

# Chapter 9.1

## Certification and Sustainable Forest Management

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### CERTIFICATION – FROM LAUNCH TO MAINSTREAMING

Awareness is growing about the environmental, social and economic importance of scientifically sound sustainable forest management. The role of certification in this process is emerging as the most concrete and cost-effective means of promoting and assuring sustainable management of forests and related resources.

### BENEFITS AND IMPACT OF CERTIFICATION

Independent forest management certification is a recent phenomenon. It was not until 1996 that the Forest Stewardship Council (FSC) first started formally endorsing certificates. Now, only after five years, certification is a fairly major operation, involving an ever-increasing number of organisations, standards, systems and forests. Certification has entered the mainstream of forestry practice, and all the major forest and forestry organisations are developing their position and taking sides on this issue.

Whenever a new idea emerges, there are challenges, and often controversy and opposition. Forest certification is no exception. There are widespread disagreements about what are the best systems, what are the most suitable standards and what are the trustworthy organisations. Yet, from the Americas to Zimbabwe, and Europe to Asia, we are seeing certification being adopted as the gate-way for pragmatically professionalising forest conservation and forestry business, and for ensuring sustainable forest management.

In the FSC programme, certification now covers 22 million ha or more, in all forest types, and under every kind of ownership, from indigenous communities to major corporations and governments. The publicly owned forests of the UK and New York State are now certified. Natural forests owned and managed by indigenous communities, from Canada through the US and Mexico, through Brazil and Bolivia to Chile, have been put under the ambit of certification or audits, and major North American, Japanese and European corporations have done the same.

Certification is new to forestry, but has been a well-established practice in most other industries. All certification is based on three main pillars of (i) standards, (ii) independent certification bodies, and (iii) an accreditation authority. Likewise, these elements were constructed for forestry certification, in the FSC system and in all the others that have followed it.

The development of forest management standards has been the most complex and contentious part of this architecture. All the pertinent stakeholders have strong views about the essential elements of good forestry, and they resist dilution of the principles they are most concerned about. However, certification will not carry credibility unless supported by organisations trusted by the public; so it is vital to involve all stakeholder groups in the development and testing of forestry standards.

We have nearly ten years of overall experience of using open, participatory, multi-stakeholder processes to develop standards, based on principles, criteria and indicators. CIFOR has been one of the pioneers of the scientific basis for developing criteria and indicators, as has been ITTO. This is a slow and painful process, but we have proved that it can be done, and that the results deliver credible certification. From the Amazon basin to northern Europe, these standards now yield certificates which are trusted by trade and industry, by NGOs and governments, by the scientific and academic community, and by consumers and the general public. Of course, this process has not eliminated disagreements and controversies, but it has proved that multi-stakeholder agreements can be reached and maintained, including the involvement of local communities.

Certification is not a force that stands alone for promoting good forest management. By itself, it is only an assurance of conformity with a set of agreed standards. In the best cases, the forest manager must make some significant improvements to merit and achieve a certificate. These improvements might often be difficult to measure, partly because managers are sometimes justifiably reluctant to publicise their previous weaknesses, and partly because the assessments are designed to assure conformity with standards, not to describe all the efforts made to achieve compliance.

However, there is a growing body of critical research into the impact of certification. Some of this has been motivated by a healthy scepticism, and some by a desire to check whether investment in global certification programmes was in fact productive enough. Some detailed case studies have been made of forests certified under the FSC system. These have demonstrated the wide variety of improvements made in all the certified forests, sometimes minor but sometimes involving radical



departures from the prevailing previous misuse in a region. Certified tropical forests in parts of the Amazon basin and Southeast Asia are conspicuous examples of management that complies with national and international guidelines and standards, a striking contrast to many of their neighbours.

No-one expects that forest managers or owners would normally invest in making these improvements, large or small, and in obtaining their certificates, unless there is a meaningful advantage, especially in the market place. This is where the linkage of certification and labelling with market incentives comes into force; the force that is turning certification into a powerful market-based tool for promoting Sustainable Forest Management (SFM).

Producers and manufacturers now have an independent and trustworthy way of convincing the clients about the reliability of their sources. Retailers have a way of convincing themselves and their customers, the public. More and more of them are resorting to certification as a way of implementing their corporate policies of environmental and social responsibility, of improving their corporate images, and of assuring themselves a long-term sustainable supply of products.

However, this is not just a useful tool or a voluntary option, but an essential condition. More and more corporations are deciding that these assurances about well-managed forests and sustainable raw materials are not merely useful image-enhancement, but an essential part of doing business in a changing world, a world with heightened concern about the future of the planet and its forests and biodiversity.

Even though certification for Sustainable Forest Management enhances the cost of management and even though product prices may not always increase commensurately, forest owners and forest product companies, such as Assi Doman of Sweden, have gone forward in making investments for the purpose, given the long

term prospects of profitability and, of course, ethical considerations of environmental and social responsibility. These standard-setters are being emulated so that Sweden has already achieved over 40% of its forest area as being certified by FSC. Elsewhere, I should like to counsel Governments, aid agencies and local authorities to come forward with investment resources in support of appropriate training, auditing and awareness raising to ensure highest standards and sustainability. This is particularly necessary in countries where the corporate sector is weak and where forests are largely in the public domain or small and fragmented. So is the case in countries and regions where woodlots, agro-forestry and stakeholders play a vital role in maintaining ecological balance, in desertification control, watershed management, bio-diversity conservation and carbon sequestration, besides providing fuelwood and other non-timber goods and services of critical importance to indigenous groups and local communities as well as other forest dependent societies.

Indeed, a majority of the enlightened international aid agencies promoting good forest management for the sake of sustainable social and economic development are rapidly coming to the conclusion that investment in certification is a relatively cheap and cost-effective way of achieving their goals. Development agencies such as GTZ in Germany and DFID in the UK are not radical extremists, nor do they give away their money easily, but they are increasing their investment in various elements of certification, for developing standards and promoting confidence among the various players. Donors in the US, such as the Ford Foundation, Rockefeller Brothers, Wallace Global and the MacArthur Foundation have done so for years. NGOs as diverse as WWF and the IFBWW are also heavily committed and fully supportive, and of late there is an alliance between the WWF and the World Bank for a target of millions of hectares of certified forests.





These organisations, and so many others, have accepted the concept of good forest management, as enshrined in certification. It is not a limited vision of pure preservation, neither is it dominated by the demands of profit and production, nor is it a populist concept of job protection or social revolution. On the contrary, it is a multi-stakeholder and transparent system designed to equitably balance the environmental, social and economic needs of society, the fundamental pillars of sustainable development.

Of course, this is not an easy balance to achieve. There is no easy consensus in good forest management. We have learnt that certification and labelling will soon disappear unless the requirements are feasible, realistic and cost-effective. Idealism must be tempered by consensual logic and stakeholder participation. Certification will lose its ability to promote real changes if it settles at a level which is too demanding, elitist, and catering only for the boutique end of the market. It will also lose its credibility if it is too undemanding, business-as-usual, certifying the lowest common denominator. Equally, certification and labelling will be a useless tool unless it is based on the confidence and trust of all concerned. It's a hard job, but worthy of the investment.

Labelling is about communicating messages, in this case a simple message about good forest management. If the public does not believe it, then the message is useless. If it does not have the broad support of environmental and social NGOs, which are trusted by the public, then the public will lose confidence. The retailers and manufacturers are not interested in labels and certificates if people do not trust them.

Corporations as large as the Home Depot, IKEA, B&Q and many others are not merely welcoming certification, but demanding it. By insisting that their suppliers have evidence of good forestry, they are providing a powerful incentive for forest managers to achieve the agreed standards and obtain a certificate.

This is the force that has turned certification into such a powerful and practical instrument for promoting good forest management. It harnesses market forces, public opinion and civil society in support of SFM and draws upon all the old and existing institutions, including national laws and international agencies.

## **CERTIFICATION FOR ALL**

Certification is meant to be open and impartial, but it is not always easy to create a level playing field in the real world of resource management. It always turns out that certification is easier for some kinds of enterprises than for others. This applies to ISO 14000 and to organic agriculture and certainly to forestry.

Certification is always harder for small businesses than for large ones. To reduce some of the barriers for small forest properties, FSC has developed systems for Group Certification, and for Percentage Based Claims. These have helped, and have been copied by other certification systems, but they have not gone far enough. We are now working on a new round of simplification, designed especially for small forests and businesses, to make certification easier while at the same time providing an adequate quality assurance and guarantee about SFM.

Certification in the tropics has yet another set of special consideration. In many tropical forests, there is a great gap between what is happening today, and what is required for certification. Bridging this gap, and improving the management, is a challenge which has occupied many of us and our organisations all our working lives. We are now trying to develop a simple, affordable method of giving recognition to forest managers who are committed to good management and are making clear and measurable progress towards achieving certification.

## **BUILDING CAPACITY**

It is here, as elsewhere but much more, that large scale international investment is warranted, to promote and strengthen national capacity and efforts in developing countries which are facing stringent budgetary constraints. So is the case of countries in transition, including those of Eastern and Central Europe, Russia, Central Asia and Caucasia. Given that certification shall grant access to world-wide markets for their forest products and help contribute to the foreign exchange earnings of their countries, it is expected that certification should provide a major avenue for large-scale investment in Sustainable Forest Management.

Based on the current trend and future prospects, I feel assured that the private and public sectors and the international community will consider providing progressively increasing investment resources for forest certification and related eco-labelling of forest products. In this context, FSC stands in readiness as a standard setter to meet the expectations of all the national and international stakeholders concerned about SFM, about the global environment, and about the welfare of present and future generations.

# Chapter 9.2

## Feasibility Analysis for an International Investment Promotion Entity for Sustainable Forest Management

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### **IMPORTANT: EDITOR'S NOTE ON PRESENTATION OF TEXT EXTRACTS FROM THE ORIGINAL PAPER**

This Chapter consists of the Editors' private sector relevant extracts from the original full paper prepared for the Oslo Workshop. In selecting what to extract, the Editors have focused on material that presents information on the nature, magnitude, trends and issues regarding private sector engagement in SFM. This information was assembled by the authors to provide background and context for their analysis of feasibility of the proposed Investment Promotion Entity (IPE). All other material, particularly that on the proposed IPE itself that was the main purpose of the full paper, has been excluded. Working on a selective basis, it is not possible to seek or expect good flow; the information extracted should be taken on its own merits as it stands. As a way to show that a piece of text was, in the full original paper, preceded by other information, the editors have used dotted lines [ . . . . XXXX } and to show that a piece of text was, in the full original paper, followed by other information, they use [ XXXX . . . . ]. Connecting words added for readability have been square bracketed, e.g., [ XXXXXXXX ].



## ... .. POTENTIAL SUPPLY AND DEMAND OF INVESTMENT INTO SFM

For the purposes of this report, ‘supply’ refers to the supply of financial resources to SFM projects, while ‘demand’ refers to the demand for investment by the forestry sector project development community. The supply side of forestry investment was divided into: public sector and other sources of non-commercial funding (foundations, NGOs, etc.) and the commercially-focused private sector.

Trends demonstrate that public sector financing is declining in absolute terms and as a percentage of financial flows to developing countries. While other non-commercial sources of finance will continue to grow through increased funding flows from NGOs, foundations and greater corporate support for environmental initiatives, these funds will likely remain limited.

... . The potential funding pool from the private sector is much larger [than from public sources]. As an example, we analysed the institutional investment sector in the US. In this country alone, institutional investors manage US\$18.6 trillion in funds. If forestry was to receive just 1% of the allocation of their Real Estate portfolio (which corresponds to ca. 10% of the total investment pool) of these funds, total investments from US funds alone would be US\$16.8 billion. Specialised timber investment management organisations (TIMOs) identified potential funding of between US\$ 1 and US\$ 2 billion per year, providing there was the capacity to produce a flow of attractive investments.

