers.

Geography matters. Globally, and also nationally, investments tend to flow to those countries with the best growing conditions (soil quality, rainfall amount and distribution, temperature). These are very much linked to location, which also determines access to the market. Even globally significant investments in the forest sector in Brazil, Chile, Uruguay, and Indonesia are linked to growing conditions and location in general. However, public and private investment in research can increase productivity significantly and make better use of available land.

Investment in national and regional road and port infrastructure can improve investment attractiveness. The Brazil case study demonstrates the major role research and development (R&D) and investment in infrastructure have played in increasing investments in plantations and the forest sector in general. In Vietnam (deep seaports and roads) and Lao PDR (roads to Vietnam and Thailand and bridges to Thailand), systematic infrastructure development over the past 15–20 years is starting to bear fruit in terms of stimulating new investments. Much of the infrastructure investment has been on main roads while local feeder road networks may remain inadequate.

POLITICAL AND ECONOMIC STABILITY PROMOTE PRIVATE INVESTMENTS

KEY MESSAGES

Political and macroeconomic stability are key factors for attracting significant foreign investments; they also influence domestic investment activity.

Governments can improve land tenure security and strengthen property rights to attract more investments.

Political and macroeconomic stability are key factors for attracting significant investment. This is particularly important for forestry and pulp and paper industry investments because these tie up capital for a long time. Further, country risks directly affect the cost of capital. High country risks result in higher investment cost versus return expectations, which deter investments (see chapter 4, Main Barriers to Investing in Developing Countries and Frontier Markets, page 25). The cases of Brazil, Uruguay, Tanzania, and Lao PDR demonstrate the impacts that political and economic stability at the macro level can have on investments, especially combined with supporting government investment and forest policies that create favorable conditions for investors. However, this does not mean that weak governance would not remain a problem for responsible investors. Argentina and Indonesia serve as good examples without these enabling conditions, and therefore with much lower levels of foreign investment. In Brazil, the attorney general in August 2010 issued a re-interpretation of

a 1971 law limiting farmland sales to foreigners. This quickly created uncertainty and reduced new foreign investments in forestry. In Russia, political risks at national and provincial levels are creating enough uncertainty to stop large forest industry investments, despite improvements in the investment environment in general.

Lao PDR is a country where political stability and changes in government policies and legislation have stimulated FDI and DDI in forestry while notable challenges still remain. Lao PDR has been politically stable, has a growing economy, and offers relatively secure long-term land tenure. A range of incentives including reduced duties, tax exemptions, and holidays, makes investment in Lao PDR attractive, and compensates partly for various other risks and still-prevalent red tape. However, the main challenge is the execution of the policy and legal framework; companies cannot really trust that laws are enforced fairly or at all. Weak governance acts as a barrier to responsible investors, and less-responsible investors move in. Policy and regulatory frameworks concerning forest and land concessions and related capacity must be improved. Transparency and predictability in the enforcement of policies, laws, and regulations is crucial.

Most of the studied countries suffer from excessive bureaucracy, which can often be linked to corruption. This may in fact be more limiting to smallholders and SMEs than large foreign investments with high visibility. Larger companies (for example, international forest corporations) have the capacity to deal with these issues, and positive factors can compensate for the extra trouble and cost related to bureaucracy. However, poor governance can also affect larger investors. This is demonstrated by the company case in Russia, where foreign investors minimize red tape and other barriers by buying companies that are already in the business with existing concessions instead of going ahead with a greenfield project.

FOREST LAND TENURE AND SECURITY OF PROPERTY RIGHTS

International and domestic large-scale investors and, for that matter, also smallholders and communities see security of land tenure and resources as a prerequisite for a long-term investment. In Brazil and Uruguay, private land ownership is possible, which has encouraged investments. In Lao PDR, Tanzania, and Vietnam, investments in tree growing started to accelerate after the government introduced new land policies and supporting legislation that clarified forest ownership and control and allowed long-term leases with strong property rights. The latter examples demonstrate how forest land ownership can be unbundled to retain state ownership of the land while privatizing the wood and nonwood resources. However, both Brazil and Lao PDR have some areas where problems with land tenure and social conflicts have emerged. Additionally, in Lao PDR new regulations are not always consistent with other legislation, leading to a situation where regulatory basis for plantation establishment and registration is complex and unclear (Smith 2014).

In Malawi, tree growing has increased on private farmland due to outgrower schemes. Tobacco (for curing) and bioenergy companies are developing plantations without linking to the Forest Department, using their own staff, and preferring minimum government interaction. The most important thing that companies want from the government is secure, long-term access to land, and then to be left on their own to manage the land. At the same time, in the state plantation sector, concessionaries with harvesting permits and short-term concessions do not see any need to replant or pay attention to sustainability of land tenure or management. Practically the only company

that invests in plantation development and sustainable wood processing is the sole company in Malawi with a long-term concession agreement. This may also be linked to recent developments in the financial sector; in Malawi, access to financing has improved, but financing is still more easily available for the short-term exploitation of forests and not for sustainable plantation investment.

Despite prevailing problems (for example, red tape), Russia's overall economic and political environment affecting investments and business in the forest industry has improved during the past 10 years as government industrial policies have focused on attracting investments. One of the main improvements has been enhanced legal predictability related to tax and property rights. According to the new Forest Code (2007), forest leases are granted for 49 years, which has provided the needed security to go ahead with a major investment programs.

KEY MESSAGES

Real and perceived risks must be reduced to attract more financing.

Real and perceived risks must be reduced to attract more financing. Different types of risks—some of them beyond policy influence and others often linked to governance and availability of quality information—can be mitigated. Private sector investors—forestry or forest industry companies, private banks, or funds and TIMOs—are basically motivated by profits. Their investment decisions are guided by their assessment of expected risk-adjusted returns. At present, private sector investments in the forest sector and its different subsectors are often deterred by high risks that affect the ability of the private sector to generate adequate returns (required also by underlying financiers such as pension funds). This is demonstrated by the uneven allocation of forest sector FDI that favors only few countries. At the same time, the investment space is increasingly occupied by domestic and international companies (for example, from China in Lao PDR) or local and foreign operators (from Mozambique, Somalia, and Kenya in Malawi), who are ready to operate in low-governance environments and ignore sustainability issues. Illegal activities and operators are found both in the plantation sector and natural forest utilization.

Some of the risks are merely perceived. Investors simply do not know enough about a specific country to be able to assess the risks, and hence tend to avoid this type of countries. Lack of information often concerns growing conditions (growth and yield) and related risks, availability of quality land for plantation development, land ownership issues, and the general investment environment. Brazil and Uruguay have actively marketed their countries for forest investments over the past two decades and have improved access to information. Objective, high-quality resource information has been collected and made available to investors and to support policymaking, forecasting, planning, and monitoring. After initial investors have been attracted and have had positive experiences, others tend to follow, as happened in previously "unknown" Uruguay.

ENVIRONMENTAL AND SOCIAL QUALITY OF PRIVATE INVESTMENTS

There have been no global in-depth studies looking at the environmental and social quality of private investments in forestry and the forest industry. Even this study can provide only some insights, based on a limited analysis and review of relevant literature.

Environmental and land use conflicts related to some international companies operating In Latin America and Asia are well known. The role of some giant private Indonesian pulp and paper companies in establishing plantations on cleared natural forests has tarnished the reputation of the entire Indonesian forest sector. In fact, it appears that the domestic private sector in developing countries has been less concerned with social and environmental sustainability and forest certification than most foreign investors, especially those coming from Europe and North America (Borregaard, Dufey, and Winchester 2008).

The global forestry sector is moving toward a more holistic and encompassing approach to corporate social responsibility (CSR) and sustainability initiatives, driven by pressure from NGOs, the media, the general public, and shareholders. Investors also increasingly see socially and environmentally responsible investment as something they must do, as a commitment to sustainable development, and as a value proposition and crucial element of risk management, and they document their performance by disclosing social and environmental information (Mery et al. 2010). The Lao case study makes a clear case that it would be much better to have this type of investor entering the country than companies and concession operators going after short-term profit. The same applies in most countries.

At present, major international investors (for example, in Uruguay, Brazil, and China) are committed to forest certification. A number of companies interviewed for this report indicate that practically all of them are committed to sustainable forest management and having their forest certified under FSC, PEFC, or a national certification scheme endorsed by either international scheme. This applies to the largest new plantation and pulp and paper projects in Brazil (for example, Eldorado and Suzano Group) and Uruguay (StoraEnso and UPM), amounting to investments worth some US$10 billion.

KEY MESSAGES

FDI from developed countries, to the forest sector in developing and emerging countries, tends to be more sustainable.

SFM certification is often used to demonstrate good management practices to clients and other stakeholders. Also, stronger environmental policies and regulations have improved the social and environmental quality of plantation investments.

However, in some countries (for example, in Brazil and Chile) it appears that the most important factors affecting environmental performance of both domestic and foreign firms are robust environmental laws and enforcement, policy incentives, and international market exposure rather than the origin of investment. There is evidence that domestic companies in Brazil are as motivated as foreign companies to have their forest assets certified (Working Group on Development and Environment in the Americas 2008). The Brazil case study supports this finding; stronger environmental policies and regulations linked to incentive schemes have improved the social and environmental quality of plantation investments. Environmental legislation was initially taken as a constraint. However, it has forced companies to improve their performance and has facilitated obtaining financing from sources that demand sustainability. Private sector investment can be an effective tool in biodiversity conservation. The "new" Brazilian plantation and conservation model has been recognized by such international environmental NGOs as World Wildlife Fund (WWF) and Conservation International.

International timberland fund investors are very concerned about environment, social, and governance (ESG) issues, and often use forest certification as a tool demonstrating sustainability. A review of the investment policies of some of the biggest funds investing in developing and emerging countries (Hancock, Global Environmental Fund-GEF, Global Forest Products, GMO, New Forests, Phaunos Timber Fund, RMK, Dasos Capital, and so on) indicates that all of them are committed to having their assets certified. For example, the Global Environment Fund (GEF)'s Africa Sustainable Forestry Fund allows investments only in assets that can be FSC certified. Further, many of these funds as well as most European international forest industry companies are committed to the Equator Principles, UN Principles of Responsible Investment, and Global Reporting Initiative.[17] These principles require incorporating ESG issues into investment analysis and decision-making processes as well as investment execution, and provide a framework for sustainability reporting.

Timberland funds raise capital mainly from institutional investors who are often very concerned about ESG issues and related risks. As a condition to committing funds, institutional investors, development finance institutions (DFIs) such as the European Investment Bank (EIB) and IFC, and endowments often set preconditions concerning ESG issues in fund operations. Some of the biggest pension funds in Europe, including PGGM in the Netherlands and ATP in Denmark, have high ESG standards and can influence funds and companies they invest in. This is having a positive impact on the quality of timberland fund investments from a social and environmental perspective. It can also work the other way. In fact, one of the main reasons pension funds and other institutional investors have not allocated more funds for SFM investments in developing countries is their concern for environmental and social as well as reputational risks. Just the fear of reputational damage and inadequate knowledge of environmental and social risks tends to deter investments in developing countries, even when sometimes these risks do not exist.

FORESTRY INCENTIVE SCHEMES

The Brazil case and information from Chile provide possibly the best examples in the developing world of how plantation incentive schemes can accelerate investments in forestry and wood processing. The proliferation of direct financial incentives results from experiences such as Chile's, where forest plantations helped stimulate vigorous growth in the forest industry. In fact, most tree planting in South America and in South Africa, for example, has taken place after countries have adopted incentive schemes. After a critical mass of plantations has emerged, major industrial investments have followed. The study of the impact and cost-effectiveness of various incentive schemes is beyond the scope of this study. In countries where forestry investment incentives have been provided, the key factors for obtaining significant levels of forest investment in plantations have been macroeconomic, political, and institutional stability; access to land; and clear resource tenure arrangements (Haltia and Keipi 1997). The provision of subsidies in an environment that otherwise is not supportive of sustainable forestry development is likely to result in wasted resources. The Indonesian forestry fund is a good example of this.

17 http://www.equator-principles.com, and http://www.globalreporting.org.

KEY MESSAGES

Incentives can be justified to alleviate problems caused by long rotation periods and to compensate for positive environmental externalities.

For incentive schemes to work, macroeconomic, political, and institutional stability; good access to land; and clear resource tenure arrangements are needed.

Plantation incentive schemes can help stimulate private sector investments in the development of an integrated plantation and forest industry sector under the right conditions, but can also result in wasted resources and negative environmental and social impacts.

It is also known that direct incentives have resulted in the clearing of natural forests (Brazil and Indonesia) and also misuse of resources (Indonesia). Further, in all the studied countries these schemes have favored large investors, although there is evidence that private sector investments can drive small- and medium-scale tree growing with significant social development (Brazil, Tanzania). Over the years, Brazil has been improving the incentive schemes partly because of pressure from NGOs. Incentive schemes have become smarter and better linked to performance. Many of the schemes are being phased out.

Some of the principles of the Brazilian model can be transferred to other countries. However, it has to be recognized that most of them have been financed by the government, which has had the needed financial resources (complemented by financing from IFIs) for these schemes and for financing major R&D programs and infrastructure development. Most of the plantation investments have been developed jointly with pulp and paper industries and to some extent with pig iron industries, which has enabled Brazil to become a forestry powerhouse.

In the case of poorer countries with forestry potential, different approaches must be considered. Public subsidy schemes should be smart (performance-based, phased-out, with capacity to leverage private sector inputs and commitments, linked to technical assistance and extension, and light to administer) and inclusive, meaning that they should serve smallholders and SMEs, not only bigger operators. Further, incentives should be considered to alleviate problems caused by long rotation periods and to compensate the forest landowner for possible positive environmental externalities. Special attention must be paid to incentive recovery (for example, through taxation) and avoid creating systems where subsidies become unsustainable transfer payments.

BOX 5.1. EXPERIENCES FROM A UGANDAN SAW LOG PRODUCTION PUBLIC-PRIVATE PARTNERSHIP GRANT SCHEME

In Uganda in the late 1980s, the (then) Forest Department piloted a project where individuals were given licenses to establish wood-fuel forest plantations in peri-urban Central Forest Reserves (CFRs). They paid a small ground-rent per unit area used. The land remained the property of the government while the trees belonged to the licensee. The project was successful and was later extended to the production of saw logs, given the imminent shortage of these in the country.

The Saw Log Production Grant Scheme (SPGS) is a joint European Union (EU) and government of Uganda project that officially started in 2004. The EU provided funds for an up-front stimulus grant that refunds 50 percent of tree farmers' costs, provided certain technical standards are followed. The support covers the first two years of the establishment. No money is paid up front but the planters cover up-front cost, and payments are made after a site visit. Additional funding for the scheme was approved in 2009 by the European Union and Norway, to take the scheme to 2013. The funds are ODA, although the actual activities funded are carried out by private tree farmers.

The combined effect of the subsidy, technical support, and availability of large pieces of land in CFRs at a nominal charge generated massive interest from the private sector. Today there are several participating farmers who do not receive the subsidy and are using their own funds, and others are using their own private land. SPGS has co-funded 16,000 ha since 2004. According to Ruhombe (2012), with an internal rate of return of 7–10 percent, which increases to between 10 and 14 percent with the SPGS grant, forest plantation development in Uganda has become a prominent and growing private sector investment destination for the first time. In late 2011, a midterm review of SPGS phase II was carried out. The review gave an overall conclusion that *"SPGS is highly successful in achieving its overall objective of mobilizing private sector to create timber resources."* According to a SPGS newsletter, SPGS has recently been contacted by stakeholders in Tanzania, Malawi, Cameroon, and Ghana—all with a view to seeing if the SPGS model could be transplanted elsewhere in Africa.

In addition to the planting of timber crops, the scheme has kick-started development of many areas crucial to support the emerging sector—especially commercial forestry research, training, and larger nurseries. The SPGS has also boosted the Uganda Timber Growers Association, formed in 2006 by individuals and private firms interested in developing industrial plantations. Largely private sector led, the members of the association were driven by the opportunities to invest in fast-growing and high-yielding timber plantations to address the eminent shortage of timber in Uganda. Since its establishment, membership has grown to more than 100 and the area planted has increased to 15,000 ha.

Source: Ruhombe 2012 in Indufor 2013.

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6 IMPROVING INFORMATION AND ACCESS TO FINANCING

KEY POLICY RECOMMENDATIONS

Development of wood production and processing sectors has in many countries led to thriving economic activities in rural areas, to job creation and increased incomes. Wood-based value chains can become an integral part of sustainable green economy if and when the conditions are right. Wood products, when produced from sustainable raw material, often have smaller carbon footprints than products from non-renewable materials. Being a predominantly rural activity, wood production is also promoting economic development in regions which, in many countries, have fallen behind other areas and where poverty is more common than in more developed urban areas. But as has been discussed in this report, not all countries have been able to attract private capital to finance the investments needed for such a development to take place. Additionally, the information base is often inadequate to get a complete picture on what the levels of economic activity are and what the development trends are at country level or globally.

In order to improve the situation, all relevant parties have to play their part. These key stakeholders include national governments and their agencies across different sectors, international organizations and financing institutions, bilateral development partners, financial institutions, other private businesses—both domestic and international—and their industry associations and civil society organizations to name a few. Also rural communities and their members are key partners. This section summarizes the key policy action recommendations for the World Bank and other development partners, national governments, as well as the UNFF system. The recommendations cover improving data quality and availability, as well as improving access to finance.

The World Bank Group and other international financing institutions (IFI) have recognized the importance of forest sector in reducing rural poverty through the provision of employment opportunities and increasing the rural income. It can also become a key component in green growth. In addition to providing valuable environmental and social services, forest sector is an important raw material producing sector which enables downstream processing with additional employment and income opportunities. In many cases the processing industry, or part of it, is located in rural or semi-rural areas thereby further contributing to the reduction of rural poverty. This study has identified that many barriers for private forest investments are related to typical business climate issues. The Bank's capacity to address such broader issues through the country dialogue and

in relation to investment planning, frequently involving also the IFC, is very useful and important. This engagement needs to be based on informed policy dialogue, which, in turn needs to be based on good statistical information on financing flows—both private and public as well as domestic and international—to the sector. Recommendations for the World Bank and IFIs deal with building analytical and risk mitigation tools as well as having adequate financing available. IFIs could also support building capacity to collect and disseminate relevant data. They often have the capacity to provide support and expertise to different sectors, not only forest sector itself. This will be essential when, for example, wider financial sector or public sector reforms are needed.