The main attribute determining the attractiveness of investments to institutional investors are their risks and returns. Investment managers indicated that the required rates of return for forestry investments in developing countries ranged from 15% to 30% per annum. It is becoming increasingly evident, however, that a large number of forestry deals in the tropics can provide such returns.

While there appears to be no shortage of institutional funds available for investment in forestry, one of the problems has been the difficulty of attracting American and European institutional investment into SFM in developing countries. As a general rule of thumb, Western investment in forestry has shown a strong preference for plantations and timberland investment, mainly focused in a few low-risk countries. Western investors view plantations as a much lower-risk investment than natural tropical forests and have a strong perception that the returns from sustainable natural forest management are low compared to those from industrial plantations.

Unlike their American and European counterparts, Asian forestry companies and institutional investors have shown a clear preference for logging activities in tropical rainforests. In general, Asian forest investors are more risk taking and less concerned about investing in riskier developing countries. The high returns derived from unsustainable logging operations seems to compensate for the higher risks in these countries. The main problem with these are exactly their negative environmental impacts. Recent pressure to improve the environmental performance of these companies has been resisted on the grounds of costs. Asian concerns with introducing SFM relate to the costs associated with training and implementation of sustainable forestry, which are perceived to be prohibitive.

A conclusion of this study is that there appear to be substantial private sector financial resources available for projects that meet the risk/return profiles that the market demands. At the same time, there appears to be a large number of potential projects, a proportion of which has the potential to meet market requirements.

The observed low level of investments in SFM, therefore, illustrates a clear case of market failure, where something currently prevents capital from flowing. We propose, therefore, that there is a strong need to link investors and investment and facilitating deals. It appears as well that innovative structuring and financing approaches may need to be used in order to remove some of the barriers that prevent investment in SFM. There is a clear need for better information flows between the various players in this market, as well as the provision of services related to country risk mitigation, and access to concessional funding for improvement of management practices. Partnerships between the public and private sectors are proposed as a way forward to overcome some of these limiting factors. . . . .

#### . . . . . AN INVESTMENT STRATEGY FOR SFM

. . . . . [Recently] Moura-Costa *et al.* proposed an investment strategy for SFM (Moura Costa *et al.* 1999). The strategy outlined the interventions that could assist in improving

financial flows to SFM. . . . . It is important that structural and policy reforms at both the international and national levels continue to proceed. This will provide the institutional and policy environment that will support the implementation of SFM and facilitate private capital flows to SFM in a wide range of countries.

A major potential source of additional capital may be made available through the commoditisation of the non-wood values of forests. This would provide a mechanism to internalise the externalities of sustainable forest practices, such as maintenance of hydrological cycles, carbon sequestration, and genetic resources, which currently do not revert to those managing these resources.

There is also a need to overcome some of the operational constraints to a greater flow of private sector investment into SFM. This would require the development of a number of innovative financing mechanisms. Financing mechanisms need to ensure that a range of capital sources, both public and private, can be combined to overcome some of the operational impediments to the implementation of SFM. Matching private sector funding with public sector funding, developing project finance using a range of public and private financing sources and a series of instruments that fit particular niches in the market will be required. There is also a need to educate capital markets on the benefits of SFM investments, packaged in terms the capital markets understand. Risks and risk management tools associated with SFM investment need to be developed and promoted to investors.

Moura-Costa *et al.* (1999) identified a number of ongoing policy processes that are addressing a wide range of the impediments identified in Table 1. They identified a key need for the policy reform process to engage the private sector, and private sector capital markets, if private financial resources were to be directed to SFM.

It was suggested that public sector financial flows could play a crucial role in leveraging private sector financing of SFM. However, for this to be achieved, it would be necessary to build mechanisms to promote better coordination and cooperation between the private and public sectors and to facilitate SFM investment. . . . .

## SUPPLY AND DEMAND OF FINANCING FOR SFM

. . . . . [Apart from Public (both Official Development Assistance and domestic public sector sources) and other non-commercial sources], . . . . the supply side of forestry investment . . . . . [includes] . . . . . Private Sector Capital, including debt and equity flows from commercial banks and portfolio investors and foreign direct investment flows.

**Table 1.** Proposed financing strategy for SFM (Moura-Costa *et al.* 1999)

Level	Objective	Intervention
Global	1. Enabling conditions at global level	Agreed policy framework, including concessionary finance and its uses Ground rules for trading of environmental benefits and for market-based instruments (CO <sub>2</sub> , bioprospecting, certification and labelling, etc.)
	2. Development of globally applicable instruments for SFM financing and related programs	GEF, CDM, joint implementation, co-financing etc. Innovative financing mechanisms
	3. Fund raising and investment promotion	Awareness about SFM investment opportunities Concessional funding Investment promotion (IPE) Country and sector risk mitigation
Regional	1. Enabling conditions at a regional level	Regional cross capacity building Cross-border trading of hydrological and other services of forests
	2. Regional financing instruments	Regional Instruments of MDBs, regional VCFs
National	1. Enabling conditions at the national level	Policy framework: removal of structural and operational barriers to SFM, regulation and commoditisation of forest benefits Capacity building, including good governance and transparency NFP and their investment programs as co-ordinating instruments
	2. Fund Raising and investment promotion	Concessional funding and pooling of resources within sector programs (including forest partnership arrangements) Investment Promotion Facilities Strengthening of financial intermediaries

Table 1. *Continued*

Level	Objective	Intervention
	3. National financing instruments	Direct commercial financing (portfolio equity investments, investment funds, etc.) Direct concessionary financing (national conservation/environment funds, debt for nature/development swaps, venture capital funds, SME credit lines and micro-credits, small grants, etc.) Market development mechanisms (carbon trades, bioprospecting, water usage charges, certification, etc.) Fiscal instruments and other structural mechanisms (public forest funds, performance bonds, etc.)
Local	1. Enabling conditions at local level	Removal of operational constraints Capacity building Participation
	2. Commoditisation of forest benefits	<ul style="list-style-type: none"> <li>• Valuation and integration</li> </ul>
	3. Local Financing	<ul style="list-style-type: none"> <li>• Conventional project financing</li> <li>• Micro financing</li> </ul>

MDB = Multilateral Development Banks; VCF = Venture Capital Funds; NFP = National Forests Plans; SME = Small and Medium sized Enterprises

### Supply Side: The public sector and other non-commercial sources

Trends demonstrate that Official Development Assistance (ODA) is declining in absolute terms and as a percentage of financial flows to developing countries. In 1996, total global flows of ODA totalled US\$42.7 billion across all sectors. This was 15% of the total financial flows of US\$284.6 billion (down from 56% in 1990), and represented a decrease of 27% in absolute terms since 1990 (Best and Jenkins 1999). It is estimated that US\$20.4 billion was invested in the forestry sector in developing countries (including processing) in 1993. Of this, bilateral and multilateral ODA accounted for US\$ 1.54 billion (7.5%). Accurate figures on domestic public sector investment in the forest sector are difficult to obtain, but it appears to be in the region of US\$8 to US\$ 10 billion. Much of this was spent on small community-based forestry projects (Moura-Costa *et al.* 1999).

While non-commercial sources of finance will continue to grow . . . . . these funds will, likely, remain limited. . . . .

. . . . . there is little investment by the international public sector directed into commercial activities that generate substantial amounts of income, foreign reserves and jobs in developing countries. There is a role, therefore, for the involvement of the private sector to complement public sector funding with regard to the productive functions of the forest.

A significant trend in forest investment is the rise of private capital as a funding source, reducing the share of funding contributed from ODA and domestic public sources. Foreign private sector investment in the forest sector appears to have reached US\$8 to US\$10 billion. This is mainly targeted at plantation establishment, logging operations and downstream processing facilities. The problem is that these increased private flows have too often been directed into unsustainable forest practices rather than sustainable forest activities.

This suggests that the most effective role of ODA may be to leverage private sector capital, increasing investment levels in SFM, but at the same time ensuring the adoption of higher environmental standards within the forestry sector in developing countries.

## **Supply side: The private sector**

### *Potential of the private sector as a whole*

The potential funding pool from the private sector is large, and likely to be dominated by financial flows from institutional investors. As an example, we analysed the institutional investment sector in the US, which currently manages US\$18.6 trillion in funds (The Conference Board 2000). Complex asset allocation models are used to direct these funds into various asset classes, based on the historical returns and risks. There are 5 broad asset classes that are used by institutional investors, as follows:

- Securities
- Equity
- International Equities
- Real Estate
- Alternative assets

Forestland assets are usually considered part of the Real Estate portfolio. While the total percentage of assets held in each of these asset classes will vary according to the returns being generated, in general the Real Estate portfolio has historically represented about 10-12 percent of total assets. Even if forest assets were to be just 1% of the Real Estate portfolio, total investments from US funds alone would be

US\$16.8 billion. Specialised TIMOs were asked about the funding potential for the sector. They identified potential funding of between US\$ 1 and US\$ 2 billion per year, providing there was the capacity to produce a flow of attractive investments.

This amount would be much higher if other countries were included in the analysis.

### *Factors determining the attractiveness of forestry investments*

If the private capital markets are to play a greater role in financing SFM, it is important to understand what are the characteristics that make forestry attractive to private investors. . . . . Mills (1998) . . . . lists the attributes of investment that are considered by institutional investors. They are:

- Risk and return. Risk and return are related. The higher the risk, the greater the expected return. Most institutional investors are risk averse, and require significant risk premiums to assume risk (see Box 1). A number of studies have shown that timberland investment has historically produced competitive returns at low risk (Binkley *et al.* 1996, Klemperer *et al.* 1994). Additionally, these studies suggest that forest investments are counter-cyclical when compared to the standard investment portfolio of stocks and bonds. There are indications that logging operations can provide much higher returns, but concern about environmental safeguards and developing country risk has prevented Western investors from engaging in this activity.
- Maturity, referring to the period that an investment must be held before the value can be realised. In the case of timberlands, this is derived from ongoing income streams from forest management and capital appreciation. In general, capital is impatient and markets prefer assets with shorter maturities. Where maturities are longer, risks are perceived to be greater and higher returns are required. In the case of forestry, this leads to financial pressures to manage the resource in such a way that income streams are accelerated (logging is brought forward and inadequate investments are made in long-term regeneration of the asset). This pressure is common to both plantation and natural forest management operations.
- Tax impacts. The tax impacts of investments vary widely between jurisdictions and corporate structures. One important consideration is the mix of income between ordinary and capital gain. One problem with natural forest management is that accounting methods in many countries do not take into account the appreciation of forest assets managed

### Box 1. Expected Rates of Returns and Risk Premiums

TIMO and investment managers indicated that the required rates of return for forestry investments range from 15% to 30% per annum.

The expected rate of return has a number of components that include a number of return premiums to reflect individual risks involved in investing in different assets and locations. In relation to forestry investments, the components of return are:

- *The Risk Free Investment Return.* The minimum rate of return expected by investors. This is the return that can be earned from US Treasury notes, regarded as a 'risk free' investment. They are currently around 5% pa.
- *Risk Premium for Forestry Investments.* This is a return premium for the investor accepting particular risks associated with forestry investments. In general, this risk factor tends to be in the 4 to 6% range. It includes the market and project risks that are generic to forestry projects worldwide, and will vary slightly from project to project depending on exposure to the risks involved. It takes into account the asset diversification benefits of forestry benefits for portfolio managers.
- *Risk Premium for Country Investment.* Risks associated with investing in a particular country are covered by this premium. It varies according to the fiscal, economic, political, legal and social conditions that prevail in each country. In developed countries, the risk premium can be as low as 1% to 2%, while in developing countries it can climb as high as 15-20% (precluding industrial investment in almost any sector). In the case of the GMO Brazil Sustainable Forestry Fund, a country risk of 7% was built into returns (see Box 3 below).
- *Special Risk Premiums.* There are other risks that may be associated with a particular investment that need to be accounted for in risk premiums. These include risks associated with investments in certain regions such as the tropics or economies in transition. While most other risk premiums are well understood and quantified, these premiums can sometimes be more subjective and dependent on the project developers' perceptions of the type of project that is being developed.

sustainably, while only accounting for revenue generation. The pressure to generate adequate earnings for shareholders has led to a focus on production (logging) as opposed to long-term sustainable management.