Ultimately building investment climate is a national responsibility, but international partners are in a good position to support, through their country programs and analytical work, the national governments to do their part. Recommendations to national governments include improving resource governance (including land tenure systems), developing national policies and strategies, promoting national partnerships and SME development, developing smart subsidies, and removing market inefficiencies. National governments can also improve the availability of data and invest in research and development. This includes forest inventories, land registries and land use information. This is an area where new technologies can be particularly helpful and provide cost-efficient solutions. It is essential that issues related to forest finance are looked at from different angles, and also partners outside the forest sector are included. These partners include people and institutions dealing with financial sector and banking development and regulation, infrastructure, agriculture and labor force development to name a few. Finally, international platforms like the UNFF should continue to develop best practices and improve access to finance.

Recommendations to the different actors are discussed in more detail in the sections below.

STRENGTHENING THE INFORMATION BASE ON FOREIGN AND DOMESTIC DIRECT INVESTMENTS

KEY MESSAGES

Only a few countries report forest sector-specific FDI data on processing. Financial and capacity building inputs are needed to support the national-level reporting organizations.

Forestry FDI is reported under the aggregated primary sector "agriculture, forestry and fisheries," although it could be reported separately.

There is no systematic structure for collecting data on domestic forestry and forest industry investments.

There are current global and regional databases for **foreign direct investments in wood processing**, but they are not fully used. Consequently, forest sector-specific *FDI data related to processing are of reasonable quality*, but do have problems. These multinational databases are based on country sources (such as central banks) providing the data. Only a limited number of countries report separate national forest sector-specific FDI data on processing. Using more resources on data collection does not necessarily mean that the quality and coverage would be much improved. Support by the World Bank and other IFIs should focus on improving the quality and coverage. This

can be achieved, at least to some extent, by *investing in capacity building to strengthen the reporting from national institutions*. This would include training and technical assistance. Targeted support to reporting national institutions would result in more comprehensive data availability in regional and international databases. Planning and organizing proposed financial and capacity building should be progressive, starting from countries that (i) do not report forestry investments in sufficient detail, and (ii) do have significant amounts of forestry investments. Gradually, the capacity building can be rolled over to a larger number of countries.

To enable more accurate classification of FDI per sector, it is likely that the data collection methodology would need to be modified by the major databases and the organizations developing the international statistical methodologies. This would require recording not only the immediate but also the ultimate investment target (which is, in fact, already a standard recommendation). In addition, classification methodology would need to be changed to consider not only the recipient sector but also the actual investment activity.[18]

Upstream forest investments in wood production are mainly reported only under broader aggregate figures, and therefore detailed information in **forestry and wood production FDI** is not available. Although methodologically a separate class for forestry FDI exists, it is not used in currently available FDI statistics.

FAO and UNCTAD are collaborating to improve the agriculture-related FDI data. To this end, the FAO Statistics Division is expanding a questionnaire that would disaggregate the sector and industry series currently collected by UNCTAD. This questionnaire would also include forest sector data and time series. If this new survey proves to be successful, it will contribute positively to improving the forestry FDI data.

The most challenging element in improving forestry and downstream processing investment information is **data on domestic investments.** Presently, there is no structure for collecting and compiling such information systematically. *Company surveys or media search streams* such as those used by fDi Markets, *are two options*, but both require substantial improvements in staff and financing of statistical offices. Before attempting to increase financing for such a data service, the true demand for such information would need to be assessed, both at national and at international levels. If there is not adequate demand for systematic information, ad hoc surveys and specific databases (for example, on plantation investments) may be sufficient to meet the demand for data on domestic investments.

IMPROVING ACCESS TO PRIVATE FINANCING

Investors are mainly interested in maximizing risk-adjusted returns. The key factors affecting returns considered by investors include:

- Growth potential and access to growth markets;
- Political, regulatory, and economic stability; and

18 This would allow investment into, for example, forestland to be recorded as forest sector investment even when investor and investee were not registered under the forest sector but in finance or real estate. However, this type of a methodological change may be difficult to achieve, but it could be brought for consideration by international statistical bodies (for example, the OECD's Working Group on International Investment Statistics).

- Investment environment and good governance, of which the most important factor is land tenure, but also including the physical and institutional infrastructure (roads, ports, electricity, labor markets).

Some of these factors, particularly those based on geography, cannot be changed, but others such as those related to policy and regulatory stability and investment environment can be directly influenced by government action. Policy decisions that can be taken by the government simply by the "stroke of a pen" can be considered "low hanging fruits." This simply requires dedication to attracting new private investments and financing to sustainable forestry.

The roadmap for improving access to private forestry financing is divided here into short-term actions (in less than two years), medium-term (three to five years), and long-term (more than five years). The proposed actions are directed to (i) national governments of developing countries, (ii) donors, (iii) international financing institutions, and (iv) UNFF and the UN system, or a combination of these.

KEY MESSAGES

Government action can influence some of the key features for improving access to private financing.

SHORT-TERM ACTIONS

The short-term actions include those that can be implemented easily provided there is the will and adequate resources are mobilized. Many of the proposed short-term actions are preparatory for longer-term actions that require more time.

Actions for National Governments, to Be Supported by Donors and IFIs

a. Reviewing and Reforming Policies and Strategies; National Forest Financing Strategies

There is a need to assess the opportunities and constraints for financing sustainable forestry and downstream processing in detail at the national level. Country situations vary, and the necessary actions must be based on good country assessments. National forest financing strategies would be useful tools for such an assessment, but still only a few countries have developed such strategies and related stakeholder-approved action plans. They also provide an opportunity to break the sectoral silos and to engage the various key players beyond the forest sector, such as ministries of finance, economic planning organizations, the private financial sector, private companies, farm organizations, communities, and SMEs in developing national approaches to forest financing.

Specifically, the review and formulating process of national financing strategies allow for the assessment of present policies and strategies that have bearing on forest financing, and proposal of reforms in those policies and strategies. Indeed, the development of a national forest financing strategy is a cost-efficient tool to plan and trigger medium and longer term reform processes.

KEY MESSAGES

Support for national forest financing strategies would allow detailed country-level analysis of opportunities and constraints for financing SFM.

b. Sharing Knowledge and Matchmaking; Organizing Investment Forums

Private sector investor platforms, special meetings, and roadshows are tools widely used and accepted by the private sector. If well-planned and organized, they are efficient in bringing potential investors and other key stakeholders together for information exchange and networking. Organizing such events can be easily outsourced to private sector associations or chambers of commerce, national investment promotion agencies, or similar organizations.

c. Building Coalitions for SMEs

KEY MESSAGES

Support to SMEs in building associations, networks, and coalitions allows them to overcome various challenges.

Small-scale tree growers and processing enterprises require special support. Alone they are too small and weak to access markets and to negotiate effectively with input suppliers and buyers of their products. Forming associations allows the SME sector to benefit, at least to some extent, from economies of scale, to access information, and to negotiate more successfully. Such local-level associations also facilitate accessing professional and reliable partners and integrating small-scale producers to broader supply chains. Supporting the establishment of associations is, however, not always trivial and easy because such support, particularly if financial incentives are provided, may attract opportunistic actors and disingenuous members. The support to associations needs to be gradual and performance based.

SMEs and other small-scale producers can also benefit from coalitions or partnerships with larger companies, which can offer improved market access, market information, technical and financial know how, and so forth. Larger companies benefit from increasing their supply chains, and from deeper and broader community involvement in their operations, thereby improving their acceptability in the surrounding community, which reduces social risks.

d. Combat Against Illegal Logging

Illegal logging is a serious problem that reduces the profitability of well-managed sustainable forestry. It tarnishes the reputation of the sector, and causes various social and environmental problems in many countries.

Action plans against illegal logging are a good tool for identifying problems and actions related to prevention, detection, and suppression of illegal activities in forests. Many consumer countries have also established legislation to prevent import of wood and wood products from illegal or unknown sources.

KEY MESSAGES

Support for national action plans against illegal activities in forests would allow systematic action against illegal logging.

Actions for IFIs

a. Developing and Disseminating Analytical Tools

KEY MESSAGES

Further developing forest sector-specific analytical tools focusing on improving the investment climate and reducing investor risks will facilitate both international and domestic investments.

Many countries have already implemented policy and regulatory reforms to improve the general investment environment. Specific reforms are still needed in a number of countries to improve the forest sector-specific investment environment. Special tools to carry out diagnostic studies have been developed or are under development (for example, by the Inter-American Development Bank and the World Bank). Tools such as the World Bank Group's *Doing Business* reports have proven effective for triggering and guiding policy and regulatory reforms.

Risk assessment is a key step in decision making by investors. Timberland investors are usually aware of the risks and usually have thorough due diligence processes to assess and manage risks. However, financial investors and intermediaries, in particular national financing institutions, often do not have enough understanding of the forest sector in general and lack experience and expertise in assessing and managing forest investment risks. Risk assessment methodologies and tools that are suitable for forest investments will help in decision making, and in directing risk mitigation and management efforts to key issues that eventually should lead to better-performing investments and reduced conflicts. For in-depth discussion on analytical tools for investment climate, see PROFOR (2014)

b. Increasing Availability of Financing for Responsible and Sustainable Investments

The availability of longer-term, reasonably priced, yet market-based loan financing is a major constraint for plantation investments, and also for responsible and sustainable processing investments in many developing countries. There is a need for continuous efforts to develop tailored loan facilities in existing national development banks or other financing institutions, particularly targeting small investors that are unable to access loan financing from abroad.

KEY MESSAGES

Developing tailored loan facilities in the existing local development financing institutions will facilitate small-scale domestic investors' access to loan financing.

The existing national and regional funds that are investing in private forestry and processing with good track records should be supported and given additional capital. Such funds tend to follow international best practices in environmental and social safeguards, thereby increasing the share of responsible and sustainable forest investments.

Actions for UNFF System

a. Continue Developing Best Practice Guidance

UNFF resolutions have called for the development of national forest financing strategies, and other groups such as FAO have developed good guidance and organized related training. However, the work has to be rejuvenated. There is a need to continue developing guidelines and best practices for the preparation of national forest sector financing strategies. Such work would also encourage the countries to start developing such strategies or updating existing ones, which again should improve access to domestic financing and attract new investment from domestic and foreign sources.

KEY MESSAGES

There is a need to continue the development of guidelines and national-level forest financing strategies to identify country-specific opportunities and challenges for forest financing.

b. Continue Improving Access to Information

Inadequate systematic data on forestry investments and private forest financing at global, regional, and national levels is a constraint for informed policy making. Information must be improved, especially at the national level. The donor community should strengthen efforts to build capacity at the national level in collecting and reporting data, and improving data collection methodologies. UN organizations can contribute to the development of common definitions and methodologies. An accessible electronic information system tracking financial flows is needed.

MEDIUM-TERM ACTIONS

The proposed medium-term actions require more time and resources than the short-term actions. Many are actions that improve the investment environment in forestry sector.

Actions for National Governments, to Be Supported by Donors and IFIs

a. Improving Sector Governance and Improving Transparency

Poor forest governance is frequently cited by private sector forestry investors as a constraint for forest investments. It is even more of a constraint to the growing group of responsible investors that subscribe to the Equator Principles, for example, and are committed to responsible and sustainable forestry in general. Essential governance reforms are needed in a number of countries. Such reforms

typically streamline and increase the transparency in the processes of issuing licenses and permits, as well as introduce the rule of law, thereby reducing the opportunities for corruption and arbitrary decision making.

KEY MESSAGES

Increasing transparency and governance will reduce opportunities for corruption and improve the investment environment.

b. Providing Secure Land Tenure

Another key constraint for plantation investments is the lack of secure land tenure or long-term land leases. There is a need, in many countries, for related policy and legislation reforms, or effecting earlier reforms and establishing clear, transparent, and cost-efficient procedures for land acquisition or leasing. Necessary social safeguards and related community consultations need to be in place to avoid land grabbing or conflicts with local communities. Cadastral system and land allocation maps require strengthening in many countries. For responsible investors, it is essential that informal, as opposed to only formally registered, land rights are respected. This is a precondition for good community relations and risk management in cases where land tenure is characterized by legal pluralism.

KEY MESSAGES

Support to clear and secure land tenure facilitates long-term investment by small and large operators alike. Informal land rights need to be respected.

c. Providing Targeted Incentives and Removing Disincentives; Reviewing Financing Sector Regulations

Well-planned tax incentives and targeted incentive schemes have proven effective in promoting plantation investments in a number of countries. They are effective especially when measures have already been undertaken to secure macroeconomic, political, and institutional stability; access to land; and clear resource tenure arrangements complemented with access to good infrastructure and extension services. That is, variable incentives must be linked to the introduction of enabling incentives that change the overall framework conditions within and outside the forestry sector. Direct incentives such as subsidized seedlings or product prices tend to distort market signals and resource allocation. Some direct incentives such as tax concessions and favorable capital gains treatment have been found to be effective, especially in early stages of investment promotion (Enters and Durst 2004).

Variable incentives, such as tax benefits and cost-sharing, can be justified by positive environmental externalities (including carbon sequestration) and other market failure corrections. In a number of cases they have triggered the volume of plantation investments necessary for attracting investments in downstream processing, which has further mobilized investment in plantations by providing a well-paying market for plantation-grown timber. Ultimately, conditions must be created where large

companies, SMEs, communities, and smallholders are investing because it is profitable for them; investments should not be driven by government incentives but by a competitive, efficient market.

At the same time, it is important to assess and remove the negative impacts of incentives in other sectors that act as disincentives in the forest sector, for example, land legislation that requires the removal of forest cover, or agricultural incentives that lead to extensive deforestation. It is also essential that the tax policies are predictable and known well in advance; ad hoc policy making seldom leads to good outcomes.

In many countries, the local banks' unfamiliarity with the forest sector and forests as an asset class often prevents the use of the resource as collateral. Frequently, in bank policies, growing plantations are not listed as acceptable collateral, especially when the land is not owned by companies. The collateral requirement prevents investors from obtaining loans from local banks or other financial institutions. The financial sector must be educated about the nature of forestry investments.

d. Promote Partnership Building

Public-private partnerships have proven effective in combining the business skills and efficiency of the private sector with the risk-bearing capacity of the public sector. This is a useful combination because forest investments require a long time horizon (thus also relatively high risk bearing capacity), and efficient and well-planned operational and management skills, as well as up-to-date technology. Governments should be encouraged to develop legislation and institutions that are able to establish such partnerships with private sector investors. They can be in the form of, for example, public funds that develop joint ventures, or provide equity investments in forestry business ventures.

KEY MESSAGES

Public-private partnerships are an effective tool to support mobilization of forest financing.

e. Improving Availability and Quality of Information; Implementing National Forest Inventories and Land Use Mapping

Forest investors frequently complain that information at the country level on existing forest assets and plantation sites is difficult to get or is highly unreliable in many countries. Improving the availability and quality of information will require systematic forest inventories, forest information systems, and overlays of forest information with land quality, rainfall, population, transport infrastructure, and other relevant data, presented in the form of maps and in electronic format. Recent technological development has made information collection, processing, and dissemination increasingly feasible. For example, many space agencies provide earth observation data and images free of charge online. This raw material requires further processing to be useful. However, many countries already have or can develop such capacity. This is also a good opportunity for public-private partnerships (see above).

KEY MESSAGES

Improved information on land and forest resources is required to facilitate plantation investments. Modern technology makes this easier and more affordable.

f. Develop Tested Plantation Models and Build R&D Capacity

Locally adapted and tested plantation models are necessary for securing high growth rates and resistance to pests and diseases. Large-scale investors can afford developing and testing such models themselves, but small-scale investors do not have the capacity. Government should ensure adequate investment in R&D in developing such models and providing related extension services, particularly for small-scale plantation investors and tree growers. This is also a good opportunity for public-private partnerships (see above).

KEY MESSAGES

Support to R&D and extension services supports small and medium-scale investors in plantation forestry.

Actions for IFIs and Donors

a. Developing and Disseminating Risk Mitigation Tools

SME forest plantation investors in particular have limited risk-bearing capacity. Forest plantations are always prone to investment failures due to pests, diseases, or fire. The probability of investment failure can be partially controlled by proper management (for example, fire prevention measures), but such risks are difficult (and expensive) to remove entirely. There is a need to develop and provide risk mitigation tools, for example, insurance schemes or risk guarantee funds. Such arrangements would buffer the SME investors from financial catastrophes, and thus would lower the bar for investing in plantations.

KEY MESSAGES

Developing risk mitigation tools especially facilitates SME investments by improving their risk-bearing capacity.

b. Developing New and Innovative Models for Providing and Leveraging Financing

There is a need to develop new and innovative models for providing and leveraging financing for private forestry investments. Innovative new models should be studied and tested. A fund or scheme for leveraging responsible and sustainable private sector forest financing could have potential in this respect, a fund that is based on a private equity type of model with blended funding including technical assistance (see box 6.1).

Developing and testing innovative tools, such as public-private blended funding, has the opportunity to mobilize private sector investment at scale.

LONG-TERM ACTIONS

The following long-term **actions for national governments with support by donors and IFIs** call for **further intra- and extra-sectoral reforms**. The basis for these long-term actions is laid by effective implementation of short- and medium-term actions discussed above. In a number of countries, reforms, both inside and outside the forest sector, are needed to facilitate an enabling investment environment, particularly the following:

- Improve political and economic stability;
- Reduce corruption and improve governance;
- Reduce unnecessary, complicated regulation that hinders expansion of private business operations while also introducing regulations that provide necessary social and environmental safeguards;
- Streamline taxation;
- Enhance openness (trade) of the economy;
- Enhance competition in the economy and eliminate state monopolies such as state-owned processing companies and commercial plantations that may distort the market;
- Improve educational and focus on vocational skills; and
- Improve tenure and property rights to reduce perceived and actual risk of land and resource conflicts.

Many of these measures are beyond the forest sector and apply to the overall business environment. However, there are many critical governance and regulatory constraints that can be influenced by the decision makers in the forest sector; these can be identified by using tools such those suggested in PROFOR (2014). The availability of trained labor is an important criterion for large-scale investors when assessing investment opportunities. Therefore, training and educating labor and technical experts are required to create professional and management capacity.

KEY MESSAGES

Attention needs to be given to intra- and extra-sectoral reforms to continuously improve the business environment and to adapt policies and to the changing global business environment.

Permanent improvement in the investment climate for forest sectors requires long-term commitment by both the government and the private sector; there are no shortcuts.

BOX 6.1. A SUSTAINABLE FORESTRY FUND CONCEPT BASED ON A PRIVATE EQUITY AND BLENDED FUNDING MODEL

This study and earlier UNFF studies have demonstrated that the financing gaps are so huge and varied that it is clear that there are no simple fixes. Solutions need to be flexible and based on a mix of approaches at different levels, involving a range of investor categories from smallholders and communities controlling their own land resources to large-scale investors. What is clear is that all that funding cannot—and should not—come only from public sources. National governments have limited resources and ODA to the forest sector cannot match the increasing needs, even with major pledges for funding related to climate change and REDD+. It will be essential to leverage private sector financing on a significant scale, and at the same time leverage private sector know-how and technology.