- *Personal Time.* Institutional investors often do not have the expertise, experience or time to be heavily involved in the management of a particular asset. Some investments require little time, others require a great deal of

supervision. The development of TIMOs in the US and Europe has provided a mechanism through which investors can include forest assets in their portfolio without having to develop in-house expertise. This is even stronger in relation to natural forest management investments in the tropics.

However, even for TIMOs, the time and costs of project evaluation can be a strong disincentive. A number of TIMO managers expressed concerns over the cost and time requirements for participation in some forest privatisation and noted that they would carefully consider their participation in such processes in the future.

- Protection from inflation. Investments stated in fixed dollar terms, such as bills and bonds, are subject to inflationary risk. Those with values tied to real assets such as real estate, common shares and receivables have a lower susceptibility to inflationary risk. Forest assets have the advantage of appreciating through growth and through increased timber values for larger trees. This gives them a unique characteristic as a hedge against inflation.
- Liquidity of asset is a key factor for most investors, particularly in cyclical investments. Liquid markets provide information on the value and performance of investments. Illiquid markets provide the investor with less flexibility, restrict exit options and provide less reliable estimates of value. As Best and Jenkins (1999) point out, liquidity is likely to remain an issue while investment levels are low, but as capital flows into forestland investment liquidity will rise. This has been the experience in the US, New Zealand and Australia. There are also ways of increasing the liquidity of a long-term asset, such as placing it in a listed vehicle. Fletcher Challenge used this approach with its forest assets. Similar approaches have also been used with other long-term assets such as infrastructure.

The Hancock Timber Resource Group (1999) has calculated that over the period 1960-1998, a risk efficient portfolio earning returns of 8.00 % would in theory contain 13.9 % of assets in forest while a portfolio earning an 11.00 % return would contain 34.3 % of assets in forestry. They also note that forestry investments have traditionally been negatively correlated with most other asset classes, but positively correlated with inflation. This implies that timberland assets reduce the risk in a portfolio and act as a hedge against inflation.

These figures indicate that the private capital markets have the potential to provide large sums of capital to sustainable forest management. However, the crucial issue is how to develop investment products that will meet the needs of the institutional market and promote SFM as an asset class to institutional investors.

### *Historical trends of private sector investment into forestry*

In the past, institutional investment in the forestry sector was limited to investments in listed industrial companies that may have held forest assets as part of their business. The majority of private investments in forestry have been made in timberlands in the North itself. Only a proportion of investments has been in the North-South direction, and mainly through foreign direct investment (FDI). Traditionally, the European Union has been the major investor in Africa and the Pacific, and the US the main investor in Latin America. Japan has also been a major investor in forestry in Asia, the Pacific and Latin America.

More recently, the availability of investment funds has given the opportunity for industrial companies to restructure and divest their forest lands. In the US, this has been done to take advantage of historically high domestic timberland values, and in order to boost shareholder returns. In particular, removing forestland assets from the balance sheets of industrial firms has some potential tax benefits and there is a perception that it can lead to the equity markets better recognising the value of these assets. There is a clear trend of declining FDI in forestry activities by companies in the industrial sector.

At the same time, one of the most significant changes in investment patterns in forestry over the last 15 years has been the emergence of institutional investors in the sector. As forests have increasingly become understood as financial assets rather than industrial assets, institutions have increasingly been willing to invest in special purpose timber investment management organisations (TIMOs). These are specialist investment managers that specialise in portfolios of forest assets, principally for their timber values.

While there appears to be no shortage of institutional funds available for investment in forestry, one of the problems, noted by several authors (Best and Jenkins 1999, Landell-Mills and Ford 1999) has been the difficulty of attracting American and European institutional investment into SFM in developing countries. However, over the past 10 years there has been a significant growth in tropical forest investment from other developing countries such as Malaysia and Korea (Sizer and Plouvier, 2000).

In order to understand the potential and direction of these investment flows, it is necessary to analyse the perception and requirements of investors in the two main regions providing private sector financial resources to the forestry sector: Western (including North America, Europe, Australia and New Zealand) and Asian countries.

### *Western institutional investment into forestry*

Institutional investment in forestry is a relatively new phenomenon. Binkley *et al.* (1996) noted that in the United States, reforms of the financial regulatory structures in the mid 1970s, and the corporate restructuring of the mid 1980s, produced opportunities for institutional investment. Caufield (1999) notes that institutional timberland investments have grown from US\$ 69.2 million in 1985 to more than US\$ 6.5 billion in 1998.

Accompanying this investment has been the greater transparency in the market place, including the development of a number of indices to provide improved information on timberland values. Specialist timber investment management organisations (TIMOs) were established to manage institutional investment in forestry (Binkley *et al.* 1996). These bring the following advantages for investors (Best and Jenkins 1999):

- Ability to mitigate risks across a number of projects/countries;
- Ability to leverage investment by co-investing with other investors;
- Potentially easier portfolio diversification;
- Management by professionals in the field.

As part of this study, a brief review was conducted of the types of forestry funds in existence at the present time in the following countries: UK, USA, Holland, Australia and New Zealand. The types of fund were split into two categories:

- Tax-based prospectus products. These are found mainly in Australia, New Zealand, UK and Holland and are subscribed to mainly by private investors;
- Institutional (mainly pension funds) investments found largely in the USA.

Forty two separate funds were identified with over US\$ 7 billion under management over 2.7 million ha. Of this, 76% by value is managed in the United States. The average forecast pre tax nominal return from these was 13.42%. However, some caution should be used with regard to these figures as there are wide variations in:

- the tax rates in operation which in some cases drive a pre-tax equivalent return;
- land prices, which give some countries a larger share of the value of funds under management;
- climatic and other silvicultural conditions;
- differing rotation lengths.

A summary of the returns from these funds is shown below:

	USA	UK	Australia	New Zealand	Holland	Switzerland	Grand Total
Funds under management (US\$ million)	5 634.0	958.2	395.6	138.4	79.0	50.0	7 255
Total area under management (ha)	2 152 000	310 000	137 500	45 246	7 750	80 000	2 732 496
Average of forecast returns p.a.	12%	9%	15%	9%	14%	14%	13%
Max. of forecast returns p.a.	14%	9%	23%	9%	20%	14%	23%
Min. forecast returns p.a.	9%	9%	9%	9%	8%	14%	8%
Number of funds	7	5	7	2	20	1	42
Land as % of total	77.64%	13.20%	5.45%	1.91%	1.09%	0.69%	100.00%

As the review was limited in scope, it could reasonably be expected that the total size of the sector is much larger, possibly by a factor of two. In particular, no analysis has been made of some of the other major forestry areas such as Canada, Russia and the former Soviet Union, and Scandinavia.

As a general rule of thumb, Western investment in forestry has shown a strong preference for plantations and timberland investment, mainly focused in a few low-risk countries (see Box 2).

Australian and New Zealand funds, for instance, have generally invested in plantations for the pulp and paper industry or fast growing exotic softwoods, domestically. These funds have relied primarily on exemptions from tax (either as an allowance against the investment amount or on the returns) to private individuals to enhance returns. They generally offer pre tax nominal returns in the range of 11%-15% and in Australia this industry has raised in excess of US\$400m to date.

Dutch funds (for which details are incomplete) have primarily invested in teak plantations in South America (mainly Costa Rica). Some of them are perceived to

**Box 2. The Western preference for plantation investments in selected countries**

TIMO managers in both the US and in the UK both expressed strong preference for investing in plantation forest assets. They also indicated that there was a limited range of countries in which they were willing to invest.

**A preference for plantation Investments**

The majority of investors indicated they would only include plantation assets in their investment portfolios. To date, most US funds have only invested in natural forest in their own country.

The following reasons were given for the preference for plantation operations:

- *Environmental Risks.* Most fund managers nominated the political risks associated with the environmental impacts of logging in natural forests. This risk comes both in the major capital markets where they are seeking to raise funds (the EU and the US), but also in the countries of operation, where there was concern over disruption of operations.
- Interestingly, some fund managers did not see forest certification as sufficient to mitigate this risk. There were concerns that regional certification guidelines had not been completed in all areas, and that this would become a highly politicized process.
- *Economic Risk.* Fund managers noted that plantations give managers greater flexibility to manipulate yields to fit cyclical markets for forest products. The yield restrictions that are imposed within a natural forest SFM regime may restrict the options available to management.
- Management Focus.
- In plantations, management can have a clear commercial objective. In SFM operations in natural forests, there is concern that social objectives may impinge on the commercial focus, diverting the attention of management and making their task more complex.

**A preference for investing in developed economies**

Most of the Western fund managers also indicated that they would be unlikely to invest in all but a handful of developing countries. They noted that they have only recently diversified internationally, and that they preferred to invest in economies that provided a stable investment environment.

**Box 2. Continued**

A number of TIMO managers indicated that they would be launching new funds with an international focus in the next 12 months. However, these funds will concentrate on investments in Australia, New Zealand, and possibly in Chile. There is little appetite for investment in countries that are not in the lowest 15 or 20 on investment risk scales.

The risks that concern TIMO managers range from the risk of appropriation, the risk that the legal and commercial structures and institutions are not well enough developed to support complex investments, and a lack of physical and social infrastructure. The presence of a relatively open economy, with transparent political processes, a strong legal framework and relatively free movement of capital were seen as being crucial.

TIMO managers pointed out that forest asset investments were attractive partly because of their specific risk characteristics. The markets have developed specific investment vehicles to gain exposure to developing market risk (usually equity based emerging market funds), and there is a reluctance to mix emerging market risks with forest assets.

have poor track records and there are allegations of improprieties on the part of some of the fund operators.

In the USA, the majority of investments in the past have been in timberlands in the US, where an inefficient market allowed purchases to be made at low values (hardship deals). The introduction of improved financial management and increases in liquidity as more investments were made allowed increased efficiency in the market, and timberland prices rose to better reflect real values. Domestic investments had the advantage of avoiding risks associated with overseas investment in what was a new asset class.

The American market is currently dominated by two main players, Hancock and UBS Timber Investments (with almost 50% of the total under management). These generally have invested in hardwoods in temperate climates (mainly North America) and offer real returns in the range of 11%-12%. UBS Timber Investments has 11 active closed end funds with US\$1.3 billion under management. These are over 70 clients comprising many of the main institutional investors in the USA and pension funds managed by them. Hancock has five closed end funds and over US\$3 billion under management. All are for institutional investors.

Discussions with TIMO managers have indicated that in excess of US\$500 million of additional funds will be raised from the institutional market in the next 12 months. The majority of this will be targeted at plantation investments.

As the prices of US timberlands have increased, however, timberland investment opportunities are becoming more limited. With increasing understanding and acceptance of the asset class in the markets and as micro-economic reform progressed in many developed economies, the opportunity arose for investment in forests outside the US. Many investments have been made in the plantation sectors in New Zealand, Australia and Chile from the late 1980s onwards. Investments now also exist in Argentina, Brazil, and Uruguay. Other examples of recent departures from this investment trend include, for instance:

- GMO (Grantham, Mayo, Van Otterloo & Co) Resources (a large US-based fund manager) has recently put together its first forestry fund (US\$34 m) and made its first investment in a natural forestry operation in Brazil (with a processing facility close to that of the Precious Woods fund, a Swiss investment in natural forest management in the Amazon);
- UBS Timber Investments put together a US\$500 million global fund and is in the process of closing a second offering which will target Southern Hemisphere temperate regions;
- Hancock has also undertaken an international fund.