A number of constraints need to be removed or mitigated to accelerate private financing and investments in forest sector development in developing and emerging countries, as identified in chapter 5 above.

A number of financing mechanisms have been introduced in recent years, including the BioCarbon Fund, FIP, the Forest Carbon Partnership Facility, the Forest Carbon Fund, and the Congo Basin Forest Fund. They are all multi-donor and financed almost entirely using ODA grants and loans. Most of these mechanisms pay limited attention to leveraging private sector financing, with the exceptions of BioCarbon Fund and IFC. The recent study by BioCarbon Fund (2012) concluded that leveraging financing has not been an easy task. Although most of these mechanisms address the private sector to some extent, none focuses primarily on leveraging private sector financing.

The "conventional" mechanisms all have advantages, but as a whole, the mechanisms and funding volumes have been insufficient. Calls have been made for developing new mechanism and business models for sustainable forest financing and dedicating a new fund or funds for SFM to address the needs and gaps that are not yet addressed by the existing mechanisms (AGF 2012, ETFRN 2008).

Increasing direct foreign and domestic private investment for sustainable forest management should be a crucial element of any financing strategy to promote social and economic development. In order to mobilize more foreign and domestic private financing, the risks to investors must be mitigated using different measures, some of which will take longer, for example, improving the overall business environment.

Public-private partnership approaches and mechanisms represent an important way to reduce risk and leverage private sector financing as well as more productive and sustainable technology and socially responsible corporate practices.

Appendix G presents a concept for an innovative private equity-based fund that uses public funds to leverage private investment and equity financing for SFM in developing and emerging countries, and in thematic areas that are *perceived* as risky.

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APPENDIX A:
DATA SOURCES MAPPED

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TABLE A.1. DATA SOURCES MAPPED

SCOPE	SOURCE	LINK	FORESTRY INVESTMENT DATA AVAILABILITY
Global	United States International Trade Commission (US ITC)	http://www.usitc.gov/	No FDI data
Global	International Trade Center	http://www.intracen.org/trade-support/foreign-direct-investment-data/	FDI data by country and industry
Global	United Nations Conference on Trade and Development (UNCTAD)	http://unctad.org/en/Pages/Statistics.aspx	FDI flow (1970–2011) and FDI stock (1980–2011) by country not by sectors
Global	RISI: Global Tree Farm Economics Review 2012	N/A	No FDI data
Global	DANA Limited	http://www.dana.co.nz/?publications	No FDI data
Global	FDI intelligence	http://www.fdiintelligence.com/	No FDI data
Global	Economist Intelligence Unit	http://www.eiu.com/site_info.asp?info_name=ps_WorldInvestmentService&entry1=psNav	Forestry FDI data may be available, but not free. Promised trial of base was not organized.
Global	fDi Markets	http://www.fdimarkets.com/index.cfm?page_name=markets&section=sector_fdi	Yes: greenfield cross border investments
Global	The FDI Report 2012 of *Financial Times* and FDI International	http://ftbsitessvr01.ft.com/forms/fDi/report2012/files/The_fDi_Report_2012.pdf	No FDI data
Global	International Tropical Timber Organization (ITTO) stat database	http://www.itto.int/yearnnual_review_output/	No FDI data
Global	COMTrade—the UN Trade database	http://comtrade.un.org/db/default.aspx	No FDI data
Global	World Bank Databank	http://data.worldbank.org/	Only total FDI data, no sector specification
Global	FAO Forestry Stat	http://faostat.fao.org/site/626/default.aspx#ancor	No FDI data
Global	CIA Factbook	https://www.cia.gov/library/publications/the-world-factbook/	Only total FDI data, no sector specification
Global	UN STAT	http://unstats.un.org/unsd/default.htm	No FDI data
Regional	Latin America: UN ECLAC: CepalStat	http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/estadisticasIndicadores.asp?idioma=i AND http://www.cepal.org/ddpe/default.asp	Only total FDI data, no forest sector-specific FDI data (only for sectors; natural resources, services, manufacture, other) for example, in "La inversión extranjera directa en América Latina y el Caribe 2011"
Global or regional	OECD Stat	http://stats.oecd.org/	FDI inflows and outflows for OECD countries, per sector

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SCOPE	SOURCE	LINK	FORESTRY INVESTMENT DATA AVAILABILITY
Regional	EuroStat	http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database	Direct investment flow in wood, printing and publishing from EU countries to whole world
Regional	North America Free Trade Agreement (NAFTA)	http://www.naftanow.org/default_en.asp	No FDI data
Regional	ASEAN Stats	http://yearseanstats.asean.org/Menu.aspx?rxid=e0da7f3d-9c52-49b5-a5ee-87d45628cabc&px_db=4-Foreign+Direct+Investments&px_type=PX&px_language=en&px_tableid=4-Foreign+Direct+Investments%5cFDISP08-Intra-ASEANFDIFlowsbyEconomicActivity%2c2005-2010(US%24millions).px	FDI data per industry available
Regional	ASEAN Investment Report	http://www.asean.org/communities/asean-economic-community/category/other-documents-25	Direct investment flow in "Agriculture, fishery, and forestry"
Regional	Stats Apec	statistics.apec.org	No FDI data
Regional	Asian Development Bank	http://www.adb.org/data/statistics	No FDI data
Regional	African Development Bank	http://www.afdb.org/en/knowledge/statistics/	No FDI data
Regional	Inter-American Development Bank: Latin America and Caribbean macro watch data tool	http://www.iadb.org/en/research-and-data/statistics-and-databases,3161.html	FDI per country, not per sector
Regional	South Asian Association for Regional Cooperation	http://www.saarc-sec.org	No FDI data
Regional	African Forest Forum	http://www.afforum.org/	No FDI data
Regional	Economic Community of West African States (ECOWAS)	http://www.ecostat.org/	No FDI data
Regional	International Centre for Integrated Mountain Development (ICIMOD)	http://www.icimod.org/	No FDI data
Regional	East African Community (EAC) Statistics Portal	http://www.statistics.eac.int/	No FDI data
Regional	EAC Facts and Figures 2011, 2012	http://www.statistics.eac.int/index.php?option=com_docman&Itemid=153	Only total FDI data, no sector specification
Regional	Southern African Development Community (SADC) Statistical Year Book	http://www.sadc.int/information-services/sadc-statistics/sadc-statiyearbook/#Foreign	Only total FDI data, no sector specification
Regional	African Statistical Year Book by the African Union	http://ea.au.int/en/statistics	Only total FDI data, no sector specification

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TABLE A.1. DATA SOURCES MAPPED *(continued)*

SCOPE	SOURCE	LINK	FORESTRY INVESTMENT DATA AVAILABILITY
Regional	Common Market for Eastern and Southern Africa (COMESA)	http://www.comesa.int/	No FDI data
Regional	Intergovernmental Authority of Development (IGAD)	http://www.igad.int/	No FDI data
Regional	Arab Maghreb Union	http://www.maghrebarabe.org/en/index.cfm	No FDI data
Regional	Arab League	http://www.arableagueonline.org/	No FDI data
Regional	Latin America: Latin Focus	http://www.latin-focus.com/	NO FDI data
Regional	Latin America: Organization of American States	http://www.oas.org/en/default.asp	No FDI data
Global or Regional	Commonwealth of Nations	http://www.thecommonwealth.org/s/documentlibrarysearch/181889/34293/documents/	No FDI data
Regional	Interstate Statistical Committee of the Commonwealth of Independent States	http://www.cisstat.com/eng/frame_cis.htm	No FDI data
Regional	Comunidad Andina, (Andean Community)	http://estadisticas.comunidadandina.org/eportal/Tema.aspx?codtema=38	Total FDI data 2001–10 for Andean Community, total per sector; aggregate available with forestry included
US outward flow	USA Bureau of Economic Analysis, Department of Commerce	http://www.bea.gov/itable/index.cfm	Forestry and logging FDI outward flow data
United States, Japan, and Canada outflow	OECD Stat	http://stats.oecd.org/Index.aspx?DatasetCode=FDI_FLOW_INDUSTRY	Wood, publishing, and printing (FDI flow)
Canada: outward flow	Statistics Canada	http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ08-eng.htm	Aggregate FDI position data only
Canada: outward flow	Foreign Affairs and International Trade Canada	http://www.international.gc.ca/economist-economiste/statistics-statistiques/investments-investissements.aspx?view=d	FDI stock (position) only
China: outward flow	Statistical Bulletin of China's Outward FDI flow (Ministry of Commerce)	http://english.mofcom.gov.cn/article/statistic/foreigninvestment/?2	Aggregate available for: "agriculture, forestry, husbandry, and fishing"

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SCOPE	SOURCE	LINK	FORESTRY INVESTMENT DATA AVAILABILITY
China: outward flow	National Bureau of Statistics	http://www.stats.gov.cn/english/statisticaldata/index.htm	No
India: outward flow	Reserve Bank of India	http://www.rbi.org.in/scripts/Data_Overseas_Investment.aspx	No forestry FDI
India: outward flow	Ministry of Statistics, India	http://mospi.nic.in/Mospi_New/Site/home.aspx	No forestry FDI
Russia: outward flow	Bank of Russia	http://www.cbr.ru/eng/statistics/?Prtid=svs&ch=PAR_31141#CheckedItem	Only total FDI data, no sector specification
Japan: outward flow	Bank of Japan	http://www.boj.or.jp/en/statistics/index.htm/	No FDI data
Malaysia: outward flow	Department of Statistics Malaysia	http://www.statistics.gov.my/portal/download_Buku_Tahunan/files/BKKP/2011/Buku_Tahunan_Perangkaan_Malaysia_2011%5BLaporan_Lengkap%5D.pdf	"Statistics Yearbook 2011"- FDI flows for an aggregate "agriculture, forestry, and fisheries"
Malaysia: outward flow	Central Bank of Malaysia	http://www.bnm.gov.my/index.php?ch=statistic_nsdp&uc=2	Total FDI flows, not specific to forest sector
Vietnam: inward flow	State Bank of Vietnam	http://www.sbv.gov.vn/	No FDI data
Vietnam: inward flow	Annual Report 2011: State Bank of Vietnam	http://www.sbv.gov.vn/wps/portal/!ut/p/c5/hY7BDoIwEEQ_qVPYUjgWsKVEJcBB5EJ6MAYj4MH4_aImHozo7vHN7FvWsnIHd-uP7tpPozuzhrVBh5QiqQWhSHMBW_i1twkj35Ri5vugS4zKSK4Bk5cJrMnrkGIOQP5p7x6-5YTyf3NLL_72A56GDXnFKy3ilREf_Mt_z_sLo8C22TQc2GVo0NsT3QFNcRCR/dl3/d3/L2dJQSEvUUt3QS9ZQnZ3LzZfMEQ0OTdGNTQwMFFLNDBJTzQzSVJFVjE4MTU!/#	Only aggregate FDI data
Vietnam: inward flow	Vietnam: Foreign Direct Investment and post crisis regional integration; ADB Working Paper 56 (Sep 2004)	http://www.geasiapacifico.org/documents/Vietnam%20FDI%20and%20Postcrisis%20Regional%20Integration.pdf	No FDI data as such, just some analysis

continued on next page

TABLE A.1. DATA SOURCES MAPPED *(continued)*

SCOPE	SOURCE	LINK	FORESTRY INVESTMENT DATA AVAILABILITY
Vietnam: inward flow	General Statistics Office of Vietnam	http://www.gso.gov.vn/default_en.aspx?tabid=471&idmid=3	Agriculture, forestry, and fishing FDI data for 2005–06, 2008–11
Indonesia: inward flow	Bank Indonesia: statistics	http://www.bi.go.id/web/en/Statistik/Statistik+Ekonomi+dan+Keuangan+Indonesia/Versi+HTML/Sektor+Moneter/	No FDI data
Indonesia: inward flow	Indonesia Investment Coordination Board: Statistics	http://www4.bkpm.go.id/contents/p16/statistics/17	Only some total FDI data
Indonesia: inward flow	Indonesia's Balance of Payment reports: Bank Indonesia	http://www.bi.go.id/web/en/Publikasi/Neraca+Pembayaran+Indonesia/	No data; some bar graphs on FDI in agriculture, forestry, and fishing
Indonesia: inward flow	Annual Reports 2003-2007: Bank Indonesia	http://www.bi.go.id/web/en/Publikasi/Laporan+Tahunan/Laporan+Perekonomian+Indonesia/	FDI inflow data on forestry, wood, and paper
Uganda: inward flow	Bank of Uganda: statistics and publications	http://www.bou.or.ug/bou/home.html	Only total FDI data, no sector specification
Uganda: inward flow	Uganda Investment Authority	http://www.ugandainvest.go.ug/index.php/key-sectors#	No FDI data
Uganda: inward flow	Uganda Bureau of Statistics: statistics and publications	http://www.ubos.org/	No FDI data

APPENDIX B: STUDY COUNTRIES INCLUDED IN PLANTATION INVESTMENT ANALYSIS

TABLE B.1. STUDY COUNTRIES INCLUDED IN PLANTATION INVESTMENT ANALYSIS

AFRICA	ASIA AND OCEANIA	LATIN AMERICA
Angola	Bangladesh	Argentina
Benin	Bhutan	Belize
Burkina Faso	Cambodia	Bolivia
Burundi	China	Brazil
Cameroon	India	Chile
Cape Verde	Indonesia	Colombia
Congo	Lao PDR	Costa Rica
Congo, DRC	Malaysia	Cuba
Côte d'Ivoire	Myanmar	Dominican Republic
Ethiopia	Nepal	Ecuador
Gabon	Pakistan	El Salvador
The Gambia	Philippines	Guatemala
Ghana	Sri Lanka	Guyana
Kenya	Thailand	Haiti
Lesotho	Vietnam	Honduras
Liberia	Papua New Guinea	Jamaica
Madagascar	Solomon Islands	Mexico
Malawi		Nicaragua
Mali		Panama
Mauritius		Paraguay
Mozambique		Peru
Nigeria		Suriname
Rwanda		Trinidad and Tobago
Senegal		Uruguay
Sierra Leone		Venezuela
South Africa		
Sudan		
Swaziland		
Tanzania		
Togo		
Uganda		
Zambia		
Zimbabwe		

APPENDIX C:
PRIVATE SECTOR PLANTATION INVESTMENTS AND INVESTMENT TRENDS IN LATIN AMERICA, ASIA, AND AFRICA

LATIN AMERICA

Brazil

Brazil is the Latin American country with by far the most forest plantation area (table C.1). According to ABRAF (Associação Brasileira de Produtores de Florestas Plantadas), there are more than 6.5 million ha of forest plantations in the country consisting mostly of eucalyptus.[19] During 2005-11, the total forest plantation area owned by industrial companies increased steadily from 2.4 million ha to 3.6 million ha, meaning on average, 171,000 ha per year. In 2011, TIMOs, other companies, and small and medium-scale private forest owners are estimated to own 0.8 million ha, 0.7 million ha, and 1.4 million ha, respectively.

According to ABRAF, about 125,000 ha of forest plantation was established by member companies in Brazil in 2011. This expansion is equivalent to about US$800 million of investment. In addition, the investments by TIMOs, other companies, and other small and medium-scale forest owners amount to some US$400 million. Brazil holds the vast majority, about 95 percent of total annual plantation investments in Latin America. In Brazil, the majority of new forest plantation investments are accounted by domestic industrial companies such as Suzano, JARI, Vale Florestal, ZOGBI, Fibria, and Florestal Brazil/Eldorado.[20] The new investments are also partly driven by the many infrastructure projects in central Brazil.

TABLE C.1. MAJOR COUNTRIES WITH PRIVATE SECTOR INVESTMENT IN LATIN AMERICA IN 2011

COUNTRY	TOTAL PLANTATION AREA (ha)	PRIVATE OWNERSHIP (ha)	ANNUALLY ESTABLISHED* (ha)	TOTAL INVESTMENT* (US$)
Brazil	6,576,000	6,552,000	125,000	1,200,000,000
Chile	2,261,000	2,253,000	90,000	180,000,000
Uruguay	952,000	950,000	40,000	48,000,000
Colombia	300,000	177,000	13,000	18,000,000
Argentina	1,101,000	1,092,000	15,000	18,000,000
TOTAL			283,000	1,464,000,000

* *Private sector.*
Source: Indufor Plantation Databank

Uruguay

In terms of private investment in plantations during the recent years, Uruguay is the third most important country in Latin America. In Uruguay, there are 952,000 ha of forest plantations almost completely

19 ABRAF (Associação Brasileira de Productores de Florestas Plantadas). 2012. ABRAF Statistical Yearbook 2012. www.abraflor.org.br/estatisticas/ABRAF12/ABRAF12-EN.pdf

20 Indufor plantation database (Brazil). Unpublished proprietary database containing information of total forest plantation area by country, region, and species as well as ownership data. Indufor, Helsinki, Finland.

privately owned. The majority, about 80 percent, is owned by international industrial companies, the biggest owners being Forestal Oriental (UPM) and Montes del Plata SA (Stora Enso), with 120,000 ha and 109,000 ha, respectively.[21] About 20 percent of the plantations are owned by TIMOs.

Plantation area increased in Uruguay by about 40,000 ha per year during 2008–11.[22] The increase has been mostly by private companies, amounting to an estimated annual increase of US$48 million of investment. Compared with other countries in the region, land ownership in Uruguay is clear and in this context safe for foreign investors. Foreign investments are treated similarly to local investments.

Uruguay is known internationally for the UPM-Kymmene (formerly, Botnia) pulp mill investment in mid-2000. Total investment in the mill, infrastructure, and plantations is estimated to be more than US$2 billion. At that time, it was the largest-ever industrial investment in the country. In 2009, Arauco-Stora Enso invested an estimated US$1.9 billion in pulp mill and plantation assets. In addition, the American company Weyerhaeuser has invested in plantations and the forest industry in Uruguay. A number of major TIMOs, such RML Timberland Group and GMO Renewable Resources, are present.

Colombia and Argentina

The remaining countries with notable forest plantation area and a slightly increasing trend are Colombia and Argentina. In Colombia, more than 50 percent (177,000 ha) of the plantations are privately owned. Four major private industrial forest owners hold about half of these plantation resources. RISI has established an estimated 13,000 ha of private plantations in Colombia in 2011. The total private investment value is likely about US$18 million. The recent political environment has encouraged international timberland investors to aspire investments; however, development has been slow.[23]

Argentina is a major country in terms of plantation area. In total, there are about 1.1 million ha of forest plantations, almost all privately owned. About 40 percent of the private forest plantations are owned by three large Chilean companies (Arauco, CMPC, and MASISA). Recent data on plantation area expansion are limited. DANA (2010) reports that Argentina remains off the mainstream radar of timberland investors. In Argentina, privately owned plantations have increased annually by about 15,000 ha, or US$18 million of investment.

Others

Notable privately owned plantation resources exist also in Mexico (37,000 ha), Paraguay (8,900 ha), and Nicaragua (4,600 ha); however, current investment activity in these countries is very low.

Regional Domestic and Foreign Direct Investment Trends in Latin America

The division of private forest plantation investment between domestic investments and foreign direct investment varies in the study countries area. Exact shares between FDI and DI are impossible to estimate exactly, but well-informed estimates can be provided.

21 Pike&Co Consultora Forestal. 2011. *Forestation in Uruguay*. Unpublished.

22 Indufor plantation database (Uruguay). Unpublished proprietary database containing information of total forest plantation area by country, region, and species as well as ownership data. Indufor, Helsinki, Finland.

23 DANA Limited. 2010. *International Timberlands Ownership and Investment Review, 2010 Edition*. DANA Ltd.

The four main types of forest investors are as follows:

- Large integrated international forest industry companies, such as Stora Enso and UPM, that operate through their affiliates in the host country. These companies are located in Uruguay, Argentina, and Brazil.
- Large domestic industrial companies, like Brazilian Suzano, JARI, Vale Florestal, ZOGBI, and Fibria and Chilean Arauco, CMPC, and MASISA, which own major plantations in Argentina.
- Domestic medium-scale solid wood processing companies or private forest owners, which operate among the large international and domestic industrial companies.
- Pension funds, investing directly or through TIMOs, that own forest plantations especially in the small and medium-scale category.

ASIA

China

China has experienced a major increase in total forest area and has the largest plantation area in Asia (table C.2). The Chinese State Forestry Administration reports in the National Forest Inventory, completed in 2008, that the total area of plantation forests increased from 49.4 million ha in 1998 to 61.7 million ha in 2008. This figure includes plantations designated for purposes other than industrial. According to the same study, about 32 percent of total forest crops are owned by individuals and companies.

TABLE C.2. MAJOR COUNTRIES WITH PRIVATE SECTOR INVESTMENT IN ASIA AND OCEANIA IN 2011

COUNTRY	TOTAL PLANTATION AREA (ha)	PRIVATE OWNERSHIP (ha)	ANNUALLY ESTABLISHED* (ha)	TOTAL INVESTMENT* (US$)
China	7,192,000	2,824,000	75,000	150,000,000
Indonesia	2,528,000	1,630,000	119,000	71,400,000
India	3,598,000	343,000	65,000	32,500,000
Malaysia	573,000	192,000	21,000	14,700,000
Lao PDR	284,000	44,000	7,600	4,560,000
Papua New Guinea	32,000	26,000	3,000	1,800,000
Cambodia	17,000	7,000	2,000	1,400,000
Solomon Islands	30,000	12,000	1,000	700,000
TOTAL			294,600	277,060,000

* *Private sector*
Source: Indufor Plantation Databank

The private plantation area established annually in China is conservatively estimated to be about 75,000 ha, corresponding to US$150 million in investment. This estimate is based on confirmed reliable investment data for a few leading Chinese companies and international companies operating in China.

The reliability of data on reported planted areas is affected by the following factors:

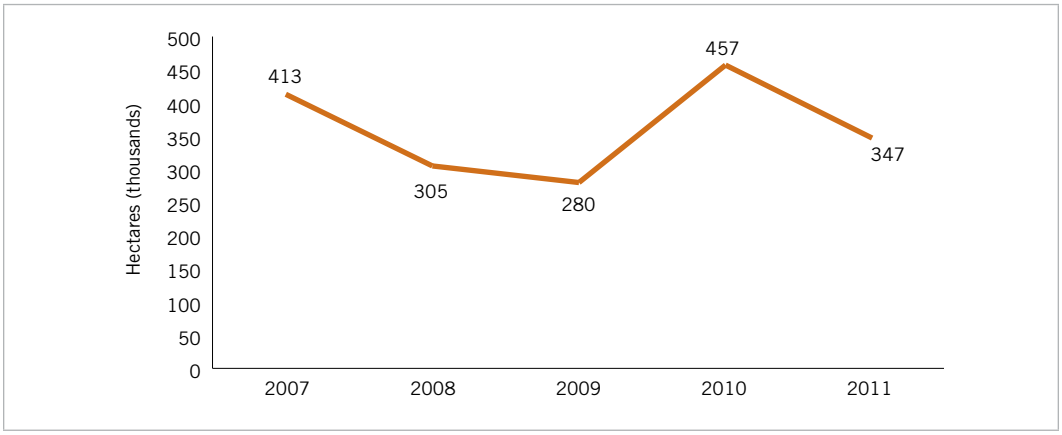
- In Chinese term "plantation forests" may include plantations with functions other than wood production—for example, plantation, natural, semi-natural, conservation, and protection—that are erroneously classified as industrial forest plantations.

- Companies may claim to have a certain plantation resource even though the planting has not been realized yet. This is used for publicity, because most of these companies are listed firms. Also, it is not clear whether they control the forest titles or actually own these forests. Chinese government websites mention massive plantation programs but rarely disclose the forest ownership and holdings by the private companies.

Indonesia

In Indonesia, the annual private investment in forest plantations is estimated at US$71 million in 2011. Indonesia has about 1.6 million ha of privately owned plantations. Forestry Statistics of Indonesia presents the progress of industrial forest plantations. According to the statistics, the planted area has varied between 280,000 ha and 450,000 ha during 2007–11 (figure 1).[24] However, this number includes both replanted and newly established areas. According to the International Tropical Timber Organization (ITTO), the rate of newly established plantations during 1998-2002 was about 120,000 ha per year.[25] Based on consultant estimates, the amount of newly established plantations in Indonesia is expected to be closer to the ITTO estimate. New plantation projects are taking place, especially in the Kalimantan province. The main private investors in Indonesia are domestic companies or foreign companies in partnership with Indonesians.

FIGURE C.1. PROGRESS OF NEWLY PLANTED AND REPLANTED FOREST PLANTATIONS IN INDONESIA



Source: Forestry Statistics of Indonesia 2011

Others

India has vast plantation resources totaling almost 3.6 million ha. However, this resource is largely scattered into small-scale plantations managed by village communities. According to FAO's Asia Pacific Forestry Outlook Study of India, there are 343,000 ha of plantations owned by private industrial owners.[26] According to the same study, an increase of about 65,000 ha took place in 2005–06. The total private sector investment in forest plantations in India is estimated at US$32.5 million and in Malaysia at US$15 million.

24 Ministry of Forestry in Indonesia. 2012. *Forestry Statistics of Indonesia 2011*. Jakarta, Ministry of Forestry in Indonesia. http://www1.dephut.go.id/files/BUku%20Statistik%20Juli%202012_terbaru.pdf

25 Blaser, J., A. Sarre, D. Poore, and S. Johnson. 2011. "Status of Tropical Forest Management 2011." ITTO Technical Series No 38. (ITTO) International Tropical Timber Organization, Yokohama, Japan. www.itto.int/direct/topics/topics_pdf_download/topics_id=2645&no=1&disp=inline

26 FAO (Food and Agriculture Organization). 2009. Asia Pacific Forestry Sector Outlook Study II. http://www.fao.org/asiapacific/forestry-outlook/en/

Small plantation properties have been established recently in Lao PDR, Papua New Guinea, Cambodia, and Solomon Islands mainly by private forest industry companies. These countries together make up an investment of US$8.5 million.

Regional Domestic and Foreign Direct Investment Trends in Asia and Oceania

In the developing countries of Asia and Oceania, the private investment scene is dominated by two types of forest investors:

- Traditional integrated forest industry companies, such as Stora Enso, APP (Indonesian) and APRIL (Indonesian), whose goal is to secure the raw material base with investments. These countries operate mainly in China and Indonesia. APP and APRIL are among the biggest examples of South-to-South investment in the forestry sector through their total investments in China that exceed US$2 billion.
- Listed companies, both international and domestic, which are focusing on timberland management and selling plantation wood.

A few Western forest industry companies have been operating in *China* for about a decade. In most other Asian developing countries, like Lao PDR, Cambodia and Vietnam, these companies have been running trial plantations. Major investments to these countries are still on hold, due mostly to political instability and market risks. A major increase in privately owned plantations is occurring in China, Indonesia, and Malaysia. It needs to be noted that as of today there are only three investments by TIMOs in Asia.

AFRICA

Mozambique

In Mozambique, several investments in new plantations by private companies and funds have taken place in 2011. During this time, the plantation area has increased about 13,000 ha, resulting in approximately US$10.4 million of investment (table C.3). Most of the increase is by the Chikwet Global Solidarity Forest Fund.

TABLE C.3. MAJOR COUNTRIES WITH PRIVATE SECTOR INVESTMENT IN AFRICA IN 2011

COUNTRY	TOTAL PLANTATION AREA (ha)	PRIVATE OWNERSHIP (ha)	ANNUALLY ESTABLISHED* (ha)	TOTAL INVESTMENT* (US$)
Mozambique	44,000	42,000	13,000**	10,400,000
Sudan	286,000	43,000	5,000	4,000,000
Uganda	62,000	15,500	3,500	2,800,000
Tanzania	193,000	37,000	3,000	2,550,000
TOTAL			24,500	19,750,000

** Private sector investment;*
*** Not a typical year for Mozambique.*
Source: Indufor Plantation Databank

Others

By African standards, Sudan has a notable amount of forest plantations. Private plantations are owned mainly by tobacco and tea manufacturing companies. However, the establishment rate of new plantations is small, amounting to a total investment of some US$4 million. In Uganda and Tanzania, several emerging plantation investments have been made by a few Western companies such as Green Resources and The New Forest Company. Annual plantation expansion is in the range of 3,000-3,500 ha per year, making the total investment for these countries about US$5.3 million. Privately owned plantation resources exist also in Burundi (65,000 ha), Angola (60,000 ha), and Malawi (11,000 ha); however, current investment activity in these countries is very low.

In Ghana, several companies have started plantation projects particularly focusing on teak (for example, FORM and Miroforestry) and recently on fast-growing trees providing biomass for energy co-generation (for example, African Plantations for Sustainable Development). In Liberia, a Swiss-based foundation, Buchanan Renewables, is seeking opportunities to become a major renewable energy company, supplying both domestic energy production and European power companies. Currently, it mainly processes end-rotation rubberwood trunks for woodfuel.

Regional Domestic and Foreign Direct Investment Trends in Africa

There are three main types of private forest plantation investors in Africa:

- International plantation companies, some of which also invest in integrated sawmilling and board and wood chip production. Companies such as Green Resources and New Forests Company are operating in several African countries. In 2011, both those two companies were estimated to have invested about US$3 million to new forest plantations in Mozambique, Sudan, Tanzania, and Uganda.
- TIMOs and foundations forming a subsidiary company to manage the acquired assets. The latter often have mixed ownership of public institutions and private companies.
- Pulp and paper and other processing companies investing to their own plantations.

TABLE C.4. FOREST PLANTATION INVESTMENTS BY GREEN RESOURCES AND NEW FORESTS COMPANY IN AFRICA IN 2011

	GREEN RESOURCES		NEW FORESTS COMPANY	
Country	Total Plantation Area (ha)	Estimated Investment in 2011 (US$)	Total Plantation Area (ha)	Estimated Investment in 2011 (US$)
Mozambique	3,000	800,000	1,500	1,200,000
Sudan	500	240,000	-	-
Tanzania	13,000	850,000	6,000	850,000
Uganda	5,500	1,200,000	10,000	960,000
TOTAL	22,000	3,090,000	17,500	3,010,000

Source: Indufor Plantation Databank

Although the potential for forest plantation development in Africa, especially in areas south of the Congo River, is very good, no significant new plantations were established during the observed period. Some obstacles hindering further investments by investors are difficulties related to climate, land availability, tenure, poverty, and corruption. Nevertheless, recent years have shown a cautious increase in plantation area. New plantations are almost entirely established by foreign direct investment.

APPENDIX D: ASSESSMENT OF DATA SOURCES ON FOREIGN DIRECT INVESTMENT IN DEVELOPING AND EMERGING COUNTRIES

FINDINGS ON DATA AVAILABILITY

Global Level

Public data sources for global and country-level total FDI inflows and outflows are available,[27] but less data are available for forest sector-specific FDI flows. Three global-level sources have relevant information available: the International Trade Center (ITC), UNCTAD World Investment Report (WIR), and the fDi Markets. The last is a private sector for-fee database of the *Financial Times* and it provides data on greenfield investment for different classes relevant to the forest sector.

The FDI data gathered by various public free access databases are typically based on country surveys usually targeting the central bank or regional central bank, and in some cases other institutions such as government Department of Statistics or monetary authority, or individual companies. In the absence of national data, some reporting authorities use other sources such as the IMF or the OECD, and also proxies and estimates for some years (see, for example, WIR 2012 Methodological Note[28]).

ITC

The ITC database collects yearly FDI statistics for about 200 countries and detailed FDI sectoral and country breakdowns for about 115 countries. The ITC has both FDI inflow and outflow data for 2002–11. Data are for "Forestry logging and related activities" under the primary class "Forestry and fishing" and for the secondary class under "Wood and wood products" (including subclasses "Sawmilling and planing of wood," "Manufacture of wood products, cork, straw and plaiting materials," "Paper and paper products," and "Unspecified wood and wood products").

The class "Forestry logging and related activities" includes growing standing timber (including planting, replanting, transplanting, thinning, and conserving forests and timber tracts), operating tree nurseries, logging, and logging service activities. So investment into nurseries and plantation establishment and management activities cannot be separated from investment into the purely extractive activities of logging and related services in the context of, for example, natural forest concessions. Growing trees for natural rubber latex is excluded because it is under "Growing of cereals and other crops."

The class "Wood and wood products" (and its subclasses) includes investment in processing, such as operation of sawmills and planing mills; sawing rough lumber or timber from logs and bolts; planing, slicing, peeling or chipping logs; impregnating or chemical treatment of wood; manufacture of wooden products such as railway sleepers, veneer, plywood, carpentry, and joinery products; natural cork products;

27 If different types of FDI are available, this is noted separately in context of the source.

28 UNCTAD (United Nations Conference on Trade and Development). 2012. *World Investment Report 2012: Methodological Note*. Geneva: UNCTAD.

manufacture of various types of pulp and paper, among other things. Investments into primary or secondary processing cannot be separated because many subclasses include both the primary and secondary types of processing products.

In general, some major recipient countries have inflow data, such as Brazil, Uruguay, Chile, and Russia, but some, such as South Africa and China, do not have sector-specific FDI data. Also some major source countries have forest sector-specific outflow data, such as Japan, Canada, the United States, and Brazil, some, such as China, India, Russia, and Malaysia, do not. In all cases, data are available for only some years between 2008 and 2011.

However, available data cover almost none of the OECD DAC ODA recipient countries. In total, for the primary subclass "Forestry logging and related activities," inflow data are available for 10 countries and outflow data for 4 countries. For the secondary main class "wood and wood products," inflow data are available for 45 countries and outflow data are available for 28 countries (subclass data are available for some subclasses and for some countries). However, most countries have only limited data for years between 2002 and 2011.

UNCTAD

The annual World Investment Report (WIR) by UNCTAD presents various global-level data. Electronic annex tables[29] present data for the "Value of greenfield FDI projects" by sector and industry from 2003 to 2011, for "Value of cross-border M&A sales" by sector and industry from 1990 to 2011, for "estimated world inward FDI flows" by sector and industry for 1990-92 and 2008-10, and for "estimated world outward FDI flows" by sector and industry for 1990-92 and 2008-10. The data do not allow country comparisons, but for FDI flows data are provided for groups: developing economies, developed economies, and transition economies. For the "value of FDI greenfield projects by sector" and "Value of cross-border M&A sales, by sector," only a world total is given. This is the only source that allows some observation of different types of FDI.

Data classes for sectors or industries relevant for forests are "wood and wood products" (same as ITC), and an aggregate "agriculture, hunting, forestry and fisheries." "Wood and wood products" includes sawmilling and planing of wood; manufacture of products from wood, cork, straw, and plaiting materials; veneer sheets and wood-based panels; builders' carpentry and joinery; wooden containers; other products of wood; articles of cork, straw, and plaiting materials' manufacture of pulp, paper, and paperboard; and corrugated paper, paperboard, and containers of paper.[30] The aggregate (where "forestry" not separated) includes production of roundwood for the forest-based manufacturing industries, extraction and gathering of wild growing nonwood forest products, and forestry activities that include no or minor processing (fire wood, charcoal, woodchips, pit-props, pulpwood, and so on). These activities can be carried out in natural or planted forests.

The fDi Markets Database by Financial Times

The fDi Markets is an online database tracking cross-border greenfield investment per sector and per country. The data are available through an annual subscription fee of EUR 11,250 per user. Data classes available for the forest sector are "Forestry and logging," "Wood products" (including "Chipboard, flooring/

29 http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx

30 Both ITC and UNCTAD classify "wood and wood products" according to ISIC Rev. 3 class 20 and 21: http://unstats.un.org/unsd/cr/registry/regcst.asp?cl=2

panels, houses, furniture, pulp mill and so on") and "Paper, Printing & Packaging" (including "Packaging, labeling, printing, paper bags and so on"), which are further divided to subclasses. Data are available from 2003 and can be observed by year and cumulatively. The FDI Markets data are likely the most detailed available on greenfield investments into the forest sector; other databases, such as UNCTAD, use data from the fDi Markets. Unlike public databases, which survey countries for data, the fDi Markets acquires the data through media search streams and data exchange with user organizations. The fDi Markets estimates that more than 95 percent of greenfield investments are covered by the database.

Regional Level

At the regional level, four sources have relevant information. OECD StatExtracts, EuroStat, AseanStats, and Andean Community have FDI data for member countries of their respective regions. Only EuroStat and OECDStat have data available in disaggregated form for a forest sector-relevant class. AseanStats and Andean Community have forestry data only aggregated with other sectors such as agriculture.

OECD

OECD statistics cover its 34 member countries. The database reports FDI inflows and outflows for OECD countries by country. In the broad categories,[31] there is no class for forestry alone. Forest-specific FDI can be found under the primary sector "manufacturing" for "wood, publishing and printing."[32] According to the database, the class includes a detailed list of activities such as sawmilling; manufacturing of wood products such as veneer, plywood, board and pulp, paper, and paperboard; and publishing and printing of books, newspapers, journals, and so on. This means that a wide range of primary and secondary processing activities are included (not available separately). But upstream investments into forestry activities are not included.