It appears that the drivers of this move to new markets have been:

- Greater policy support in the form of tax incentives, particularly in Australia, and Argentina;
- Greater awareness amongst institutional investors in these countries;
- Superior growth rates;
- Potential for land price appreciation as part of the returns;
- Potential carbon value under the Kyoto Protocol.

### *Asian investment in forestry*

Asian investment in forestry activities has largely been made through the ownership of logging concessions over forest areas, leases or the sale of standing timber (Landell-Mills and Ford 1999). Historically, these arrangements have had few restrictions imposed on forest management and have been available at a relatively low cost. This has been conducted mainly by privately-owned logging companies throughout Southeast Asia and the Pacific.

Since the 1980s, there has been a trend for increasing institutional investment into forestry in the region. A major driving force has been the Asian stock markets, which provided the large Malaysian, Indonesian and Korean logging and wood products companies with access to external capital. This has been illustrated by the amount of investment derived from European and American capital markets to Asian companies that have interests in forests and forest products, which reached US\$ 100 billion in 1995 (personal communication, M. Campanale, Senior Investment Analyst, Hendersons, London).

In order to provide the high financial returns necessary to attract this level of investment (on average 40% internal rate return - IRR), these companies have carried

out extremely intense exploitation of their forest resources. The level of environmental degradation and social exploitation caused by such high intensity and highly profitable operations is totally unacceptable. Furthermore, as this has become known, great public outcry has forced a series of Western investors to withdraw their investments.

Unlike their American and European counterparts, Asian forestry companies and institutional investors have shown a clear preference for logging activities in Southeast Asian tropical rainforests. More recently, forestry resources in Southeast Asia have become increasingly scarce, driving these companies to search for logging concessions elsewhere. This has led to a series of Asian investment into the Pacific, Africa (mainly Congo and Gabon), and South America (including Guyana, Suriname, and Brazil). In Brazil alone, it is estimated that more than 7 million ha of forestland has been secured by Asian forestry companies in the last 5 years.

There is also a recent trend among Asian companies to invest in plantation activities. The low costs, high growth rates and availability of cheap land has led to the realisation that some of these countries could have a comparative advantage in the pulp and paper market. Unless environmental safeguards are put in place, however, there is the concern that this trend may lead to further environmental degradation and conversion of natural forests into monoculture plantations.

## REDIRECTING INVESTMENT INTO SFM

If forests are increasingly becoming accepted as an asset class, why is much of this investment being directed at unsustainable operations or to plantation assets in developed countries rather than sustainable forest management? How can these flows be redirected ?

The reasons for this behaviour is based on investor's perceptions of the risks and returns of different investments. The perceptions of Western and Asian investors are drastically different.

Discussions with TIMO managers in the US and the UK dealt extensively with these issues. The focus of TIMOs when investing internationally is almost exclusively on plantation assets. There was also a strong preference for investment in developed countries, where TIMO managers are reasonably familiar with investment conditions.

Western investors view plantations a much lower-risk investment than natural tropical forests. At one extreme, there is a view that plantations will almost totally replace natural forests as a source of commercial fibre. This is based on the view that production costs in plantations will be lower than those on native forests and there will be far fewer environmental pressures. If this were the case, Western commercial financing of SFM operations would be difficult, unless it can be proven that sufficient revenue streams can be derived from non-fibre forest products and services. This also implies that asset values of natural forests may depreciate in the longer term, which is a matter of great concern to investors.

Not all the industry, however, ascribes to this view. Other Western TIMO managers and many Asian investors believe that tropical forests will continue to be the primary source of highly valued timbers for peeling and decorative uses. They also dispute that plantations are likely to gain a production cost advantage, as the cost of accessing land escalates. As a result, they see a highly profitable role for SFM operations in natural forests providing high value solid timber products.

Apart from the market considerations outlined above, Western investors also have also a strong perception that the returns from sustainable natural forest management are low compared to those from industrial plantations. While in temperate regions this may be the case, there is evidence that natural forest management in the tropics can bring very high returns, as illustrated by the high profits realised by Asian logging companies unsustainable operations. There is strong evidence to suggest that there is scope to earn adequate rates of return even if these forests were managed sustainably.

The issue of developing country investment risk was of clear concern to Western TIMO managers. These concerns go beyond those that are used in the compilation of traditional country credit ratings, including issues such as adequacy of property rights, regulation and levels of government intervention in the economy. In general, TIMO managers had a strong preference for investing in those countries where there are strong legal frameworks to protect their rights and relatively free markets with low levels of government intervention.

In general, Asian forest investors are more risk-taking and less concerned about investing in riskier developing countries. The high returns derived from unsustainable logging operations seemed to compensate for the higher risks in these countries. Asian concerns about SFM relate to the costs associated with training and implementation of sustainable forestry, which are perceived to be prohibitive.

Western TIMO managers are also sensitive to the perception of the environmental soundness of forest investments, particularly natural forest investments in the domestic marketplace. The value of certification in addressing these concerns and in providing increased market value for timber products was discussed with some investors. In Europe there is a view that market access will increasingly depend on certification. There was not a great deal of optimism that price premiums could be achieved for certified products. A UK-based manager also put forward the view that certification does not impose significant additional costs in the management of domestic forests. It was conceded that the same might not be true of certification of tropical forestry operations.

US TIMO managers and Asian investors are less enthusiastic about the benefits of certification. The value of certification in tropical regions was questioned, especially where it meant becoming embroiled in the often controversial process of establishing regional guidelines. There were fewer concerns over market access, although some TIMO managers conceded that this would be an increasing issue in the future. They also noted that there was no price premium for sustainably-produced timber despite a highly visible campaign in its support.

The different perceptions and estimations of investment risk within these different investment groups suggest that there could be successful synergies if better communication flows existed between them. It becomes also clear that there is a great need for information to be made available to investors, to change misconceptions and enable more accurate investment decisions.

An effective way of changing perceptions is through real case studies. The existence of a successful investment track record reduces risk perceptions and transaction costs, as the project and investment criteria are well known. Many TIMO managers were of the view that SFM investment opportunities in countries such as Chile, Argentina, Uruguay and Thailand could be sold in the investment markets, because of the track record of successful investment in plantations in these countries. Investments in other developing countries would be difficult to place in the market, and one TIMO manager pointed to the failure to privatise the state owned plantation assets in South Africa as an example of this. Successful examples of SFM investments, such as the natural forest management operations of Precious Woods (a Swiss forest investment group) and GMO-Gethal (an American-Brazilian joint venture) in the Amazon, pave the way for further foreign investment into these regions and activities.

### **. . . FACTORS IMPACTING ON PRIVATE SECTOR INVESTMENT**

As discussed earlier, the markets' appetite for forestry investments compared to other asset classes will be determined by their relative risk/return profiles. While there is strong potential demand for forestry assets at the present time, is this likely to change? Further, is there any suggestion that the markets will significantly alter their requirements for forestry assets in the foreseeable future?

As discussed above, high growth rates and low inflation in the past decades in the western economies have created strong growth in equity markets, particularly amongst the technology and communications sectors. Interestingly, it has also caused some diversion of investments from mutual and other funds into direct retail investment in equity markets (assisted by privatisation in some countries). At the same time, high global growth rates have also assisted forestry investments, as they have led to increased projections for timber demand, creating a potential shortfall in supply in some regions at least.

The key issue is whether any softening in economic growth rates will change the attractiveness of timber investments relative to other assets.

Any significant outbreak of inflationary pressure on a global scale is likely to signal a tightening of monetary policy, reducing corporate profits and equity values. It is also likely to reduce returns from venture capital. The value of forestry assets as a hedge against inflation may make them more attractive to investors.

Slowing growth without significant inflationary pressures and the tightening of monetary policy (the soft landing) are likely to dampen corporate earnings, somewhat

reducing the attractiveness of equities. At the same time, they could remove the threat of interest rate increases, also lessening the competitiveness of securities.

However, softening economic conditions may also cause negative perceptions for forestry assets due to concerns over falls in demand for timber. This reflects the cyclical nature of fibre prices (although high value tropical lumber prices tend to be more stable than pulpwood prices).

The consensus of TIMO managers was that there might be a slight softening in demand if economic growth slows rapidly. However, there is still likely to be demand for well structured forest assets. As during any economic slowdown, investors are likely to become more risk averse. Under these circumstances, the counter cyclical nature of forestry assets may also be attractive.

#### **DEMAND: ARE THERE ENOUGH SFM INVESTMENT OPPORTUNITIES?**

If it is accepted that the market has the capacity to provide significant financial flows, the real issue that determines the feasibility of the IPE is the potential supply of attractive projects to the market.

Best and Jenkins (1999) address this issue at length. They asked if the lack of investment in SFM was because of a failure in the market place or a lack of good deals. They concluded that while there are attractive SFM investment opportunities, at this stage the market has not recognised them. They concluded that the lack of capital flows into SFM appeared to be project- and country-related.

Firstly, there is a clear emerging demand for certified wood products, particularly in Europe. The failure to have forest management certified may lead to market access difficulties. As a result, increasing numbers of forest managers will be seeking to certify their operations. Over 20 million ha of forests are already certified under the Forest Stewardship Council's (FSC) scheme, a growing proportion of them in developing countries (Nussbaum 2000).

Secondly, there are already a few examples of projects that meet the rates of return required. The investment by GMO or the Precious Woods groups in sustainable (both are FSC certified) natural forest management operations in the Brazilian Amazon are good examples (see Box 3).

The ability to develop projects that meet the desired rates of return this early in the development of the market is encouraging. Due to the lack of experience in developing these projects (especially in developing countries), transaction costs have been high, but can be expected to fall in the future. This will help reduce costs and increase returns. In addition, the number of projects that can be successfully commercialised will increase as the IPE develops innovative funding partnerships, markets for non-timber values become better established, and innovative risk mitigation tools are developed. The long-term development of the policy, institutional and commercial infrastructure to support SFM can be expected to further facilitate private investment.

There are also a huge number of potential projects. The large number of investments undertaken by Asian logging companies in Africa and Central-South America in the last years illustrate this potential. Even if only a percentage can be made commercially viable while meeting acceptable environmental requirements, there will still be a large number of projects that meet the needs of the investment community. Other indications of the large number of potential forestry investments are given in other papers in this Conference.

It is thought that public sector funding could be used to leverage private sector investment into sustainable productive forestry, by assisting in removing the barriers that currently prevent it. . . . .

. . . . . **RISK** . . . . .

. . . . . risk is a key factor in determining the attractiveness of SFM investments. Currently, the market perceives them to be relatively high risk, which increases the returns that are required. . . . . Risks can be associated with the following sources:

- Sovereign Risk. These cover the risks associated with investing in a particular country. They relate to political and economic stability, the adequacy of legal regimes, macro-economic policies, and adequacy and stability of regulatory regimes and transparency. They were a major source of concern to TIMO managers, and are well recognised as a key determinant of investment flows.

The public sector may be able to play a role in underwriting some of these risks, which are generally not acceptable to commercial underwriters. The World Bank is currently finalising the first such arrangements in relation to forestry projects. The further development of these concepts may be crucial in ensuring that capital flows occur into more than a handful of developing countries.

For these mechanisms to be possible, it requires the support of the national Government. In order to devote the time and resources necessary, it is likely that they will have identified SFM as a strategic investment priority.

- Project performance risks. Project performance risks relate to factors such as mismanagement and technical failure. They relate to the failure of the project to meet management or business plan projects for internal reasons.

Project performance risks are perceived to be higher in SFM forestry projects because of the greater complexity of the operations. However,

many of these risks could potentially be underwritten by the private sector. The ability to ensure forestry carbon offsets is an example of such insurance. There is potential for at least some of the project risks to be underwritten by the private sector. Private sector underwriting of these activities is dependant on the implementation of best practice management, which has subsidiary benefits.

### **Box 3. GMO Brazil Sustainable Forest Fund**

GMO Renewable Resources (GMO RR) is an example of an existing TIMO that has developed a capability for developing and funding SFM projects.

GMO RR is the forestry investment arm of Grantham Mayo Van Otterloo Co., a Boston-based investment manager. GMO RR has natural forest assets in the US and plantation assets in New Zealand and Australia.

GMO is the first US-based TIMO to offer a fund specifically for investing in SFM in the tropics (the GMO Brazil Sustainable Forest Fund. Currently, the core asset held in the fund is a 85% stake in Gethal Amazonas, a Brazilian forestry company in the state of Amazonas. Gethal owns 150 000 ha of forests in Brazil, a forest management organisation and a veneer mill. Its forestry operation is FSC-certified. The fund is budgeted to deliver compound annual returns of 25%-30% after the payment of local taxes and management fees. The Fund has a 7-year life, with potential for an extension of a further 3 years. Total capitalisation is US\$ 15m, of which US\$10 m had been raised by a closing in December 1999. The remaining US\$ 5m will be raised in a second offering in late 2000/early 2001.

The fund represents an example of a partnership between the private and the public sectors. GMO has cooperated with Banco Axial (a Brazilian environmental investment bank) and UNDP in developing the funding required for the project. GMO is providing the capital for the project, including acquisition of the enterprise and a capital investment program to ensure sustainability and improve production and returns.

The project is interesting for a number of reasons. Firstly, it is an example of a successful mix of public and private institutions. Secondly, it mixes forestry and processing assets. While this has been traditional with industrial forestry companies, it goes against the trend of separating processing and forest assets that is occurring in many parts of the world.

In order to develop the fund, GMO RR has had to develop a small project development and investment banking team in house. This gives them a unique capacity to develop SFM projects for inclusion in funds. They have also invested in a small boutique SFM investment bank in Brazil to help develop a project flow in the country, A2R, which is an offspring of Banco Axial.

What drove GMO to develop this capability? Firstly, it required a personal commitment on the part of senior management in the organisation. This was based on a personal commitment to the sustainable management of tropical forests and a view that it could provide competitive returns in the longer term. It also represents a belief that Brazil's forests are undervalued, and that increased investment will lead to asset appreciation, as it did for US timberlands.

- Natural Disasters. One common risk in any natural resource project is the risk of natural disasters. In some countries some natural disasters can be insured against (for instance, fire in Australia). There is scope for the development of innovative private and public underwriting of natural disaster risks.
- Financial Risks. Financial risks include risks such as non-payment by debtors, currency risks and the risk of uninsured losses.

Any business is subject to financial risks, and there are several well established methods of mitigating these risks. They range from insurance through to the use of derivative products to create financial hedges. Where particular aspects of SFM present unusual financial risks, there should be scope for developing innovative risk mitigation products to deal with those risks. The private sector could be expected to play a leading role in these developments.

- Contractual Risks. Contractual risks relate to the disputes that may arise under any of the contractual arrangements that surround a project. In the case of SFM projects, the increased number of parties to the development may lead to increased risks of contractual disputes occurring. Careful management of contract development, including the inclusion of dispute resolution mechanisms, is the best way of mitigating these risks.
- Market risks. Timber markets are cyclical, and as such represent a potential risk factor. These risks can be managed through a variety of means, including the use of financial hedges and forward selling arrangements. . . . .

In addition, SFM projects rely on markets for non timber forest products and services for a significant percentage of their revenues. These markets are often in the early stages of development, and represent a high level of risk. The potentially significant market for carbon offsets is a good example of this.

The core business of TIMOs, creating pooled funds to invest in a variety of assets is in itself a key risk mitigation strategy. . . . .

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# Chapter 9.3

## Assessing the Feasibility and Operationalisation of an Investment Promotion Entity for Sustainable Forest Management: Demand and Supply Aspects

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### Important: Editor's Note on Presentation of Text Extracts from the Original Paper

This chapter consists of the editors' private sector relevant extracts from the original full-length paper prepared for the Oslo Workshop. In selecting what to extract, the Editors have focused on material that presents information on the nature, magnitude, trends and issues regarding private sector engagement in SFM. This information was assembled by the authors to provide background and context for their analysis of feasibility of the proposed Investment Promotion Entity (IPE). All other material, particularly that on the proposed IPE itself that was the main purpose of the full paper, has been excluded. Working on a selective basis, it is not possible to seek or expect good flow; the information extracted should be taken on its own merits as it stands. As a way to show that a piece of text was, in the full original paper, preceded by other information, the editors have used dotted lines [ . . . . XXXX] and to show that a piece of text was, in the full original paper, followed by other information, they use [XXXX . . . . ]. Connecting words added for readability have been square bracketed, e.g [ XXXXX]

## EXECUTIVE SUMMARY

The present paper . . . . [has a] . . . . focus on demand and supply . . . . [of funding for sustainable forest management (SFM)]. Demand is here understood as demand for financing and related services by managers/owners of forest land who wish to introduce SFM or carry out different types of SFM related projects in their forestlands. The supply side is considered here as the supply of funds/investment capital by various types of investors and/or providers of grant financing for SFM purposes.

. . . . . A rough estimate of the volume of the demand for SFM investments in developing countries could be in the order of US\$15 billion per year with a growing trend. . . . . The potential sources of financing can be divided into (i) private sector with portfolio investors and direct investors, and (ii) public sector. It is estimated that the supply of SFM financing from external sources to developing countries has been clearly less than US\$8 billion per year; some estimates putting it as low as US\$1 to 2 billion per year. . . . .

## RECENT DEVELOPMENTS AT INTERNATIONAL LEVEL AND THEIR IMPLICATIONS FOR NEW ARRANGEMENTS IN FORESTRY FINANCING

The major trend in forest sector development has been the *privatisation* of forest management and respective downstream processing in many countries where forestry was previously predominantly a public sector activity. Privatisation has proceeded using various strategies and means recognising that private sector is more efficient in productive activities than the public sector (Indufor 2000; Landell-Mills and Ford 1999).

The privatisation process has major implications for forest sector financing and investments which are becoming increasingly dependent on private sector interests and consequently, the role of the public sector is focusing more and more on policy and normative issues, attempting to strike the balance between creating an attractive business environment for the private sector, and maintaining an adequate regulatory framework in order to achieve national development goals, including safeguarding the environmental and social benefits of forests. Traditional public sector loan projects will play a declining but still critical role in the forest sector of developing countries. The privatisation trend has had a major impact on forest sector financing where the role of private sector investments has gradually grown compared with public sector investments. . . . .

. . . . . The global *pulp and paper industry* has been relatively fragmented which has resulted in wide cyclical changes and limited capacity to promote the sector's interests in international and national policy fora. In the 1990s, the global paper industry started a rapid process of consolidation and concentration which is expected to continue for at least the next decade. At the same time, the competition for raw

material resources and access to suitable lands has intensified as the fibre strategies of large corporations are now global. There will be a major shift in emphasis of new investment in production capacity from the traditional producing countries to the South where expansions will be based on plantation wood.

Another trend is to separate forestland assets from those of industrial processing due to their lower apparent yields. This has already led to the emergence of specialised enterprises for the financing and managing of forestlands, so called *timberland investment and management organisations* (TIMOs) (cf. Kohn and Moura Costa 2000). Some of these groups are also involved in investments in natural forests.

## DEMAND ASSESSMENT

### ..... Demand volume .....

..... Moura Costa *et al.* (1999) quoted figures ranging from US\$11.2 billion to US\$70 billion per year. Some respondents to the Internet interview put the figure at US\$15 billion in the developing world alone. .... The larger figures assume the resolution of outstanding issues around the role of forests as carbon sinks. One observer quoted some national-level figures for SFM implementation in natural forests, including the examples of successful application of fiscal transfers to forest owners in Costa Rica with an annual inflow around US\$22 million, and the ‘Plan Verde’ in Colombia with US\$207 millions over a four-year period. These figures include only the public sector subsidy and not the private sector’s own contribution.

According to the latest statistics on foreign direct investment (FDI), the FDI inflows into wood and wood products manufacturing in all the developing countries was US\$6.2 billion in 1997 (United Nations 1999) but this is a gross underestimate due to limited geographical coverage of the UN data. The FDI stock in the same sector in all the developing countries in 1997 was USD32.7 billion. Disaggregated data on forestry (not to mention SFM) are not available as they are grouped together with agriculture, hunting and fishing. ....

### Driving forces for SFM finance demand

Forest management is a multipurpose activity, which is aimed at producing a desired set of forest products and services, both material and non-material, as demanded by markets. The concept of sustainable forest management guides management practices to ensure that the economic, ecological and social values of forests are maintained. The ultimate definition of SFM depends on the present values of society, which are defined through political processes. As these values change over time, the operational meaning of SFM would also change. However, the economic principle of sustainability will remain the main concern for forest owners and managers. Therefore, SFM activities

must produce, at least, as many benefits as costs incurred over the long term. This means that SFM must be profitable in order to be continued and competitive.

Unsustainable forestry practices refer to forest management which does not reflect the current values of society, and leads to a long-term decrease in the total value of products and services produced by forests. Forest management, which ignores important forest values, can also generally be considered to conflict with SFM principles. The driving force for unsustainable practices is that they are more profitable for private investors in the short run than sustainable management which, in the initial stage, tends to require transitory investment through expenditure or foregone short-term benefit.

There is little comprehensive information on the profitability of SFM and most of the recent studies have focused on the issue of sustainable timber management *vis-à-vis* unsustainable forestry practices. Pearce *et al.* (1999) compiled a useful summary of these studies which leads to the following main conclusions: (a) conventional and often unsustainable logging tends to be financially much more attractive for private investors than sustainable timber management by factors 1.5 to 4; and (b) returns to unsustainable logging are high in the short term but tend to disappear, while sustainable timber management provides lower returns initially but they are sustained, or may be increased through time.

The trouble with the multipurpose nature of SFM is that it makes any quantitative analysis complicated and location-specific. Furthermore, the invisible hand of the market has not been very successful in turning multiple use forestry into a sustainable and profitable venture. . . . .

. . . . . Conducive macro-economic environment coupled with appropriate financial incentives have proven to be effective means for mobilising substantial forest sector investments. According to Raga Castellanos (2001), the government incentives of some US\$150 million have resulted in private sector investments of more than US\$4 000 million in Chile since 1974. The share of the Chilean government has been only 3.6% of the overall investment volume. . . . .

### **Barriers [to] . . . meeting the demand**

The barriers to meeting the demand, which can be also called barriers to supply, for financing in developing countries can be derived from poor planning and implementation capacity at all the levels (entrepreneurial/management capacity of the private sector, organisational capacity of the public sector, and country capacity in general).

In many countries, national policies, legislation and other rules are restrictive rather than supportive of SFM, resulting in an unattractive investment climate. As an example, Bentley (1999) provides an excellent overview of legal issues and bottlenecks hindering FDI, and economic development in general, in Vietnam (Box 1).