For the purpose of this report, outflows from OECD countries are of interest. Forestry-relevant outflow data are available for many, but not all, OECD countries. Data are also available generally for some years in 2001–11 and for some major source countries, such as the United States (2001–11), Canada (2001–05), and Japan (2004–11).

EuroStat

EuroStat provides data for individual EU countries and for different combinations of EU and euro zone countries (EU 27, 25, and so on). Data include the forest-relevant classes "Agriculture, forestry and fishing" and "Wood, publishing and printing." For the latter class, data are available from 2004 to 2009. For a slightly different class, "Manufacture of wood, paper, printing and reproduction," data are available for 2008–10, but because of a change in classification[33] these data series cannot be combined without consideration of the new classification.

Forestry, logging, and related service activities are presented only inside the aggregate "Agriculture, forestry and fishing," so upstream investment cannot be observed. Processing-related investments are presented in "Manufacture of wood, paper, printing and reproduction" and include manufacture of wood and of

31 (i) Primary Sector (Agriculture and Fishing, Mining and Quarrying), (ii) Manufacturing, (iii) Electricity, Gas, and Water, (iv) Construction, (v) Total Services sectors.

32 For classification, OECD uses NACE, which is derived from ISIC. "Wood, publishing and printing" includes the same two classes as ITC and UNCTAD, "Manufacture of wood and of products of wood and cork…," and "Manufacture of paper and paper products" but also "Printing and reproduction of recorded media."

33 Change from NACE rev. 1.1 for series until 2009 to Nace rev. 2 for 2008-11 series. http://epp.eurostat.ec.europa.eu/portal/page/portal/nace_rev2/correspondence_tables

products of wood and cork such as sawmilling and planing of wood; manufacture of veneer sheets, wood-based panels, and assembled parquet floors; other builders' carpentry and joinery; other products of wood; manufacture of paper and paper products such as pulp, paper, and paperboard; and printing and reproduction of recorded media.

ASEAN

Data are available only for the aggregate class "Agriculture, fishery and forestry." Data for the aggregate can be found per country from AseanStats for 2005–10 and, for example, from the Asean Investment Report 2010–11 for 2000–10. AseanStats was contacted to see whether forestry data can be separated from the aggregate, but no response was received. AseanStats use a regional classification, adapted from ISIC rev. 4 classification, and the aggregate is hence assumed to include: silviculture and other forestry activities, logging, gathering of nonwood forest products, and support services to forestry.

Andean Community

Andean Community (CAN) has FDI data on member countries: Bolivia, Colombia, Ecuador, and Peru. Data include the aggregate for "Agriculture, forestry, hunting and fishing," which includes forestry products such as wood and nontimber products. A disaggregated forest sector-specific class is not available.

National Level

At the national level, FDI data come from the central bank or other institutions such as a national statistics center. In some cases, these institutions provide publicly available FDI data, but generally, sector-specific FDI data are not available from country sources. When they are available, they often are not broken out by sector/industry and forest relevant subclasses. Data that are available in regional or global databases are collected through frequent interaction with the database from these national institutions. These data sources do not generally have data on domestic investments because they usually report data derived from foreign exchange records of the central bank.

At the national level, some key countries where forest sector investments are known to take place or originate were selected for mapping data availability and country-level sources. Countries studied for FDI outflow data availability were the United States, Canada, EU, Brazil, India, and Malaysia, and for FDI inflow, the OECD DAC developing (ODA recipient) countries were Vietnam, Indonesia, Brazil, Uruguay, South Africa, Uganda, and Mozambique. Data on forest sector investments are generally poorly available from country sources with few exceptions.

Data from country-level public sources is sporadic. In the United States, the Bureau of Economic Analysis (BEA) publishes FDI data per sector. BEA provides FDI data for "Forestry and logging." In China, the Statistical Bulletin of the Ministry of Commerce publishes FDI data for an aggregate "Agriculture, forestry, husbandry and fishing." A similar aggregate, "Agriculture, forestry and fisheries" is also available for Malaysia from the Department of Statistics, and for Vietnam from the Central Statistics Office. The Bank of Indonesia has some FDI inflow data for "Forestry, Wood and Paper" in their Annual Reports. In many cases, data on total FDI flows are available but sector-specific data are not.

APPENDIX E: COUNTRY CASE STUDIES—EVIDENCE FROM PRIVATE SECTOR FOREST FINANCING

The case studies focus on analyzing constraints to private financing and lessons learned in resolving constraints. Case studies are not systematic because the sample is small. Rather, they have been selected strategically to represent relevant country and investor or industry typologies. Detailed case studies include Brazil, Malawi, Tanzania, Lao PDR, and Russia (emerging country case) as well as an analysis of challenges faced by international timberland investors in investing in developing and emerging countries. In addition, quick analysis of factors constraining or driving commercial forest plantation investments in Argentina, Brazil, China, Indonesia, Malaysia, other southeast Asian countries, and Africa is provided. In chapter 5, "Overview and discussion of findings," the representativeness of the case studies is discussed to assess how well these studies capture well-known constraints and enable drawing more "global" observations and recommendations.

RECIPE FOR SUCCESS—PLANTATION INVESTMENTS IN BRAZIL

Brazil is one of the world's leading forestry countries with 471 million ha of forests covering about 61 percent of the land surface. The plantation area is about 6.5 million ha, comprising mainly eucalyptus and pine species. Over the past three decades, the country has been able to develop significant forest industries based on systematic investment in tree plantation development. Brazil remains one of the most attractive forest investment targets in Latin America. The forest sector contributes about 3 percent to GDP, and forest products' share of total exports is about 5 percent. The Brazilian forest sector has expanded with an average growth rate of 6.5 percent per year over the past two decades.

Investment in the forest industry has clearly been driven by plantation-based forestry while natural forest-based concession forestry has remained somehow underdeveloped, with mainly small and medium-size operators. The concession operators are typically family-run entrepreneurs who have limited capital. The business models seldom allow significant expansion or replication elsewhere. Further, natural forests are increasingly left for conservation and protection purposes; production models are often based on community-based management models and multiple-use management.

Private versus Public Sector Investments

The annual level of total private sector forest and forest industry-related investments is at a minimum US$2.5 billion; the level of annual public investments is about US$0.6 billion. The major part of private forest investments has been targeted at pulp and paper production and respective plantation development by Brazilian companies. Foreign companies played a relatively bigger role in the past. International pulp and paper companies, such as Stora Enso, Norske Skog, International Paper, and CMPC, still maintain a presence in Brazil. Today practically all foreign companies operate through their Brazilian affiliates. Recently, there have been at least two major investments in pulp mills and plantations: Eldorado and Suzano are

both planning to have new pulp production capacity of 1.5Mt (megatonne). Each investment is about US$2 billion.

In the past decade, increasing foreign investment flows have originated from timberland investment management organizations that are managing foreign financial investor allocations. Also national and regional forestry funds have emerged. Recently, new regulations concerning restricting foreign landownership were introduced. Recent interpretation of the legislation has slowed down to some extent foreign direct investments in land acquisition. Further, the market has become increasingly efficient and land prices have risen, which is restricting foreign investments.

Public forestry investments are mainly targeted, for social reasons, to the north and the northeast regions of Brazil. About one-third of public investments are ODA and two-thirds are financed by the Brazilian government agencies. The main topics of these public investments have been social development, extension, R&D, and recently REDD+ related projects. ODA in particular has increasingly been directed to REDD+ readiness and pilot projects in the Amazon area.

TABLE E.1. KEY AVERAGE ANNUAL INVESTMENT FLOWS

INVESTMENT OR FINANCING TYPES	PLANTATION BASED[34]			NATURAL FOREST BASED			NOT DEFINED	TOTAL ANNUAL INVEST-MENT FLOW
	Total Area	Wood Production	Industrial Processsing	Total Area	Conces-sions[35]	REDD+		
	Million ha	Million US$/year		Million ha	Million US$/year			
Forest industry companies (ABRAF members)[36]	3.6	800[37]	1,200					
Funds (TIMOs)	0.8	200						
Other companies	0.7	100						
Private forest owners (small and medium)	1.4	100						
Logging and primary processing companies				1.0	100			
ODA						150	25	
Brazil public grant[38]							385	
TOTAL AREA	6.5			465				
INVESTMENTS		1,200	1,200		100	150	410	3,060

34 Sources: ABRAF, BRACELPA, and Indufor database. ABRAF (Associação Brasileira de Productores de Florestas Plantadas). 2012. ABRAF Statistical Yearbook 2012. www.abraflor.org.br/estatisticas/ABRAF12/ABRAF12-EN.pdf Indufor plantation database. Unpublished proprietary database containing information of total forest plantation area by country, region, and species as well as ownership data. Indufor, Helsinki, Finland.

35 http://www.brasil.gov.br/news/history/2010/11/05/forest-concessions-exceed-1-million-hectares/newsitem_view?set_language=en; the minimum price of a concession of 50,000–100,000 ha is about 20 million Brazilian reals per year (about US$10 million).

36 ABRAF members are mainly Brazilian forest and forest industry companies.

37 Plantation-based investments include also investments in acquisitions of existing assets. Greenfield investments to new plantations are estimated at US$260 million.

38 Tomaselli, I. 2012. *Forest Financing: Latin America and Caribbean Region*. UNFF (United Nations Forum on Forests): Curitiba.

How Has the Investment Climate Changed over Time?

Plantation development accelerated in 1970s thanks to the incentive schemes that were able to create a critical mass of plantations. The incentives were subsidies and tax exemptions financed by the Brazilian government. During the same period, the government also subsidized deforestation of native forests mainly in the north (Amazon) for agriculture and cattle ranching. Forest plantations were developed mainly in the south and southeast where the land tenure was clearly defined.

Public investments have accelerated private investments through major infrastructure development and R&D, both of which have increased productivity and competitiveness of the sector. The government has supported the extension as well as R&D of plantation technologies, especially through the Brazilian Company of Agricultural Research (EMBRAPA). Over time, the companies have developed their own R&D and extension programs as part of the tree farming schemes.

Since the implementation of the incentive scheme, many major industrial projects were developed in addition to many other major forest industry development projects. The main driver of plantation investments since the 1990s has been industrial development supported by foreign investments, development bank loans, and also financing from local sources, Brazilian development banks (BNDES). The annual level of forestry-related loans of the BNDES has been about US$160 million (2006 to 2012).

The past incentive schemes faced two main criticisms: (i) they favored large-scale landowners, and (ii) they were accused of causing conversion of native forests to plantations. Today the nature of plantation development has changed, and environmental as well as social aspects are addressed much better than in the past.

The main underlying reasons for success have been (i) available land areas for plantation development with excellent tree growing conditions, (ii) existing infrastructure, (iii) developed technology, (iv) access to markets, and (v) favorable policies toward forest investments. The Brazilian government promoted forest plantation investments with a national incentive scheme from the 1970s to 1980s. Since then, states (provinces) have developed their own schemes and facilitated industrial investments. The land is mainly freehold land with clear land tenure conditions.

The main remaining obstacles have been general weakness and red tape in the business environment (reflected in a poor *Doing Business* report ranking), conflicts with civil society related to large-scale landownership, and monocultures threatening biodiversity and local social development. However, over time, forest companies and other plantation developers have become more capable in developing socially and environmentally sound models that take into consideration civil society criticism. Environmental legislation was initially taken as a constraint; however, it has forced companies to improve their performance and has also facilitated financing from sources that demand sustainability. Most of the plantation investments have been developed jointly with pulp and paper industries and to some extent with pig iron industries.

Lessons Learned

Based on lessons learned in Brazil, one can conclude that (i) public incentives in plantation establishment and industrial development can accelerate the industrial development, (ii) private sector investments can drive small and medium-scale tree growing with significant social development, and (iii) private sector investment can be an effective means of biodiversity conservation.

Public incentive schemes financed by governments or donor agencies can be successful and facilitate private sector development. The positive impacts of incentive schemes based on the Brazilian experience include:

- Creating a critical mass of forests leading to the establishment of forest-based industries.
- Catalyzing socioeconomic development and reducing poverty in rural areas.
- Releasing pressure from natural forests.
- Strengthening land tenure.

In order to avoid negative experiences, such as inefficiencies, suboptimal land use, poor quality plantations, and loss of biodiversity as well as neglect of small-scale growers, successful incentives should be:

- Performance based—focusing on high survival rates and high productivity.
- Combining direct incentives with tactical assistance (indirect enabling incentives).
- Temporary in nature (prepared to phase out at certain point of time).
- Inclusive rather than exclusive: supporting small-, medium-, and large-scale tree growers.
- Complying with the best environmental and social standards.

Private sector investments can have significant contributions to social development with correct models. Criticism of large-scale monocultures and the past conversion of native forests to plantations have contributed to new development of environmentally and socially sound tree farming. The Brazilian tree farming model (outgrower schemes) is a forerunner, allowing small and medium-scale tree growers to benefit from forest sector growth. Thanks to the big companies, technology and markets have been also available for small-scale growers.

The key factors that have enabled increasing participation of small and medium-size tree growers are (i) social pressure on companies to assist local communities, (ii) companies' additional needs for raw material sourcing, and (iii) the fact that forestry has been a financially viable land use option for local landowners. Of course, it has been crucial that the local landowners have benefited from companies' technology, market opportunity, and even in some cases financial assistance. Farmers, on the other hand, are committed to comply with best practices and in some cases also to sell some mature wood to the company.

Private sector investments can have significant contributions in biodiversity conservation. The Brazilian plantation model has started to contribute to biodiversity conservation, although problems also still remain. Partly because of the legal obligations and partly because of voluntary measures, forest farms have been able to rehabilitate significant areas of native vegetation. The law obliges plantation owners to reserve significant areas—from 20 percent to 80 percent of the farm area—for conservation purposes. Many companies have, in addition, promoted voluntary conservation.

The "new" Brazilian plantation and conservation model has been recognized by such international environmental NGOs as the Word Wildlife Fund (WWF) and Conservation International. WWF has actually launched a New Generation Plantation Project that promotes good plantations—the well-established Brazilian practice is apparently the model for this initiative.

ENABLING POLICIES AND INCENTIVES ACCELERATE TREE GROWING IN TANZANIA

Tanzania has about 33.5 million hectares of forests and woodlands, which is one-third of the total country land area of 94.7 million hectares. About 12.5 million hectares of forests have been declared National or Local Authority Forest Reserves. Forests within national parks and game reserves cover 2 million hectares. The remaining 19 million hectares, of which the vast majority is woodlands, is on village or general land.

The area of the industrial plantations is estimated to be 230,000 hectares, that is, less than 1 percent of the total forest area. The government is the biggest plantation owner with 83,000 hectares, most of which are not very productive. The government-managed plantations in the Southern Highlands account for 50 percent of total area and supply about 85 percent of the raw material intake of the forest product processing industry in the country.

The major private industrial plantations, totaling 40,000 ha, are owned by Mufindi Paper Mills, TANWAT, Green Resources, Kilombero Valley Teak Company, and New Forests Company. These plantations are located mostly in the Southern Highlands. In addition, there are small-scale woodlots and medium-sized plantations owned by smallholders, businesspeople, communities, districts, tea companies, faith-based organizations, schools, and others. The area is estimated to be in the range of 50,000–100,000 hectares.

TABLE E.2. INDUSTRIAL PLANTATIONS IN TANZANIA

PLANTATION	PLANTED (PRODUCTIVE AREA) (ha)	LAND BANK OR RESERVATIONS (ha)
Private Plantations		
Large Industrial Investors		
Mufindi Paper Mill	3,600	30,000-40,000
Tanganyika Wattle Company	14,500	Not known
Green Resources	12,000	70,000
Kilombero Valley Teak Company	8,100	28,132
New Forests Company	1,400	4,000
Sub-total	**39,600**	-
Nonindustrial private smallholders and others	50,000–100,000	-
Total Private Plantations	**89,600–139,600**	
State Plantations		
Sao Hill	41,600	-
North Kilimanjaro	6,200	-
West Kilimanjaro	6,000	-
Meru/Usa	5,700	-
Shume/Magamba	3,800	-
Buhindi	3,200	-
Kiwira	2,600	-
Rondo	2,600	-
Longuza	2,500	-
Others (<2000 ha, 7 plantations)	8,800	-
Total State Plantations	**83,000**	-
TOTAL	**172,600–222,600**	**~130,000**

Source: Indufor Plantation Databank

Motivating Private Investors through Policy and Institutional Reforms

Most Tanzanian private forest plantations have been developed from 1990 onward, motivated by policy and institutional reforms that encouraged the establishment of private plantations. Government policy on security of land tenure is clear. In the past, the government has issued leasehold title deeds for 99 years to companies wishing to engage in forestry or other agricultural land uses.

At one point, the Tanzania Investment Center also attracted foreign investments through, among other things, short-term tax exemptions and duty-free machinery imports as well as continuously decreasing red tape for investments. In the early 1990s, the government started major macroeconomic reform programs through which the forest industries under the Tanzania Wood Industries Company were privatized. The national forest policy (1998) and legislation (2002) were reformulated to provide a strong basis and an enabling environment for private sector involvement in forest management. The changes also triggered the government to create an enabling environment for private investors. Launching of the Tanzania Forest Services Agency in July 2011 was a further step toward more efficient and effective supply of quality forest products and services to investors and other stakeholders. Its impact still remains to be seen.

Green Resources, a Norwegian company, has been among the forerunners in forestry plantation investments, wood processing, and producing greenhouse gas emission credits in East Africa. Green Resources decided to focus on East Africa due to land availability, good rainfall, low-cost labor, political stability, and a long-standing Nordic development aid presence in the region, which have paved the way for investments. The company commenced its operations in Tanzania in 1996 by acquiring land in two villages, and completed the purchase of the Sao Hill Sawmill assets in 2003. In June 2012, Sao Hill Industry, a subsidiary of Green Resources, constructed a new modern sawmill and drying kiln to produce high-quality raw material for domestic building and furniture industry. The investment worth of US$10 million is expected to compete effectively in regional markets, substitute for imported products, and create thousands of downstream jobs.

Also, the fact that Tanzania is on the coast with a deep seaport and good international access has had a positive impact on large-scale forestry investments. For example, Kilombero Valley Teak Company (KVTC) is already exporting its finished teak products to the Indian and other export markets.

However, from the private large-scale investor's point of view, it has been alarming that recently some politicians have mentioned that no land more than 10,000 hectares would be made available for foreign investors; this is too small for a feasible forest project. Furthermore, administratively set land rent per year for farming has gone up five-fold since mid-2012. The rate is still affordable by commercial agriculture but would act as a disincentive to forestry projects.