**Box 1. Policy and Macro-economic barriers to investments in Vietnam**

The fundamental elements of a market-oriented legal framework which are not presently in place in Vietnam include: (i) a clear and complete definition of property and property rights and the means to exercise them, (ii) a clear and complete system of rules for making contracts, and (iii) courts and other government supported mechanisms providing for the speedy and effective enforcement of legal rights, including contract and property rights, and settlement of disputes. The main bottlenecks for FDI in the current Vietnamese legislation include, among others:

- Out-dated and unnecessarily restrictive Companies Law placing several stumbling blocks on the market entry and establishment of companies.
- Non-existence of modern National Enterprise Register.
- Overly complex and excessive income tax (both for foreigners and national), as well as company taxes.
- Overly restrictive and discretionary land ownership/land tenure legislation.
- Outdated and non-functional credit legislation with serious difficulties in securing adequate but flexible collateral (pledges and mortgages).
- Outdated banking and financial legislation which does not encourage savings (deposit insurance and bank secrecy laws utterly inadequate), capital formation, productive credit, and efficient financial transactions.
- Non-existence of adequate securities and stock legislation, and respective national markets which in all industrialised countries form the back-bone of financial markets for enterprise and business development.
- Unnecessarily restrictive trade controls, causing red tape and delays in both exporting and importing.
- Continuous overvaluation of Dong against foreign currencies, causing continuous shortages in the availability of foreign currency in Vietnam, and un-competitiveness of the Vietnamese export industry.
- Inadequate accounting standards and lacking annual audits by independent auditors, particularly in the state-owned enterprises, including State Forest Enterprises (SFEs) and other forest sector enterprises.

*Source:* Bentley (1999)

Poor organisational capacity both in the public and private sector is another major barrier. The organisational capacity is often linked with the non-competitive salaries obtainable in developing countries, particularly in the public sector, and resulting brain drain both from the public sector to the private sector and from the respective country to abroad. The best possible staff are simply not available. Education and training are also often poor. Management cultures are sloppy and corruption is common in forest sector organisations in many countries. Weak national forestry

administrations are often only marginal entities in the ministries of agriculture or environment. In some countries forestry is divided between two ministries, weakening the institutional performance further in this sector.

..... Another key barrier to meeting the demand for financing for SFM is the continuing controversy over sustainable timber production and policy decisions are on hold as the ‘scientific debate on the matter is still ongoing’. Ljungman *et al.* (1999) have argued that pursuing a consensus definition of SFM should not be used as an excuse for inaction as positive development towards SFM can be achieved by following existing professional standards or best practices. ....

As pointed out by Kohn and Moura Costa (2000), many large institutional international portfolio investors (pension funds, investment funds, etc.) appear to be interested in putting a percentage (which could be several tens of million of dollars by each of such funds) of their overall portfolio into ‘green and/or socially responsible’

**Box 2. Potential Sources of Capital to the Forest Sector**

Private sector:

(a) Portfolio investors

- commercial banks
- investment banks
- mutual funds, including ethical funds/socially responsible investment funds and environmental funds/green funds
- pension funds
- property and casualty insurance companies
- life insurance companies
- venture capital companies
- foundations

(b) Direct investors

- forest industry and forest management companies (international and national)
- other sectoral investors
- large-scale landowners
- general direct investors (e.g., Transnational Cooperations - TNCs)

Public sector:

- international donors
- development banks
- governments

Sources: Moura Costa *et al.* 1999, p. 38 & Ganzi *et al.* 1998

investments. Such investors do not usually have any in-house expertise in SFM, nor they are likely to establish such in-house expertise. These investors could be the most likely target group (as a source for financing) for an IPE type of arrangement.

According to Ganzi *et al.* (1998), the order of importance of international portfolio investors based on the volume of assets that they control is: (1) commercial banks, (2) investment banks, (3) mutual funds, (4) pension funds, (5) property and casualty insurance companies, (6) life insurance companies, (7) venture capital companies, and (8) foundations. These institutions provide either credit or participate in equity investments or both. They balance their investments between the maximisation of expected capital gains (return on investment) and the risk associated with the investment (Box 3).

..... The ten largest forest industry companies in the world are presented in Table 1. A large number of companies are already involved in investment in developing countries. As an example, the Appendix provides information on Latin America and the volumes are also large in Asia while Africa is lagging behind.

Kohn and Moura-Costa (2000) and Gregersen and Contreras-Hermosilla (2001) have presented a good overview on direct investors in the forest sector. Other interesting direct investors could include energy industry (e.g. General Electric, Shell, British Petroleum) and the car industry (e.g. Toyota, Peugeot and Renault) which have already indicated interest in financing SFM forestry projects .....

Regarding bilateral donors, many [ ..... ] are interested in supporting market-based solutions ..... In addition, a few donors indicated that they could be interested in considering providing financing for appropriately targeted investment projects (according to their geographical, thematic and political interests), particularly if their feasibility assessment demonstrates adequate impacts reflecting the policies of respective donors (e.g. poverty reduction, environmental benefits, etc.). Furthermore,

**Table 1. Top Ten Forest Industry Companies in the World**

Company	Turnover in 1999, US\$ million
1. International Paper + Champion Internat.	29 859
2. Georgia-Pacific + Fort James	24 802
3. Stora Enso + Consolidated Papers	13 200
4. Kimberly-Clark	13 005
5. Weyerhaeuser	12 260
6. Oji Paper	10 584
7. UPM-Kymmene + Repap	9 174
8. Smurfit-Stone Container + St. Laurent	8 065
9. Nippon Paper	7 955
10. SCA + Metsä Tissue	7 533

Source: Paperinfo 2000

**Box 3. Sources of Financing**

*Commercial banks* provide mainly credit. In 1996 alone, commercial banks extended loans to developing countries worth of US\$34 billion. Japanese banks account for the largest volume of outstanding loans to developing countries: US\$495 billion in 1996.

*Investment banks* focus on equity investments, generally on behalf of their clients who need capital. They also invest in profitable projects using their own funds. The total assets of the largest investment bank in the world, Morgan Stanley Dean Witter of the USA, were US\$131 billion in 1996.

*Mutual funds* are entities, set up and operated by an investment management company, to raise capital for investing in financial instruments, including shares. Mutual funds represent now the second largest pool of private capital in the world after the banking industry. In the USA alone there are more than 6 500 mutual funds which manage assets worth almost US\$ 4.5 trillion. A few of the funds have specialised in ethical investments or so called Socially Responsible Investments (SRI) which may include e.g. afforestation projects in developing countries. Another group of environmental or green funds is found in the Netherlands where the dividends of such funds to individual investors enjoy tax concessions.

*Pension funds* are a means for individuals to save for their retirement. The structures and operations of pension funds vary from country to country, and they are generally very highly regulated by legislation. Pension funds represent the third largest global pool of private capital available for lending or investments. In the USA alone they had assets worth of US\$4.7 trillion in 1996.

The property (damage to physical assets) and casualty (injury to persons) *insurance industry* is divided into two businesses: underwriting (assuming risks in exchange for a premium) risk and investment management. The insurance companies invest the collected premiums so that they are able to pay out claims in the event of damages or injuries for which they are providing insurance. Globally, the Property and Casualty Insurance Industry control more than US\$1.4 trillion in capital. In 1996 in the USA alone the industry collected more than US\$250 billion in premiums.

The life insurance industry sells life insurance policies to individuals, and invests the funds derived from the premiums for these policies. Globally the industry controls assets worth of US\$2.3 trillion.

*Venture capital funds* are set up to raise equity capital for investing in enterprises by a group of investors seeking above-average capital gains offset by high risk of loss. Venture capital is typically a source of capital for young and relatively un-known cash-poor or rapidly expanding companies. Global estimates on venture capital are difficult to obtain because venture capital funds are very weakly regulated and controlled. However, one estimate places the global assets of venture capital funds at US\$48 billion in 1996. Venture capital funds are rapidly growing industry in themselves.

A *foundation* is a non-profit organisation established to manage a pool of capital and distribute grants for purposes consistent with the mission or philosophy of the organisation. World wide, there are nearly 40 000 foundations. The USA based foundations have collective assets of some US\$190 billion, distributing more than US\$10 billion in grants in 1996. Foundations invest their capital mainly to maximise the income in order to be able to provide as much grants as possible.

some donors could provide some seed funding (i) to facilitate . . . . . gradual creation of a major portfolio of long-term investments by institutional investors in SFM operations, and (ii) to ensure that such investments (in all their aspects) follow the best practices of SFM.

Public-private partnerships (PPPs) is a generic term for various kinds of joint investment arrangements between public and private sector entities. A specific conference on PPPs was held in South Africa in early December 2000. For example, the volume of PPP projects signed in the UK alone in 1999 and 2000 (up to November 2000) under the government co-ordinated Private Finance Initiative was more than US\$ 18 billion (Financial Times, 29 November 2000).

The UK government converted the former projects arm of the Treasury's private finance initiative task force into a PPP called Partnerships UK (PUK) which will be a private sector-led body with 49% ownership by the government. PUK supports the public sector in drawing up PPP deals with private sector. PUK could prove to provide an interesting example and at least useful lessons to be learned . . . . . (see <http://www.partnershipsuk.org.uk>). . . . .

### Potential supply

The potential supply of financing for SFM projects . . . . . can be estimated from the present or past flows of financing to the forest sector. Statistical data on financial flows to SFM projects proper are not readily available. The most reliable recent estimates put the volume of annual official development assistance (ODA) in the forest sector at US\$1.2 billion in 1997 (Joshi 1999, Madhvani 1999). OECD (2000) came up with a clearly smaller figure which is partly explained by missing information from some of the major organisations providing assistance to forestry. Chandrasekharan (1996) estimated the total gross annual investment, including ODA, in the forest sector (including processing) of developing countries to be US\$20.4 billion in 1993. . . . .

United Nations statistics on FDI for 1997 record US\$6.2 billion (US\$ 720 million only in 1988) of FDI for wood and wood products manufacturing in developing countries (United Nations 1999). In the same source, FDI in forestry is included in the broader category of agriculture, hunting, forestry and fishing, the total value of the category in developing countries being US\$1.8 billion for the same year (US\$600 million in 1988). The statistics on FDI naturally do not include the domestic investments which were included in the estimate of Chandrasekharan (1996).

Information on portfolio investments in the forest sector in developing countries is not available. Kohn and Moura Costa (2000) provided a rough estimate on the forest assets of US-based portfolio investors (US\$16.8 billion). However, most of these assets are located in the USA.

The ODA figures, and definitely the FDI figures, cannot be considered the same as SFM investments. However, one could draw the conclusion that the maximum volume of SFM investment inflows to developing countries, excluding domestic

investments, has been the sum of ODA plus FDI, i.e. estimated at less than US\$8 billion.

According to Kohn and Moura-Costa (2000), the timberland investment management organisations (TIMO) managers (including various funds) estimated the potential supply of financing for forest sector (SFM) projects to be from US\$1 to 2 billion per year, providing there was the capacity to produce a flow of attractive investment opportunities. Were this needed only for plantation projects, say around 1 000 000 ha would be covered annually.

Several respondents to the internet interview of the present study were of the opinion that the supply of financing will not be a limiting factor for the IPE. . . . .

### **Driving forces for SFM finance supply**

According to Kohn and Moura Costa (2000), the driving forces for the interest by investors in forestry funds include: (a) greater policy support in the form of tax incentives; (b) greater awareness amongst institutional investors; (c) superior growth rates; (d) potential for land price appreciation as part of the returns; and (e) potential carbon value under the Kyoto Protocol.

The increase in the general and political awareness of the multiple values of forests has led to increasing policy support for investments in SFM and in forest conservation. Tax and other incentives are either targeted directly at forest owners or investors in SFM (e.g., in Costa Rica) or to international investors who channel their funds to specially dedicated mutual funds which in turn could invest in SFM and conservation related projects (e.g., in the Netherlands, the UK, Australia, New Zealand).