All key players in Tanzanian industrial plantation forestry have plans to expand their private large-scale industrial plantations and related businesses. Mufindi Paper Mills, TANWAT, Green Resources, KVTC, and New Forests Company have been acquiring additional large areas of land, 130,000 ha in total.

Besides developing their nucleus plantations, all larger plantation investors have been keen in combining their own large plantation programs with adjacent communities or individual smallholders in the form of partnerships or outgrower schemes to expand long-term wood supply to their processing industries. Green Resources, KVTC, and New Forests Company have been eager to experiment with some aspects of the Tree Growers Association (TGA) concept, which is further elaborated below. Institutional and contractual

arrangements in these partnerships and outgrower schemes are such that they enable smallholders, communities, and other involved tree growers to seize economic and social benefits at the local level.

All the large investors have been participating in some way in the Private Forestry and Carbon Trading Project (PF-CT Project), established by the Ministry of Natural Resources and Tourism with Finnish support from 2010 to 2011 to create a more conducive framework for private forestry investments in Tanzania through increased availability of information, public private cooperation, as well as improved technical and institutional capacity building in pilot villages involved in establishing TGAs. A Tree Farming Grant Scheme has been planned.

Commercially oriented smallholder-driven tree planting has been booming in the Southern Highlands during the past 10 to 15 years. The willingness of small and medium-scale tree farmers and planters to plant and raise trees increased particularly some five years ago when the government tripled the administratively determined royalty prices for logs sold from its own plantations. Sawmillers and other processors started active purchasing from private tree farmers to endure the price shock. The demand for poles and saw and pulp logs is expected to remain high in both domestic and regional markets due to booming construction industry, electrification of rural areas, and increased communication, among other factors. Already at present, there is an insufficient plantation raw material base for the present volume of industry.

Because the private small-scale plantation investors do not pay land rent, their profitability increases compared with large-scale investors. Furthermore, they do not (at least presently) need to pay taxes when selling timber, which further improves their position in the investment landscape.

By now, about 30 Tree Growers Associations have been formed in the Iringa and Mbeyea regions in the Southern Highlands. TGAs help farmers and other small-scale tree growers with such issues as availability of market and price information, acquiring bargaining power on pricing, having better access to technical knowledge, financing and extension services, and achieving benefits of economies of scale in timber sales and forest management and harvesting operations.

In the long run, both large forestry industry investors and sawmillers will continue sourcing raw materials from the government plantations. These plantations have been mismanaged for various reasons and have become understocked. There have been attempts to privatize plantations; for example, the World Bank-financed Forest Conservation and Management Project (2002–10) assisted the government with privatizing these plantations, but this attempt failed due to lack of political support.

Village Lands Provide the Largest Expansion Potential

Based on a study conducted by the PF-CT Project, the largest opportunity to expand the forest plantation area is to reforest or afforest land currently under the control of villages. The potential expansion area within the Southern Highlands is estimated to be 200,000 to 400,000 hectares.

In addition, it is estimated that the plantation area within the forest reserves could be expanded by at least 50,000 hectares through partnerships and concession arrangements. Tanzania approved the National Public Private Partnership (PPP) Policy in 2009, followed by the Public Private Partnership Act (2010), with the main objective of promoting private sector participation in the development of key economic clusters in terms of investment capital, management skills, and technology. So, now there is a clear legal framework for PPPs.

Main Constraints to Private Players in the Commercial Forest Sector

However, there are still a number of constraints that must be removed to enable faster expansion of private forestry. Enactment of legislation to support participation of the private sector in forestry business has had a positive impact, but the implementation of the law has been slow. In fact, the government has also taken some backward steps, for example, through introducing new non-tariff barriers. Licensing has become very cumbersome. Although land is available for expanded planting, especially in villages, the mechanism for land registration has become difficult and lengthy. The overall transport infrastructure (roads, bridges, railway) is inadequate.

In addition, regarding possibilities to engage domestic and international investors in expansion of new plantations, there is a need to (i) have reliable data on existing resources, and (ii) identify the areas with the most potential to expand plantations in the future. The main purpose of such a study would be to screen potential areas for commercial plantation expansion and to provide reliable and up-to-date information on physical, social, financial, and environmental characteristics of the most viable areas for commercial plantation forestry in Tanzania. Screening and assessment of the potential plantation areas would provide information that can serve as background material for further, more detailed surveys and feasibility studies for establishing forest plantations, which are usually carried out by investors.

Small tree planters face a big challenge in moving up the value chain because they do not have a voice or muscle to negotiate with market operators, middlemen, or the industries. Small-scale planters do not have information about the market and rely on middlemen to determine volumes, quality, and price. This will change gradually as the Tree Grower Associations become stronger and their management improved through intensive capacity building.

So far, no incentives have been provided through the Forest Regulations Act to facilitate investments in pulp and saw log production, which take 8 to 20 years to mature. Currently, for example, small-scale tree farmers and smallholders in the Southern Highlands cut their trees prematurely due to acute cash crises and poverty. Although the Forestry Act mentions the possibilities of tax incentives and other financial benefits for those engaged in restoration of degraded areas through creation of forests, implementation is far from being started.

Both foreign and domestic investors need to have access to trained management and labor. Currently, there is a critical shortage of trained and experienced forestry professionals and forest workers as well as of trained forest industry specialists and laborers for supporting private plantation developments and wood processing, respectively. The existing few forestry professionals available in the market are not conversant with the latest silvicultural management systems of forest plantation and new technologies on forest industries. There is also lack of training and experience in providing business support services in the plantation value chain.

In the very near future, the government needs to be active in exploring the potential for PPPs with private large-scale investors to mobilize capital to restore some government-managed plantations or establish new plantations in exchange for an equity stake and management control and influence.

The government can do more to create an enabling environment for the private tree planters. The government forest extension service is almost non-existent, but recent attempts to start the Tanzania Forest Fund (TFF) have been positively received. This fund is meant to support tree planting by smallholders and enterprises, and it is hoped that the fund can be transformed into a scheme that can offer funding for tree

planters. The TFF can be expanded to offer incentives through a suitable mechanism to individuals and companies engaged in tree planting.

Small-scale tree planting by farmers is not a new model in East Africa. The model in Tanzania, which includes mobilizing farmers into strong TGAs through which material and technical advice can be channeled, is something worth following elsewhere in East Africa.

MALAWI: DO-IT-YOURSELF AND KEEP THE GOVERNMENT AT ARM'S LENGTH

Enabling Conditions for Sustainable Forestry Financing in Malawi—In Principle

The Republic of Malawi is a small landlocked country in southeast Africa, bordering Zambia, Tanzania, and Mozambique. Malawi is one the world's poorest countries, with one of the fastest deforestation rates in Africa, at more than 2 percent per year.[39] Malawi has been known for its impressive plantation resources, and in particular for one of Africa's largest manmade forests, the state-owned Viphya plantation. It was at one stage the biggest homogenous plantation in all of Africa, with 53,000 hectares of pine. The total plantation area in Malawi was once estimated at more than 100,000 hectares.

A 2001 National Forest Programme (NFP) was prepared with support from UK's Department for International Development (DFID). The NFP was a result of extensive stakeholder consultations and analytical studies, and implied major shifts in the management paradigm of Malawi's forest resources toward comanagement of indigenous forests and greater role for the nonstate sector in forestry development. The NFP puts great emphasis on expanding the resource base, especially through mobilizing investments and other resources from the private sector, including smallholders, SMEs, and bigger companies. As a follow-up, a major effort was put into planning the privatization of the state forest plantations.

Malawi has adopted new policies favoring the private sector. The Malawi Growth and Development Strategy aims at creating an enabling environment for private sector participation in industrial development and trade. The government developed a Private Sector Development (PSD) Policy in 2009 with a view to increase investment, improve productivity, and enhance competitiveness of the private sector. In the late 2000s, Malawi's financial sector was liberalized and opened for more competition. This resulted in an increase in the number of commercial banks from two to nine, and the number of microfinance institutions from only a few to 15.

The demand for forest products has increased rapidly in the past decade, driven by economic and population growth and increasing exports to neighboring countries. Consequently, wood prices have risen rapidly in recent years creating, in principle, incentives for new investments.

The above developments suggest that many of the key elements of an enabling environment for increasing private sector investments in sustainable forestry would be in place in Malawi. One would then expect that the forest sector would have started to expand, generate more value added, and also diversify based on increasing private sector investment.

39 FAO. 2010. Forest Resource Assessment.

What Has Happened?

However, there has been practically no investment into developing new forest resources and no creation of value added. Most of the private sector agents are involved in utilization and processing and related trade. Most of the available financing, using debt and own capital as well as informal capital, has gone to harvesting and inefficient processing operations that utilize primarily unsustainable plantation wood. The number of these operators has increased in recent years, many of them financed by local banks and foreign "middlemen" (for example, from Kenya and Somalia). Financing has been available, for example, for buying mobile or semi-mobile sawmills.

State plantations were never privatized and are now being destroyed rapidly. Most of the plantations have been heavily exploited with very little replanting. The total plantation area is presently estimated at about 70,000 ha, but productive plantation area is likely to be even less, about 50,000 ha. The Viphya was a victim of massive plunder by both small-scale loggers and large-scale ones; about half of the Viphya has been destroyed. The Viphya plantation is likely to disappear in less than 10 years, with the exception of one long-term concession area.

The government continues to allocate the majority of its scarce financial resources into unproductive and loss-making plantations. The only plantation area with acceptable forest management standards and replanting is the 20,000-ha concession given to an integrated forest industry company, Raiply Ltd, with a 20-year lease. The government continues to distribute harvesting permits and concessions to earn revenue, partly due to political pressure. The number of pitsawyers and harvesting and small-scale sawnwood producers has been increasing, although it is commonly known that their operations are not efficient and in most cases not sustainable.

Main Constraints to Sustainable Private Sector Forest Financing

Many factors—problems with governance, excessive red tape, and insecure forest land tenure—partly explain these negative, alarming developments. However, from the financing perspective, the following challenges stand out:

"Perverse incentives" and financing gaps in the financial sector. Improved capital markets with financing available for investments in primary and secondary production have favored some sectors and subsectors. Tobacco, tea, and other agricultural crop projects primarily targeted at exports have received the major share of debt financing. Paradoxically, forest-related financing is available but mainly for short-term exploitation of forest resources. In effect, the terms of credit enable financing mobile sawmill investments to cut down plantations (unsustainably) for short-term profit but will not provide access to financing of sustainable plantation investment.

Nine leading Malawi banks and other financial institutions were interviewed. Most of them had experience in financing investment projects related to processing, but none had financed investments in tree growing. Most of the loans have been short-term loans for mobile sawmills to harvest state plantations and, in terms of value, went to two large export-oriented forest industry investments. All the interviewed banks stated that, at present, they do not consider financing forest plantations because of the mismatch between the long gestation period of forestry investments and (very) short loan maturity period. Banks favor financing investments in large-scale processing targeted at export markets. It is much easier to get a large loan for a 100,000-m^3-capacity export sawmill than for a much smaller forest plantation project to supply wood for industry. Such an industrial investment can presently be financed through a U.S. dollar loan with 7–8

percent per year interest whereas a loan for a plantation investment—if one could even get one—would be in Malawi kwacha with an interest rate of 38–40 percent per year. The investment promotion agencies also favor larger, export-oriented operations, consistent with the government policy of increasing exports and earning desperately needed foreign exchange.

All the interviewed microfinance institutions can provide financing for tree growing, but loan sizes are on average small, ranging between US$40 and $300, and monthly rates can reach 6 percent. They can be important for very small-scale rural entrepreneurs but otherwise have limited impact, leaving a financing gap for SME-type tree growing investments.

Insufficient access to debt financing due to low liquidity of the domestic banking sector. Forestry businesses, except those interested in short-term returns, have extreme difficulty raising finance. When domestic debt financing is available, the interest rates are currently excessively high, close to 40 percent, and loan payback periods are very short (from six months to two to three years), which generally creates a barrier to private investment. The Malawi financial sector is being squeezed presently, and all investments in "unfamiliar" sectors with long gestation periods suffer, forestry included.

Shortage of equity capital in Malawi. There are no investment or development banks in Malawi, and not enough accumulated capital in the private sector for investments in a sector that is perceived as risky and corrupt as well as having too much government involvement. There's a shortage of equity investment and also a shortage of patient capital. Both hinder investments in SMEs, and especially in more sizable integrated forest plantation and processing projects. Weak availability of both domestic and foreign equity financing in general is a problem in Malawi; and even more so for the forestry sector that is not well understood within the financial sector. Debt finance is often made available only after sufficient equity is in place, creating a "vicious" cycle: no equity, no loan.

Recent Positive Private Sector Developments in the Malawi Forestry Sector

However, not everything is doom and gloom in Malawi. While the traditional forestry sector has failed to "perform," there are some positive developments. The Malawi tobacco industry, the biggest export earner, is a major consumer of fuelwood. The sector is continuing to expand but has been facing constraints in securing adequate fuelwood supply. In recent years the tobacco industry has become increasingly involved in establishing its own forest plantations and using outgrower schemes to plant trees for fuel. These developments are worth noting because their scale already far exceeds what the Department of Forestry (FD) is doing in the plantation sector. Further, there is evidence of increased private nurseries and small-scale tree growing in some parts of the country.

Limbe Leaf Ltd, one of the biggest tobacco companies in the country, is now using more than US$4 million per year for forestry operations; this is about four times more than what the FD is using for (loss-making) plantation operations in the country and twice the total government budget for the entire forest sector. They have invested in three forestry models: (i) commercial woodlots, (ii) community based management by Village Natural Resources Management Committees, and (iii) contract tree growing. In total, Limbe Leaf has contracted about 40,000 farmers already. The company has forestry seedling producers. Limbe Leaf pays for everything and seedlings are distributed to farmers free of charge, who are supported by 40 extension officers.

Bio Energy Resources Ltd (BERL) is a Malawian company established in 2006 to produce bioenergy based on Jathropa tree feedstock. BERL is supporting tree planting in 10 districts involving more than 3,000 outgrowers. It is also developing a project under the Verified Carbon Standard (VCS) linked to afforestation, reforestation and revegetation (ARR). The project has already been validated and was registered on the project database in October 2012.

In 2012, a private company, Raiply, with a 20,000 ha concession in Viphya, invested US$14 million in a new medium-density fiber board plant production line. At the same time, the company has continued to take care of its concession area and investing in replanting; it is practically the only company that is doing so in Viphya on any measurable scale. In an interview, the CEO of Raiply emphasized that after this most recent investment they will not have any alternative than to invest systematically in plantation development, especially since they plan to invest in a second production line. According to him, the biggest constraints that Raiply faces are related to insecure land tenure and weak overall governance in the forest sector.

Lessons Learned

What is common to these three (positive) plantation investment cases is that they are integrated with processing, and that they are purely privately financed. They have received financing because forestry investments were regarded as an integral part of the business plan. In the case of Raiply and the tobacco industry, the debt financing has been "piggy-backed" with existing operations that provide a steady revenue stream to help with paying back the loan under unfavorable payback periods.

It is common to assume that strong government support is needed to stimulate major private sector investments. This does not necessarily always hold true. Tobacco and bioenergy companies are developing plantations without links to the FD, using their own staff. In fact, they do not see the direct need for any major FD support except in maintaining law and order in the sector and helping to protect assets. From their perspective, government involvement often means bureaucracy and meddling. According to a representative of one of the biggest banks in Malawi, his bank in general tries to avoid financing investment projects where government is involved, and forestry administration has a negative reputation for political interference and corruption. Private nurseries started popping up throughout the country after the government decided to get out from nursery operations.

The most important thing that these companies want from the government is secure, long-term access to land, and then be left on their own to manage the land. Those plantation concessions with a short tenure and no own industry were all involved in exploitative forestry driven by short-term profit-seeking with limited investment in replanting.

LAO PDR: LAND GRABBING VERSUS SUSTAINABLE PLANTATION DEVELOPMENT

Slow Start in Private Sector Forestry Investments

In the early 1990s, Burapha Ltd., a Swedish-owned company, invested in forest plantations in Lao PDR amounting to a few hundred hectares, followed up later with an investment in a medium-sized processing plant with support from IFC. Burapha's initial investment was one of the first Western investments in Lao PDR. In the mid-1990s, BGA Plantation Company started plantation operations in the Khammouane province and one of the leading pulp and paper companies in the world, StoraEnso, established plantation

trials in the country. However, plantation expansion did not take place; private investment in tree growing and plantation development remained limited. Most of the planting was done under the long-running Asian Development Bank (ADB)-financed Industrial Tree Planting Project that promoted smallholder plantation investments through the Lao Agricultural Promotion Bank with little success. For years, the sector continued to be dominated by state forest enterprises that logged valuable natural forests without any management plans or concern for the environment and the rights of indigenous people.

Concession Boom and Industrial Expansion in the Past Decade

During the past decade, the sector has been transformed entirely. The number of concessions and various land leases has escalated in recent years, increasing fifty-fold from 2000 to 2009 (Schönweger et al. 2012). These trends can be explained by the active government of Lao PDR investment promotion policies that have favored investment in infrastructure and land-based natural resources, and increased export demand linked in particular to China, Thailand, and Vietnam. Lao PDR is currently one of the ten fastest-growing economies in the world. FDI has been increasing over the past several years and flowed to mining, hydropower, and agriculture including tree crops such as rubber, jathropa, oil palm, eucalyptus, and teak. This fast growth has also led to concerns about the overall stability of the sector and introduction of moratoriums on planting some commercial tree species as well as other land-based investments[40].

These investment trends are reflected in the rapid increase of the total area under different forms of concessions and leases. The first ever nationwide concession survey was carried out in 2012; it provides an alarming picture of recent developments. Five percent of the total land area of the Lao PDR has already been granted to investors for development—nearly 10 percent if concessions for mining exploration and in particular hydropower project areas (where a lot of logging takes place) are included. Between 1.1 and 2.2 million ha are under these concessions, exceeding the total area of about 1 million ha planted with rice (Schönweger et al. 2012).

In the media and the international NGO community, the ADB plantation project and industrial plantation plans and projects of Oji Paper and StoraEnso have received most of the attention. However, there are almost 370 tree plantation projects and most of them owned by companies from China, Vietnam, Thailand, and India (Schönweger et al. 2012); companies from China have invested in rubber in particular. Industrial forest plantation (eucalyptus and acacia) investments are dominated by Japan (Oji Paper) and India (Birla). Teak is one species quite commonly grown also by smallholders in some parts of the country. It needs to be noted that these areas do not correspond with the actual plantation area; these are concessions areas and reflect rather plans than reality.

The industrial forest plantation sector in Lao PDR has also grown significantly in recent years. Estimated industrial plantation area is estimated at more than 100,000 ha, although the productive commercial plantation area may be only 57,000 ha (Indufor database). The Industrial Tree Planting Project funded by ADB is still the main plantation effort in Lao PDR followed by Oji's operations.

The most important (unconfirmed) industrial plantation investment plans are:

- Shandong Sun Paper (Saen Taven) (China): 100,000 ha
- Oji Lao Plantation Forestry Ltd. (Japan): 50,000 ha, US$49 million
- Oji Lao Plantation South (Japan): 30,000 ha

40 Australian News Network. Mining moratorium on new projects introduced in Laos. http://www.abc.net.au/news/2012-07-05/an-laos-mining-moratorium/4112172. First posted Thu 5 July 2012, 12:36pm AEST. Retrieved 5/31/2014.

- Birla Lao Pulp & Plantations Co. Ltd. (India): 50,000 ha, US$350 million
- StoraEnso (Sweden and Finland): 35,000 hectares

Another major trend, unfortunately an alarming one, is the expansion of forest industry capacity without a corresponding increase in the sustainable wood supply potential. In 2002, during the preparation of the World Bank–Government of Finland supported SUFORD project, it was assessed that the sawmilling capacity far exceeds the estimated annual allowable cut in Lao PDR. Despite this, the overall number of wood processing facilities has increased from 1,451 factories in 2001 to 2,096 factories in 2006. In recent years, there may have been a shift toward more value processing while dozens of mills involved with primary processing appear to have been closed down. The 2007 introduction of a government policy to ban the export of rough sawn timber and requiring companies to produce finished products resulted in a wave of investment in machinery for further processing (to make products such as parquet flooring, finger jointing, and joinery products). Due to the investments in basic sawmilling and further processing overcapacity is increasing in the sector; this puts pressure on the remaining natural forests. Also, the mills are run very inefficiently; at about 10 to 20 percent capacity (Willis and Vaarala 2013). Most of the forest harvesting and wood processing companies are joint ventures between Vietnamese and Lao investors. Most of the industry is still domestic, but Vietnamese firms play an important role in logging, timber processing, and trade.

Despite accelerated interest in developing plantation resources, it is important to recognize that foreign and domestic forestry operations still mainly focus on the exploitation of existing natural forests, including areas within the national protected area system. Further, many of the announced concessions related, for example, to mining, agriculture, infrastructure or hydropower development are directly associated with harvesting natural forests for export to feed Vietnam's wood industry or for onward export to other markets such as Thailand and China. While land-based investments have expanded rapidly, land allocation has often lacked transparency and reallocation of land to large, well-connected operators ("land grab") is taking place on a significant scale in Lao PDR, linked to unsustainable practices.

Hundreds of projects and companies now control increasing areas of land; it is difficult to know which ones are simply after a short-term profit and investing in the forest sector without paying attention to sustainability issues, and which ones operate responsibly. There is no proper monitoring and even no centralized database listing all the concessions. However, the available information concerning deforestation and forest degradation and problems with dispossession and inadequate compensation for lost land gives support for introducing measures to increase the number of socially and environmentally responsible investors in the country.

Lao Policy Reforms Have Favored Private Investments in the Forest Sector

The rapid increase in the various concession areas follows quite logically from the various government policies promoting foreign direct investment, especially in the natural resource sector. Access to forest, water, and land resources in general has been seen as one of Lao PDR's comparative advantages, and the country desperately needs capital and foreign exchange to utilize these resources. The National Growth and Poverty Eradication Strategy defines investments in forestry and wood industries as one of the priority development areas. The National Forest Development Strategy to 2020 identifies plantation forestry as a key development area. It includes a Tree Plantation Development Plan and sets a target of establishing 500,000 ha of tree plantations for various purposes by 2020. The 7th National Socio-Economic Development Plan (2011–15) continues past policies of promoting FDI.

The government is open to foreign investment as a matter of policy and allows 100 percent foreign ownership of enterprises. The Constitution (1991), Land Law (1997), and Forestry Law (1996) recognize land and forest resources as state property, but the state may assign the right to individuals and organizations to use, manage, and transfer land in accordance with legislation. Foreigners do not qualify for land titles in Lao PDR but are eligible as foreign investors to lease degraded land from the state for tree planting, usually for a 50-year term. The 2009 Law on Investment Promotion governs foreign investment in Lao PDR. Under this law, foreign and domestic investors are supposed to be given equal treatment and incentives.

The Lao government is currently drafting a Land Policy to be submitted for approval in the National Assembly. The draft policy has some new provisions for stronger recognition of customary land tenure, promoting communal tenure of land, and clarifying the compensation policy. It is expected that the approval of the Land Policy will be followed by an immediate revision of the Land Law, the Forestry Law, and possibly the Agricultural Law.

To support and encourage investment, the government offers incentives to investors in various forms, including reduced corporate profit taxes, reduced duties, and turnover taxes on imported capital equipment and inputs to production and investment permissions and guarantees. The profit tax ranges from 10 to 20 percent and tax exemptions of up seven years are offered, depending on the development status of the region. Additional tax holidays and reduced tax rates for large projects with special concession may be available upon negotiation. In addition to these formal policies and incentive schemes, it is commonly known that province authorities and influential people in Vientiane can enter into controversial agreements directly with foreign, particularly with Vietnamese, counterparts. One of the most common incentives is providing access to land. The process of issuing land concessions is not transparent or competitive.

What Are the Likely Impacts of Land Grabbing and Unsustainable Forestry Development?

Lao PDR is not a democratic and fully transparent country. However, positive developments have been taking place and there is now more, yet still incipient, discussion even in the Lao media about illegal logging and problems with concessions. In fact, in 2007 the government stopped concessions because of various problems with concessionaires. In June 2012, the government declared another moratorium allowing no new investments in mining or further land concessions for rubber plantations until 2015 at the earliest. However, these bans have not been fully effective.

The *key problems* include:

i. Concessions, including land for forest plantation development, have been issued to companies without consulting local people and paying attention to their traditional rights to the land. Often concessions are carved out communal lands that are important for villagers' livelihoods and food security. Land conflicts are a growing problem.

ii. Negative environmental and social impacts can be serious; concessions have been granted, for example, within FSC-certified production forest areas and inside national parks. Many DDI and FDI forestry investments unfortunately pay only cursory attention to carrying out required environmental and social impact assessments, unlike ODA-financed forestry projects. The only forest area that has been certified is part of the production forest area under comanagement within the SUFORD project supported by the World Bank and government of Finland.

iii. Concessions appear to be used as a way to gain control over the land without serious intentions to develop the land resources. Rather, they are often used as a means to justify logging outside of the

normal logging quota system. This type of exploitation has negative social and ecological impacts that are, however, difficult to assess.

iv. Plantation companies can secure concessions from the government, harvest the timber on the land, and then sell the land and concession lease rights onward to a third party. The original development project may or may not ever be implemented.

Lessons Learned

Lao PDR serves as an example of a country where changes in government policies and legislation have stimulated FDI and DDI in the forest resources. Lao PDR has been a politically stable country with a growing economy. One of the most important basic conditions for a forestry investor is the provision of secure long-term tenure; Lao law guarantees 50 years with clear and strong associated rights. The provision of a range of incentives including reduced duties, tax exemptions, and tax holidays for selected investors can make investment in Lao PDR attractive, compensating partly for various risks and still-prevalent red tape.

The result of these changes is an increase in FDI in the Lao forest sector. However, the main concern is what type of investors Lao PDR has been able to attract, or is currently attracting. Has there been a major increase in domestic and national companies who pay due attention to environmental and social governance issues? Are the concerned ministries and provinces well equipped to manage and control all the investments and concession projects so that they comply with the legislation? The answer to both questions is, unfortunately, "not yet."

Lao PDR is also an example of a country where land, forest, and environmental legislation is up to a reasonable standard when taken as written. This could provide an adequate basis for implementing, monitoring, and controlling sustainable forest management and related investments. There is still a notable need to develop legislation and guidelines concerning the process of issuing land-based concessions and monitoring their implementation. Additionally, the main problem is enforcement, or lack of it. Improvement of forest sector governance, including enforcement of existing forest and forest-related laws, will be crucial for ensuring that increased private sector investments will benefit the entire nation and contribute to sustainable development.

The playing field for private companies must also be leveled. Investors that are responsible and respect the law should not be punished. Weak forest sector governance, an opaque system of issuing concessions, corruption, and weak enforcement of forest and contract laws tend to act as investment barriers to more serious, respectable international companies who are committed to the highest international ESG principles. Companies like that are needed in Lao PDR instead of land grabbers and short-term profit-seekers.

INVESTMENT BARRIERS IN AN EMERGING ECONOMY: INVESTING IN A LARGE SAWMILLING BUSINESS IN RUSSIA

This case study is based on the experiences of a large, foreign-owned forest industry company (FIC) operating in in northwest Russia and Siberia. The company controls some 3 million hectares of timberland through long-term leases with an annual allowable cut of approximately 3.6 million m^3. The company owns five sawmills in close proximity to its forest leases and is self-sufficient in raw material to produce more than 400,000 m^3 per year of sawn goods. The company has not been economically successful during the most recent years, for several reasons, primarily the general economic situation in key markets.

The company has faced and is still facing major investment barriers similar to those that in general hinder major domestic and foreign investment in the Russian forest sector despite the huge potential the sector offers.

Company Investment Activities

The company has invested about US$300 million through a series of acquisitions of forest leases (companies with forest leases) as well as through two greenfield and three brownfield sawmill investments, beginning in 2006. The expansion has been financed through public placements and loans from financial institutions and the parent company. The rationale behind investments is to acquire large enough lease holdings to be able to supply own sawmills, sell roundwood to lucrative export markets, and have a significant competitive advantage in raw material costs in sawmilling. The company has invested in modern sawmilling technology. In addition, stimulated by the long-term lease, key baseline investments have also been made in road building and maintenance. The FIC investment has generated clear value-added to the Russian economy. This is not typical for the local players who are often after short-term returns and also face major capital constraints due to the undeveloped nature of the banking sector and difficulties in obtaining credit.

Further, foreign direct investments in the Russian forest industry, similar to the FIC investment, have created a positive shift in knowledge and technological know-how. These investments replace the old Soviet asset base, and help closing gaps in technology and business management, thus increasing productivity and performance of the whole forest industry.

Barriers Faced by the Company

During the past 10 years, the Russian government policies concerning the forest industry have focused on attracting investments (foreign and domestic) in processing to create value instead of exporting roundwood. Key policy measures include the introduction of prohibitive export duties on roundwood in the late 2000s, and providing tax and other incentives through programs aimed at encouraging investments into wood processing. The most important incentive is granting a long-term forest lease without auction to industrial investors.[41] According to the new forest code (2007), forest leases are granted for 49 years through auctions. The lease right gives the lease holder an opportunity to harvest timber, but at the same time requires reforestation and building forest roads and other infrastructure. A long-term lease has been instrumental for the FIC, to provide the needed security to go ahead with a major investment program. However, there are views in the business community that the lease period could be even longer.

The FIC has faced many investment barriers. The most typical are related to the bureaucracy and delays caused by the Russian permit system; corruption is often linked to red tape. These barriers negatively affect the investment climate, particularly when planning the critically needed infrastructure for the production facilities; they are often related to the monopolistic nature of power generation and distribution in Russia. Such problems occurred in the case of the company's production facilities in Siberia, when the price of the electricity connection was many times higher to the company than to local peers. The problem was finally resolved through a direct plea to the prime minister—a typical problem resolution method in Russia. One often also needs political support from powerful regional governors; the problem is they can change their mind concerning things like subsidies at a whim. Also, when politicians in key positions change, the policies can also change.

41 In some cases these have led to underutilization of forest resources and have become market entry barriers to new and smaller firms who do not have access to raw material.

A shortage of skilled management has had a negative impact on the company's investments. The only quick solution to this problem is to attract and retain foreign professionals to the company, which they did quite successfully.

All investment barriers listed above are typically experienced in the forest industry in Russia. If the nature of the problems has not changed dramatically (the usual inefficiencies due to lack transparency, red tape, even corruption) over the years, the nature of the businesses investing in the Russian forest industry has changed. The companies operating in Russia (foreign and especially Russian) are now clearly more professional, larger, and oriented more toward the long term than 10 years ago. An FIC can avoid certain problems related to acquiring concessions by buying companies that have existing concessions instead of applying for concessions from the government.

Foreign investors are quite aware of these problems. This may explain why most of the investments have been in the mechanical forest industry like the case of FIC, and not in the modern large-scape pulp and paper industry. However, these companies are motivated by low costs, vast resource bases, a growing domestic market, and access to international markets. Investment logic in the forest industry in Russia is based on the utilization of the competitive advantage through low input costs (wood and labor) and undervalued assets, which hopefully outweigh the various investment barriers. In the case of FIC, the disadvantages (costs) have been greater than the advantages, which unfortunately can be seen from the financial performance of the company.

The company in question has been operating in a turbulent, cyclical, and bulk-oriented market environment, where producers seek additional revenues through either cost optimization or increasing the value of production. To be able to compete in such an environment, a sawmilling company should have competitive advantages related to wood costs (usually 75 percent of total costs). The example of the FIC presents a case where the competitive advantage related to wood costs was utilized but not completely successfully. The main constraints were slow start-up of new production facilities (due in part to the investment barriers such as red tape, permitting, lack of skilled labor)—but also market-related issues that hit profitability. The company still has potential due to the still-inexpensive labor and wood and proximity to growing Asian markets, but the situation could be better.

Changes in the Investment Environment

In general, the overall economic and political environment affecting investments and business in the forest industry has improved. One of the main improvements is enhanced predictability of the legal system and also federal legislation, mainly related to tax and property rights. These nowadays seldom affect business in the magnitude they did 10 years ago, which can also be seen also from this FIC case. Also, the most recent ***Doing Business*** report indicates slight improvements for the Russian Federation in recent years, but it still ranks very low compared to the least developed countries. The attitude of the Russian government toward forest industry investors has also improved, and some of the policies—especially tax and other incentives related to granting leases to industrial investors—seem to work.

However, during the past 10 years the development of the economic and political environment in Russia has been unambiguous. At the same time that macroeconomic stability, sound fiscal policy, and accumulation of reserves encouraged investors to invest in the natural resource sectors (oil and gas), government policies since early 2000s have significantly increased state control of the economy. Over the years, the magnitude of state involvement in the natural resource sector has increased, posing increasing

real or perceived political risks to investors. State control of the economy is so visible to investors that it is becoming an investment barrier.

The forest resources of Russia are one of the remaining state-owned natural resource assets, many of which were privatized in the early 1990s. Private sector engagement is through long-term leases rather than full ownership. These forest resources represent huge development potential for both foreign and domestic investors. Many financial institutions (for example, European Bank for Reconstruction and Development (EBRD)) have indicated that Russian forest companies are clearly undervalued. The total amount of FDI in Russia has been steadily growing from US$2.7 billion in 2000 to some US$73 billion in 2008. FDI in the Russian forest industry is only about 2 percent of the total FDI, and has not been growing fast in absolute and relative terms.

TABLE E.4. FOREIGN DIRECT INVESTMENT IN THE RUSSIAN FOREST SECTOR

INVESTMENT OR FINANCING TYPE	FROM YEAR TO YEAR	US$	US$ PER YEAR
Natural forests	2006–12	245,000,000	n.a
Lease fees	in 2012	n.a	ca 4,000,000
Road building	in 2012	n.a	ca 3,500,000

Note: n.a. = information not available.
Source: Indufor

APPENDIX F:
SELECTED FOREST AND CLIMATE INVESTMENT PROJECTS AND FUNDS

REDD and forest carbon initiatives being developed across the globe are listed below. The aim is to provide the reader with an idea of what type of projects have been financed by private actors, the activities promoted, as well as their sources of funding.

TABLE F.1. SELECTED FOREST AND CLIMATE PROJECTS

NAME	ACTIVITY	EMISSION REDUCTION	SOURCE OF FINANCE	NAME OF SOURCE	AMOUNT US$	FINANCING SOURCES
Asiyla Gum A/R CDM Project (Senegal)	Reforestation on degraded lands on more than 20,000 hectares	715.895 tCO_2e over a 30 year crediting period	Private investor	Asiyla Gum SARL	7,560,000	
Ibi Batéké Forestry Carbon Sink (Democratic Republic of Congo)	A/R CDM project aimed at converting 4,220 ha of degraded savannah land into forest plantations for sustainable fuelwood supply and agricultural crops	500,000 CERs to be generated by 2017	Private investors	Novacel, Suez, Umicore (at a very low interest rate of 0.5 per cent)	40,380,000	▪ Private companies - 1,700,000 ▪ Equity - 2,600,000 ▪ Reinvested income from project - 26,750,000 ▪ Grant - 170,000 ▪ Development assistance - 170,000
Protection of Cameroon Estuary Mangroves Through Improved Smoke Houses (Cameroon)	Promoting sustainable utilization, management and conservation of the Cameroon mangrove ecosystems	90,234 tonnes of CO_2e during the 10 years	Private investors	No information	135,000	▪ Private companies - 40,000 ▪ Grant - 65,000
The Holistic Conservation Programme for Forests (HCPF) (Madagascar)	REDD+ pilot project contributing to the development of the national REDD+ strategy for Madagascar. The project developers are therefore not currently considering selling any potential carbon credits	It has been funded as a grant scheme to avoid any risks related to non-delivery of carbon credits	Grant scheme	Air France	5,765,000	

continued on next page

NAME	ACTIVITY	EMISSION REDUCTION	SOURCE OF FINANCE	NAME OF SOURCE	AMOUNT US$	FINANCING SOURCES
Afforestation With Hazelnut Plantations in Western Georgia (HAP) (Georgia)	Sequester carbon and halt ongoing degradation of abandoned tea plantations through sustainable forest plantation with hazelnut production in 2401 hectares plus an additional 250 hectares of nature conservation.	550,272 tCO2e over an accounting period of 50 years	Private investors	Ferrero Spa	Confidential	
Merang Pilot REDD+ Project (MPRP) (Indonesia)	Reduce greenhouse gas emissions and protect biodiversity through avoided deforestation and degradation in 24,000 hectares	25 years and could potentially save about 400,000 tonnes of CO2e/year	Grant scheme	BMU (German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)	2,100,000	
Juma Sustainable Development Reserve Project (Brazil)	Address deforestation in an area of 329,483 hectares currently under great pressure from land use conversion.	189,767,027 tonnes of CO2, from 2006-2050	Private investors and grant	FAS, Bradesco Bank, Coca Cola Company, Marriott International	41,392,425	• Reinvested income from project - 38,142,425 • Grant - 2,000,000 • Project developer equity - 1,250,000
Carbon Sequestration in Communities of Extreme Poverty in the Sierra Gorda of Mexico (Mexico)	Reforest- ation and REDD+ project aimed at sequestering carbon in local ecosystems and avoiding future deforestation and biodiversity loss while promoting sustainable development at a community level in 383,567 hectares		Grant	Mexican Government	391,544	