Greater awareness of social and environmental responsibility amongst institutional investors has been gradually growing, apparently to a large extent due to the increasing pressure from some of their stakeholders, and partly due to the increasing number of individuals who wish to invest at least some of their savings into socially and environmentally responsible projects. Some of the institutional investors have also recognised the opportunities offered by the forest sector, and specifically SFM. Forest sector investments have produced competitive returns at low risk. Specialised TIMOs have emerged (Kohn and Moura-Costa 2000).

Research and development work in forestry, with special reference to tree improvement, has resulted in significant increases in growth rates of commercial plantation species which have reduced the rotation periods and increased the yields, thus improving the profitability of investments significantly. . . . .

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## APPENDIX

### International and Crossborder Investments in Forest Plantations and Forest Industries In Latin America

Country	Investors	Forestry	Industry
Argentina	Arauco (Chile)	X	X
	CMPC (Chile)	X	X
	Smurfit (Ireland)		X
	Kimberly Clark (USA)	X	
	Klabin (Brazil)	X	
	Masisa (Chile)	X	X
	Terranova (Chile)	X	
Brazil	Ahlstrom (Finland)		X
	Arjomari-Prioux (France)		X
	Boise Cascade (USA)		X
	Fletcher (New Zealand)	X	X
	Champion (USA)	X	X
	Masisa (Chile)		X
	Nicolaus Paper GmbH & Co. (Germany)		X
	Peugeot (France)	X	
	Rilisa Int. Trading Co. (Belgium)		X
	Terranova (Chile)	X	X
	Japanese Consortium of 15 companies	X	X
	Riverwood International Corp. (USA)		X
	Sappi (South Africa)	X	X
	Sonoco Products Co. (USA)		X
	Stern Group (Canada)		X
Stora Enso (Finland/Sweden)	X		
Westvaco (USA)	X	X	
Chile	Attisholz (Switzerland)	X	X
	Boise Cascade (USA)		X
	Fletcher (New Zealand)		X
	Shell (Netherlands)		X
	Simpson Paper (USA)		X
Colombia	International Paper (USA)		X
	Kimberly-Clark (USA)		X
	Smurfit (Ireland)	X	X

INVESTING IN SUSTAINABLE FOREST MANAGEMENT: THE PRIVATE SECTOR SPEAKS

Country	Investors	Forestry	Industry
Costa Rica	Kimberly Clark (ex-Scott Paper) (USA)		X
El Salvador	Kimberly-Clark (USA)		X
Guatemala	Simpson Timber Company (USA)	X	
Mexico	Temple Inland (USA)	X	
	Smurfit (Ireland)		X
	Kimberly Clark (USA)	X	X
	Procter & Gamble (USA)		X
	Sonoco Products Co. (USA)		X
Panama	Georgia Pacific Corp. (USA)		X
Peru	Kimberly-Clark (USA)		X
	Krueger (Canada)		X
Uruguay	Shell (UK/Netherlands)	X	
	Weyerhaeuser (USA)	X	
	UPM-Kymmene (Finland)	X	
Venezuela	Smurfit (Ireland)	X	X
	Stone Container (USA)	X	X

Source: Indufor database

# Chapter 9.4

## Forest Financing in Latin America and the Caribbean: A View from the Inter-American Development Bank

Kari Keipi

Important: Editor's Note on Presentation  
of Text Extracts from the Original Paper

This chapter consists of the Editors' private sector relevant extracts from the original full-length paper prepared for the Oslo Workshop. In selecting what to extract, the Editors have focused on material that presents information on the nature, magnitude, trends and issues regarding private sector engagement in SFM. This information was assembled by the authors to provide background and context for their analysis of feasibility of the proposed Investment Promotion Entity (IPE). All other material, particularly that on the proposed IPE itself that was the main purpose of the full paper, has been excluded. Working on a selective basis, it is not possible to seek or expect good flow; the information extracted should be taken on its own merits as it stands. As a way to show that a piece of text was, in the full original paper, preceded by other information, the editors have used dotted lines [. . . XXXX} and to show that a piece of text was, in the full original paper, followed by other information, they use [XXXX . . . ]. Connecting words added for readability have been square bracketed, e.g., [XXXX]. The author specified in the original paper that the opinions expressed in his document did not necessarily reflect the official position of the IDB.

## SUMMARY OF OVERALL PAPER<sup>1</sup>

In a paper that emphasises the need to create an enabling environment for SFM, Keipi begins by identifying factors that affect forestry financing possibilities in Latin America and the Caribbean (LAC). He then explores financial instruments for forest conservation, describes rural credit as a tool with unrealised promise for forest financing and outlines the role of the Inter-American Development Bank (IDB) group in forestry.

Political and macroeconomic stability, access to land and property rights are among the key factors influencing forest financing possibilities in Latin America and the Caribbean; also important are an effective and appropriate regulatory framework, clear forest policies and participatory decision making in implementing policies. The worldwide trend of declining official development aid is occurring in Latin America and the Caribbean, while the role of the private sector is increasing. Keipi believes a major role of external public-sector funding is to foster private-sector financing in the region — not through subsidies, but by contributing to governments' efforts to create a more conducive environment for investment. In the future, Keipi says, private investment should be encouraged not only for SFM in production forests, but also for protected areas, ecotourism development and conservation set-asides.

Keipi notes that creating an enabling environment for investment in developing countries and countries in transition often involves more general challenges of state modernisation, such as decentralising forest institutions, designing and implementing forest policies, and fostering ethics and transparency in governance and business. Improving competitiveness requires a strengthening of infrastructure, financial services and other aspects of the business of forest business development (Keipi sees a role here for investment promotion measures). More directly, Keipi believes that the potentially most powerful source of financial resources for productive forestry is rural credit, and he calls for strengthening its capacity.



Despite the current climate of limited official demand for lending for forestry development, Keipi sees many opportunities for future investment. He asserts that the low demand is in large part the result of a lack of knowledge about available financing opportunities among ministries of finance and national planning agencies, and calls for promoting greater awareness among these audiences. Another group to target if investments are to increase is commercial banks and rural credit institutions, which need to better understand the potential profitability and risks of forestry investment and its competitiveness in relation to other sectors. Keipi believes that in promoting greater investment in forestry to these and other groups, increased attention should be given to the possibility of creating markets not only for traditional timber products but also for non-wood products and environmental products and services.

## INTRODUCTION: FOREST POLICY AFFECTING INVESTMENTS

### . . . . . Public and private benefits

Forestry can be a very profitable business in Latin America. The increasing flows of international investments in the forestry sector of the region indicate this. In looking at the profit issue, the question of time horizon is of the utmost importance in promoting sustainable forest management. The time frames for sustainable forest practices are often longer than for other types of investments, and affect their relative profitability compared with other land uses. Yet the returns on this type of investment accrue much more broadly than solely to the private investor's pocket book. The returns also accumulate in the form of ecological and environmental benefits to local, regional and global societies.

When forestry generates positive externalities, the investors may end up paying for benefits that accrue to a free-riding society. Thus, as it sometimes stands now, investors may face relatively low financial returns compared with other investments because of the longer investment periods, and have to maintain a certain degree of altruism as they watch a portion of those returns go to society. Therefore, even though LAC forests are a threatened and valuable resource, their wise use and conservation is not only a private sector priority. It should also be a priority for the area's governments to create an economic and financial climate that is favourable for private investment in forestry. In certain cases with very high externalities but marginal private profitability, government plans for compensating the providers of environmental services may be justified when considering the benefits they provide to society. . . . .

### Improving policies for increased investments

While forest lands produce ecological and economic benefits on a global scale, the lands are subject to laws of the countries where they exist. Therefore, domestic policies and practices are of prime importance in optimising forest use. International support

will be effective only if it does not conflict with local interests. Specifically, national governments need to be cautious when creating policies that may promote settlement in forested areas, or encourage indiscriminate forest conversion for agricultural development, or open up new areas to unregulated resource extraction.

Public policy in much of Latin America has been moving toward deregulation in all areas, including forest management, utilisation, and trade. The choice is between public management of forests, which in principle should protect non-market values, but lacks the institutional capacity to do so; and private ownership, which is effective for management but deficient in defending public interests. The recent democratisation process has established dialogue among various sectors of civil society and encouraged the consensus-building that is essential for sustainable forestry. As a result, coalitions have been formed between rural inhabitants and the private sector. In response to a growing trend towards privatisation, a system of market-based incentives and regulatory mechanisms should be strengthened to facilitate responsible management and conservation of forests.

What conditions are needed to attract investments in sustainable forestry? They include political and macroeconomic stability, access to land and secure property rights, an effective and appropriate regulatory framework, a clear forest policy (defined in consultation with stakeholders), and participatory decision-making processes in policy execution. Multilateral and bilateral lending and development institutions can promote investment by improving the fiscal environment and reducing the uncertainties associated with investment and financing by the private sector.

. . . . . Private investment should be encouraged not only for production forests, but also for protected areas, ecotourism development, and conservation set-asides. . . . .

### **Financing needs**

According to estimates of Indufor (2000) the overall financing potential in the forest sector of the region is of the order of US\$88.2 billion in the period 1998-2010, or US\$6.8 billion per year. Of this total, about 72% (US\$63.7 billion) would be in the industrial forestry sector, including production facilities and additional industrial plantations for raw material procurement. The cost of the management of natural forests (including protected areas) accounts for 28% of the total sectoral investments amounting to US\$4.6 billion in 1998-2010 or US\$1.9 billion annually.

The previous estimates do not cover all the forestry activities. No comprehensive estimates are available on the respective investment requirements in the various fields of social and environmental forestry. . . . .

*Tax reform*

..... Several Latin American countries have used tax credits to stimulate reforestation. For example, in Costa Rica the government has instituted a transferable tax credit (Panayotou 1994). This credit applies to landowners who keep forests on their lands or plant native species. Because the credit tends to benefit wealthy landowners with large tax burdens, the system allows small landholders that reforest or plant native species to sell their credits to those with higher tax burdens.

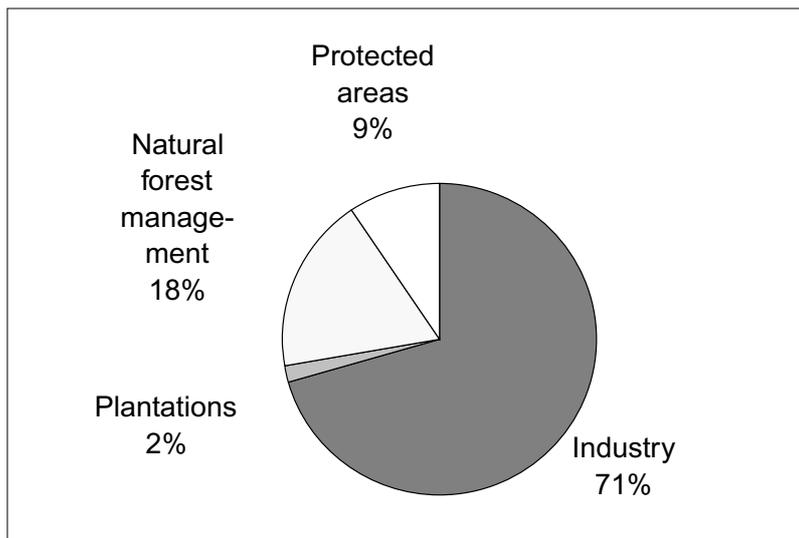
..... **Correcting negative externalities**

*Environmental fines and tradable permits*

In Brazil, the new National Environmental Law has set up a mechanism whereby the National Environmental Fund (FNMA) gets a portion of the environmental fines collected in the country. By ensuring that the revenue generated by pollution fines is used to finance projects that help conserve the environment, fines can yield a double benefit for biodiversity conservation.