TABLE F.2. FOREST CLIMATE FUNDS

INSTITUTION	DESCRIPTION	AMOUNT	PROJECTS
BioCarbon Group Pte Limited	The banking group Macquarie has partnered with environmental non-profit Flora and Fauna to identify and develop forest carbon projects. The International Finance Corporation (IFC) and Global Forestry Partners have also become investors, and together with Macquarie are equal shareholders who will share in the benefits.	US $25 million	During the three year agreement, a focus has been the Danau Siawan Belida REDD+ project in the Kalimantan region of Indonesia. With its wetland and peat swamp forest, the 46,000 hectare project site performs critical ecosystem services in support of the Kapuas River—a source of food and livelihood for 3.7 million people in the West Kalimantan Province
Althelia	A public-private partnership to construct a dedicated platform that will deliver multiple benefit GHG reductions, with a particular focus on sustainable land use, ecosystem services and forest carbon (REDD+). The Fund will mainly target sustainable land use and forest carbon by allocating at least two-thirds of its commitments to REDD+, but may also explore other types of investments provided they encompass demonstrable GHG reductions accompanied by social and environmental value at the local level.	€250 million (EUR 20 million from EIB) (= US $320 million)	The eight-year fund will focus on projects in Latin America, Africa, and South-east Asia and Oceania, and will, among other things, seek to generate carbon credits from projects that reduce emissions from deforestation and forest degradation.
Livelihoods Fund	To finance development of projects that deliver community benefits, such as increased food security, as well as greenhouse gas emissions reductions.	€26.5 million from 7 investors (= US $33.7 million)	The fund has invested in five projects so far: reforestation and agroforestry projects in the Democratic Republic of Congo and India, and mangrove restoration in India, Senegal and Indonesia. In total, these projects should sequester around 6.1 million tonnes of carbon dioxide over the next 20 years
Conservation International Carbon Fund	The Fund, launched in 2009, supports the design and start-up costs of early-stage forest restoration and conservation projects, and aids in the commercialization of carbon credits through private sector partnerships. The Fund also offers companies a way to include forest carbon credits as part of their voluntary climate change commitments.	> US $15 million	The fund has invested in a variety of early-stage demonstration projects (with both CI and partners) across a range of geographic regions CI has developed the largest portfolio of forest carbon projects — build local partner capabilities and develop more than 20 new carbon projects in 12 countries.
Terra Global Investment Management	"The Terra Bella Fund's investment strategy is to provide project finance capital to community-based forest and land-use carbon projects in developing countries	US $40 mllion (100 million planned)	The fund seeks to make investments in projects and jurisdictional programs that generate emission reductions that are today verified under voluntary carbon offset standards but that will in the future be eligible under compliance standards or other payment-for-performance based bilateral offset schemes.

Sources: Adapted from UN-REDD, 2013. Economics of forest and forest carbon projects: Translating lessons learned into national REDD+ implementation.

APPENDIX G:
A CONCEPT FOR AN INTERNATIONAL SUSTAINABLE FORESTRY FUND

A FRAMEWORK FOR A PRIVATE SECTOR-DRIVEN INTERNATIONAL SUSTAINABLE FORESTRY FUND PUBLIC-PRIVATE PARTNERSHIP (SFF-PPP)

Rationale, Objectives, and Scope for the SFF-PPP

Investments in forestry and associated processing do not often meet the risk-adjusted return hurdles required by equity fund investors and associated institutional investors and private endowments. This annex presents a framework for a SFF-PPP that would reduce investment risks and aim to make profits for the underlying investors while contributing to development policy objectives especially related to sustainability, and potentially redirecting and stimulating investment flows to new areas.

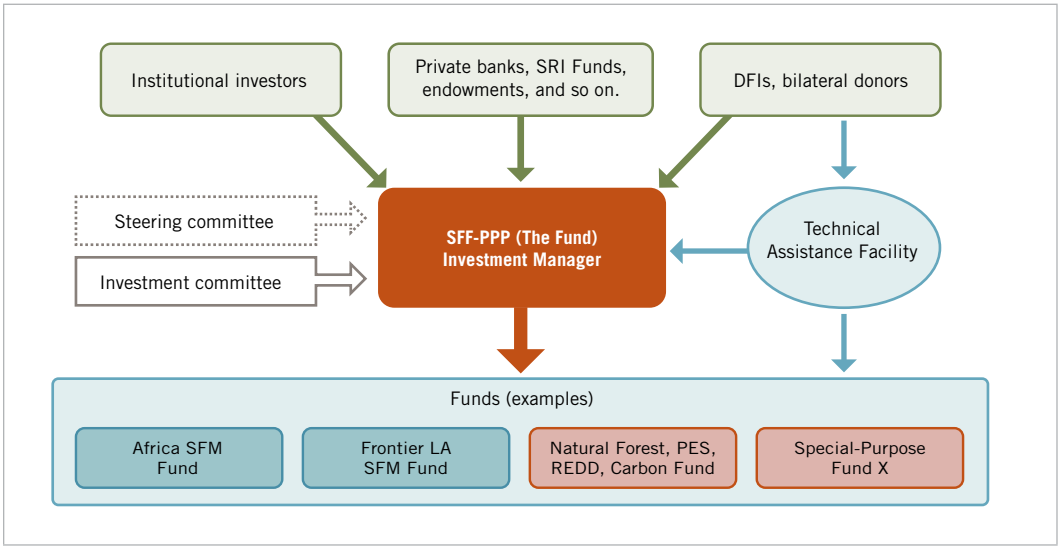
The basic philosophy behind the concept is to use public money to leverage private sector investment for the common good (for example, to bring forests under better, sustainable, multipurpose management to provide products and environmental services, create jobs, and generate growth). It would try to shift more investments into developing and emerging countries and toward areas with higher risk perceptions.

The SFF-PPP would be in principle a private equity fund (of funds) committed to highest possible environmental and social standards and United Nations Principles for Responsible Investment (UNPRI) and United Nations Environmental Programme (UNEP) Statement of Commitment by Financial Institutions on Sustainable Development.

The objective of the fund would be to:

> "Increase private investment flows and transfer of know-how and more efficient technology for SFM and associated processing in developing and emerging countries on a financially, socially, and environmentally sustainable basis, and complement (and strengthen the impact of) existing funds/facilities and related initiatives."

FIGURE G.1. FUND CONCEPT AND STRUCTURE



The idea is to structure the fund as a private equity that invests primarily in other funds (some of them to be established under the overall fund) and possibly also directly in companies, preferably as co-investments with other funds or directly with an institutional investor.

The SFF-PPP would differ from usual grant funding, and also from usual private equity financing, in that it would:

- Mobilize both public and foreign and domestic private financing in a unique special purpose equity investment vehicle for areas suffering from a shortage of capital and innovations.
- Be able to use blended funding, mixing grants and loans and also to link to existing funds.
- Be sustainable since it would operate as any private equity fund with a profit objective; the returns for public investors can be ploughed back to the funds structure to leverage new capital or used over time to finance the technical assistance (TA) support function of the fund.
- Integrate commercial and multiple sustainable development policy objectives, and combine the private financial sector's corporate social responsibility, as well as environmental and social governance standards in accordance with the Equator Principles and UNPRI.

Another unique feature of the fund concept is the proposed associated TA Facility in addition to the leveraging feature. The facility could draw technical assistance services from participating partners. It would serve an important function of addressing some of the key constraints, and managing project investment risks as well as overall fund management risks. It can:

- Help with identifying and developing project ideas in "frontier" areas.
- Develop projects with public good elements with a focus on internalizing externalities; that is, commercializing environmental services and improving income distribution to benefit the poor.
- Contribute to fund raising and thus enhancing credibility among potential investors.
- Improve project quality by financing studies or supporting the involvement of relevant stakeholders, for example, NGOs and local communities in project design and implementation.

- Help select priority countries to develop attractive investment platforms, for example, through helping governments and their relevant agencies to (i) develop national SFM investment strategies/action plans, (ii) develop and package information for potential investors and support organizing national or regional investment forums with relevant stakeholders, (iii) develop related information services (for example, an Investment Support Unit), (iv) create PPPs and consultation forums at the local and project levels, and (v) help in some cases to move or mitigate more immediate policy or regulatory constraints to sustainable forestry financing.
- Help with the development of sustainability reporting systems at all levels of the fund, undertaking separate impact assessments and implementation of the fund communication strategy.

The proposed SFF-PPP concept attempts to address many of the constraints identified earlier to contribute to the reduction of the "equity funding gap" by catalyzing private sector (co-)investment for sustainable forestry investment in developing and emerging countries. It tries to do this by:

- Increasing the investment flows by providing "patient capital," which would accept lower returns, and using credible public sector partners to reduce country risks.
- Outsourcing the fund management to the private sector and operating this fund in principle as an ethical or socially responsible investing (SRI)-oriented private equity fund according to the highest environmental and social standards.
- Adopting a strategy of linking profit-seeking objectives (for example, financial viability, social and environmental returns) by adopting the highest international ESG standards and safeguards from the private and public sectors.
- Leveraging not only foreign equity capital but also domestic debt financing by bringing the needed initial capital together with credibility (investment track record, technical capacity, business management planning capacity).
- Leveraging know-how, technology, and political support.
- Public sector partners sharing more of the risks and accepting lower or delayed returns against the possibility of delivery of public goods; the mechanism could be based on different classes of shares.
- Using blended funding, and possibly even some risk guarantee mechanism, and making the best use of synergies with already existing related funds and facilities and aid programs.
- Public sector partners assuming higher transaction costs, thereby facilitating private investment in small and medium-sized investment projects, and investments into environments where project development is more costly.
- Reducing project preparation risks and costs through the proposed TA Facility linked to the fund.
- Reducing fund management and transaction costs through the common fund structure where the smaller funds can also enjoy the benefits of scale and related-efficiency gains.

The SFF-PPP would invest in global, regional, and national private equity funds that already exist, or will be formed by the fund, specialized in sustainable management of plantation forests or natural forests as well as in the delivery of environmental services for the market (REDD, Clean Development Mechanism, voluntary carbon markets, biodiversity credits, and so on) in developing and emerging countries. In selected cases, it can invest directly in projects. If (sub-) funds already exist, they must demonstrate strict compliance with the Fund Investment Policy and objectives, and naturally be financially viable and meet best practice industry standards.

The subfunds (initially two and later up to five) could be thematically focused, or regionally focused, or in some cases even national (in the case of a large economy with major market potential and extensive forest resources). The SFF-PPP can give special emphasis, through financial engineering, to serving the needs of underserved areas such as Africa or to natural forest management linked possibly to REDD, or delivery of environmental services for the market.

Fund Structure and Governance

There are two key layers in the fund structure:

- The layered funds structure, with each subfund having a common fund investment policy but complemented with variations based on the specific nature and objectives of the fund, including the regional and thematic context.
- The fund management structure, comprising the Steering Committee (SC), the Investment Committee (IC), Fund Adviser or Manager, and the supporting Technical Assistance Facility. The fund management structure would follow a standard private equity fund structure; it would not be based on administrative or political arrangements of participating partners.

The IC should comprise leading international and regional experts representing different dimensions and stakeholders groups dealing with SFM in developing countries. It is foreseen that representatives should come from DFIs, bilateral agencies, international NGOs, representatives of indigenous people's associations and networks, forest industry, independent timberland investment advisors, and so on. Since there are subfunds, the IC needs to have two to five slots available to cover the needs for representation under each subfund. This will be crucial for tapping the necessary regional/local expertise and key stakeholder perspectives. In addition, the IC would have two representatives from the Fund Manager.

The fund needs to be structured in such a way that its grant element can be accounted as official development assistance by the OECD Development Assistance Committee. No offshore funds or subfunds would be allowed.

The fund would be committed to:

- The Equator Principles, which are a set of guidelines approved by the global financial sector (signatories) for assessing, managing, and monitoring environmental and social impacts.
- UNPRI, whose signatories contribute to the development of a more sustainable global financial system, and principles and concrete action for incorporating ESG issues into investment practices.
- The UNEP Statement of Commitment by Financial Institutions on Sustainable Development.
- The Global Reporting Initiative to demonstrate, through approved reporting standards, performance related to sustainable development.
- Applying internationally recognized forest verification schemes (FSC, PEFC) and verification of legal origin.
- Applying standards such as VCS or Gold Standard for carbon credits.

ADVANTAGES AND DISADVANTAGES OF THE PROPOSED FUND CONCEPT

The main advantages:

- Provides an opportunity for donors to mobilize incremental capital and more responsible investors while at the same time having an opportunity to influence investment policies of private equity funds, and helping responsible investors to occupy more of the space currently taken by opportunistic short-term investors.
- An attractive option for donors to make better use of their scarce funds through the multiplier effect, and complement and diversify the menu of financing instruments. Further, it would help with collecting and allocating funds from different sources under commonly accepted policy and guidelines.
- More flexible and quicker management and investment execution as well as improved quality of management due to competitive outsourcing to professional fund managers.
- A unique one-stop shop for pooling public and private sector funding with technical assistance, enabling risk-sharing and making investments more attractive for private investors.
- A fund of fund concept would reduce transaction costs especially for smaller funds through cost sharing.
- Having separate funds allows targeting priority thematic and geographical areas, flexibility in design (financial engineering), and also including regional or local stakeholders in the fund governance structure to improve governance and quality of investments.
- Over time, the fund can be made self-sustaining through using public investment dividend payments or exit investment returns to finance the TA Facility and overhead costs.
- Possibility of blending different instruments and financing.

Disadvantages and risks:

- The crowding-out effect through having too many funds that are in principle complementary but still may compete for the same resources.
- Challenges in coordinating various initiatives and ensuring coherence.
- The risk that profit-seeking overrides social, developmental objectives and may compromise environmental integrity.
- The fear that outsourcing of fund management may reduce the "political" power of key donors.
- On the other hand, there is a risk that some of the negative donor practices related to bureaucracy and slowness in decision making are somehow transferred to the fund operations despite outsourcing.
- Challenges in securing broad, representative enough, and at the same time, effective participation of stakeholders in the fund governance (Steering Committee and Investment Committee).
- Politicization of the SC decisions and political influencing through the SC instead of basing the decisions entirely on technical, financial, social, environmental, and sustainability merits.

This is a unique fund concept with clear value added and would complement the existing mechanisms. However, there is risk of inadequate coherence and utilization of the potential synergies between the different funds.

The dangers of the private sector behaving socially and environmentally irresponsibly are easily exaggerated. It is clear that the toughest social and environmental safeguards must be adopted and implemented in the proposed fund. Further, the Steering Committee is to be responsible for the fund investment policy, including ESG matters. Investment eligibility criteria should exclude high-risk and unsustainable investments and also require that all forestry assets must be certifiable according to FSC or other internationally accepted standards. The fund should also adopt environmental and social screening guidelines similar to those of the IFC, specifying when more comprehensive environmental and social impact assessments and related mitigation plans are needed. The Investment Committee representing different stakeholders, including social and environmental NGOs, is also responsible for ensuring that the fund management follows approved investment policies in identifying potential investments, carrying out due diligences, and executing investments.

FUND SIZE AND POTENTIAL

One would have to carry out a proper feasibility study to estimate the size of the fund. This would include estimating the "appetite" of both the donor community and the private financing sector, including institutional investors (DFIs providing equity financing, pension funds, endowments, private foundations, the socially responsible investment community, Green Climate Fund, and so on.).

As a working target, the fund ideally could be capitalized at US$300 million based on pledges from bilateral donors, DFI, and multilateral aid organizations. With a leverage multiplier of 3, the fund size could then reach US$900 million. However, it is not unfeasible to assume a leverage factor of 4–5, in which case the fund size could exceed US$1 billion. IFC states to have a multiplier of 5 for its forest (industry) projects.

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HOW TO FINANCE SUSTAINABLE FOREST MANAGEMENT (SFM) IS A QUESTION OF PERENNIAL INTEREST AND CONCERN FOR THE FORESTRY COMMUNITY. IT HAS BEEN ESTIMATED THAT THE REQUIRED FUNDING FOR SFM IS IN THE ORDER OF US$70–160 BILLION PER YEAR GLOBALLY. CURRENTLY, OFFICIAL DEVELOPMENT ASSISTANCE DISBURSEMENTS TO FORESTRY COVER ABOUT ONE PERCENT OF THE ESTIMATED TOTAL FINANCING NEEDS FOR SFM, AND OTHER AVAILABLE PUBLIC SECTOR FINANCING SOURCES BARELY DOUBLE THAT AMOUNT. TO SCALE UP SFM, TO CREATE VALUE-ADDED ECONOMIC GROWTH AND EMPLOYMENT AND PROTECT FORESTS FROM COMPETING UNSUSTAINABLE LAND USES, DOMESTIC AND FOREIGN PRIVATE FINANCING AND INVESTMENTS NEED TO INCREASE SIGNIFICANTLY.

DESPITE THE IMPORTANCE OF THE PRIVATE SECTOR, INFORMATION ON PRIVATE FOREST FINANCING IS SCARCE AND INADEQUATE AT ALL LEVELS. THIS REPORT PROVIDES UPDATED, COMPREHENSIVE INFORMATION TO INFORM GLOBAL DIALOGUE ON THE ROLE OF PRIVATE FINANCING FOR SFM, INCLUDING FOREST PLANTATION DEVELOPMENT, AND TO THE PRODUCTION OF FOREST PRODUCTS. THE REPORT REVIEWS WHAT PRIVATE FOREST SECTOR FINANCING DATA ARE AVAILABLE, PROVIDES A SNAPSHOT OF DIFFERENT FINANCING FLOWS IN THE FOREST SECTOR, IMPROVES OUR UNDERSTANDING OF CHALLENGES RELATED TO FOREST FINANCING, AND PRESENTS A ROADMAP FOR BETTER INFORMATION AND IMPROVED ACCESS TO FINANCE TO PROMOTE INVESTMENTS IN SUSTAINABLE FOREST MANAGEMENT.

PROFOR

PROGRAM ON FORESTS (PROFOR)

THE WORLD BANK
1818 H ST NW
WASHINGTON DC 20433 USA
TEL: + 1 202 473 5844
FAX: + 1 202 522 1142

EMAIL: PROFOR@WORLDBANK.ORG
WEBSITE: HTTP://WWW.PROFOR.INFO

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