Tradable permits differ from fines in that they set an upper limit on a certain activity and use the market to achieve the environmental objective in the most efficient way possible. Permit systems tend to reduce compliance costs considerably and can

**Figure 1.** Forest Financing Needs in Latin America and the Caribbean 1998-2010 (US\$88.2 billion)



often be more effective at reducing pollution than more command-and-control mechanisms (though this only applies when pollution legislation is effectively enforced). Additionally, if permits are initially auctioned off to polluters, they can raise a modest amount of revenue that can be used to protect the environment. Likewise, fining overpolluters can serve as a source of income for the public sector. Pollution permit income could be used, for example, for urban greening investments in big cities in the region. . . . .

*Combination of instruments*

[There are promising developments with many instruments detailed in the original paper. Combinations of them may prove necessary of which the following gives an example]. The government of Costa Rica created the National Forestry Office and the National Forestry Fund (FONAFIFO) on the basis of the Forestry Law of 1996. The role of FONAFIFO is to compensate forest owners and managers for reforestation and for activities that help protect native forests. Financing for FONAFIFO comes from a variety of sources:

- a tax on gasoline,
- a tax on wood products,
- the issue of 'forestry bonds',
- pollution and other environmental fines, and other revenues coming into the Ministry of Energy and the Environment.

Additionally, there is the possibility that FONAFIFO will obtain money through the sale of watershed services, . . . . . sale of carbon sequestration credits . . . . . FONAFIFO can use its funds to pay private landholders for reforestation (current payment is \$492 per ha forest management \$329 per ha, and forest protection, (\$49 per ha).The program to provide compensation for the environmental services provided by forests started making payments in 1997; the demand has been strong and resulted in disbursements of \$14 million in 1997 for a total of 79 000 ha of forest protection, 10 000 hectares of forest management and 6 500 ha of reforestation. An application backlog exists of about of 70 000 ha. As a result, clear prioritisation guidelines need to be developed (Chomitz *et al.* 1998; Echavarría 1999; UNDP 1998). . . . .

## Forest conservation as business: the case of venture capital funds

There are many situations where the interests of business and conservation coincide. An increasing number of business leaders now agree that the environment (and its problems) can be looked upon as one of the most important commercial opportunities of the coming decades. The past ten years have seen the creation of companies with missions that are both good for business *and* good for the environment. This suggests that new and innovative financial instruments can be developed which will encourage these developments and further this trend. This will be especially important when it relates to innovative small and medium-sized biodiversity-based enterprises operating in developing countries, because the collective impact of these enterprises on the economy-and on the global environment – is huge.

Of the utmost importance in this context are certification systems (such as in the case of certified timber and certified organic products), which inform consumers about environmentally-friendly products and sometimes allow these products to be sold at a premium. The so-called ‘green trade’ that certification promotes helps pay for the added cost of sustainable production methods and improves potential investor returns.

A way of addressing the special needs of biodiversity-based businesses is through equity or quasi-equity investments via dedicated venture capital funds or sector investment funds (Asad 1997). Like traditional venture capital funds, these tools are designed to provide capital in return for equity or quasi-equity positions in promising biodiversity-based businesses. While green venture capital funds can be high-risk/high-return operations, they can also serve to provide much needed capital (as well as business expertise) to small, biodiversity-based start-ups. Two examples of recent initiatives designed to use investments in equity or quasi-equity to stimulate the conservation and



sustainable use of biodiversity are the Terra Capital Fund with multiple sources of financing (Box 2) and the EcoEnterprises Fund, both financed partially by the Multilateral Investment Fund (MIF) of the IDB.

These funds are pioneering initiatives designed to experiment with the role that venture capital can play in supporting biodiversity conservation. Depending on their success and profitability, they may help stimulate other such undertakings in the region. The two initiatives are also mutually supporting. Whereas the EcoEnterprises Fund will focus on start-up ventures, which tend to be smaller, riskier and more difficult transactions, Terra Capital will probably end up working with larger projects. This means that projects supported by EcoEnterprises may eventually 'graduate' into support from Terra Capital.

## **RURAL CREDIT: UNREALISED PROMISE FOR FOREST FINANCING**

Credit is the most common funding source for business development in any sector. Forest business should be able to tap to the resources provided by the rural banking system in Latin America and the Caribbean. However, rural credit mechanisms have been plagued with many weaknesses. In the following, some actions are proposed according to the suggestions of the Rural Finance Strategy of the Inter-American Development Bank (IDB 2000).

### **Current situation**

Between 1950 and the early 1990s, Latin America and Caribbean countries relied on a government-driven approach to serve the financial needs of their rural sectors. The design of large targeted and subsidised credit programs, implemented through state-owned specialised agricultural development banks and private commercial financial entities, was the norm. The objective was to improve access to credit for small farmers and thereby spur agricultural sectoral growth, income expansion, and poverty reduction. Despite the substantial efforts and the best of intentions, the results were less than expected. Neither was access to timely credit at reasonable terms by low-income rural customers substantially improved nor were viable financial intermediaries created.

Since the late 1980s and early 1990s, the majority of countries in the region have initiated massive financial sector reform, which has included the liberalisation of interest rates; the liquidation of insolvent banks and the rehabilitation of others; the liquidation of some insolvent state-owned banks, the reform and conversion of some other entities to second-tier institutions; the improvement of prudential norms and supervision; the reduction of legal reserve requirements; the elimination of targeted credit programs; and the opening of the industry to foreign banks. These changes have resulted in higher investment efficiency, greater banking competition, and a wider offering of financial products and services.

**Box 2. The Terra Capital Fund**

In late 1998, a consortium made up of the Environmental Enterprises Assistance Fund (EEAF), a Brazilian Bank (Banco Axial) and Sustainable Development Inc. (SDI), working with the World Bank's International Finance Corporation (IFC), announced that they had secured the capital necessary to establish a private, for-profit, environmental venture capital fund for Latin America called the "Terra Capital Fund". The fund obtained money from a variety of sources, private and multilateral (including from the IDB through the MIF, as well as from the Swiss government), in order to invest in small, private businesses that meet a set of environmental criteria for biodiversity funding. In addition, Terra Capital received a US\$5 million grant from the GEF.

The fund will invest in mostly small- to medium-sized companies, providing funds for start-up and expansion, anticipating the use of proceeds for restructuring, modernisation, acquisition, new products development and similar activities. Investment must comply with the environmental criteria, established by its Biodiversity Advisory Board. The Fund will make minority investments that range from the equivalent of US\$500 000 to a maximum of 15% of the Fund's total committed capital.

*Sources:* IFC, 1997; Keipi 1999.

Whereas some improvements have been made in urban financial markets, rural financial markets continue to be underdeveloped. There have been many proposals to establish targeted credit programs for the forestry or agricultural sector in the region. The experience has shown that small-scale borrowers are more sensitive to the non-financial costs of the transaction (processing fees, travel costs, and income lost due to delays in approval and disbursement) than to the financial costs (interest payments). For forestry normal rural loan periods are too short. Forest lands have not been accepted as a guarantee while such a mobile resource as cattle has been used to guarantee credits. GDP declined when comparing the pre- or early reform period of 1990-92 to the late-reform period 1994-96. Based on recent surveys from seven countries, access rates to formal credit continue to be low with the exception of Costa Rica. Excluding Costa Rica's rate of 40%, the average rate was 10.3%, practically all of which was for the agricultural sector. The predominant sources of credit continue to be the informal sector-friends, family, traders/suppliers, and moneylenders. See Wenner forthcoming.

**Lessons Learned**

The following lessons were mostly extracted from the IDB's lending experience in targeted rural finance through the review of 27 IDB rural finance projects, existing evaluation documents on the topic, and staff interviews See Wenner, forthcoming. The lessons are grouped into four categories, three based on the purpose of the operations and one on implementation experiences.

Targeted, subsidised credit programs for forestry . . . . . should not be promoted.

Targeted but non-subsidised, wholesale credit programs . . . . . play a role in promoting the expansion and deepening of financial services to underserved producers, but their role is limited especially in forestry . . . . . However, for these wholesale credit projects to avoid unintended negative effects, the interest rates charged to final sub-borrowers should be set on market terms, and rates charged to intermediary institutions should be set at levels that do not undermine their deposit mobilisation activity.

### **Actions to Improve Performance**

[The original paper details actions needed to remedy the major problems and outlines the appropriate instrument to achieve the desired ends. The material comes under] . . . . . four . . . [headings] that correspond to (i) lack of access to credit, (ii) limited availability of long term credit (iii) inefficiency of the market and (iv) insufficient financial retail capacity. . . . .

## **INTERNATIONAL FINANCING FOR FOREST PRODUCTION**

### **. . . . . Private sector funding**

#### *Direct and portfolio investments*

Detailed comprehensive statistics on private sector forestry financing in the region are not available. However, there is an increasing amount of scattered information available from various sources (e.g. OAS 1997). *Commercial private sector* flows, both foreign and domestic, are generally divided into direct investments through the supply of capital goods, purchase of land or services, portfolio investments through commercial bank loans or equity funding.

*Non-commercial private sector* flows tend to be implicit investments in the form of labour, equipment, and or technical or assistance. At the international level, financial resources are mobilised mostly through grants or concessionary financing by the NGO community and philanthropists (Best and Jenkins 1999).

Foreign direct investment (FDI) is less volatile than portfolio investment and it tends to have a long-term time horizon as regards returns. It, together with non-commercial private sector investment is also attractive as it does not require fixed repayment, and does not contribute to debt burdens (Gentry 1998). According to UNCTAD (1999) the FDI flows from five OECD countries only to the wood and wood products sector in the LAC region were estimated at about US\$ 240 million in 1998 excluding some important investors in the sector (the Nordic countries, Malaysia, New Zealand and the Republic of South Africa). In addition, the intra-regional

investments are not included which are significant in the region. Therefore, the actual level is likely to be much higher, probably in the range of US\$500 million. In view of the region's forest resource potential and economic growth prospects, FDI is likely to increase in the medium term.

### *Logging concessions*

Traditionally, international forestry investments were mainly related to logging concessions in natural forests. Such timber concessions can, if properly managed and supervised, contribute to the development of domestic forest sector, too. However, often large timber concessions have been criticised for being cut-and-run operations. Table 3 provides information on some transnational logging companies with major concessions in Latin America. The prominence of Malaysian companies is striking.

### *Plantations and industrial investment*

..... the available information on international and cross-border investors in forest plantations and forest industries in Latin America, which suggests a heavy concentration on Brazil, Argentina, Mexico and Chile [see Appendix to Chapter 9.3: '*International and crossborder investments in forest plantations and forest industries in Latin America*']. Foreign investors are mainly multinational companies in the pulp, paper and timber business which invest in the LAC region within their raw material or marketing strategies; this is undoubtedly the largest group. Some new players have recently come to the picture: (a) timberland investors which are specialised in investments in forest plantation projects worldwide drawing their resources mainly from institutional investors, and (b) environmental investors who seek projects in SFM, carbon sequestration, etc.

Less information is available on foreign portfolio investment in the Latin American forestry sector but it has obviously increased its role in forestry and forest-based industries as in other sectors. International capital markets have started to recognise the potential offered by, and the specific characteristics of, forestry investments (particularly fast-growing plantations). Well-informed investors rightly perceive many such investments as relatively low-risk long-term opportunities, with positive real rates of return that complement traditional portfolios (FORM 1999). However, there is a pressing need to educate the international capital markets on the specific requirements of sustainable forestry, and new funding instruments are needed to lower the overall risks on forest sector investments (Crossley *et al.* 1996).

As a result of the privatisation processes in the region, there is a rapid shift in the flows from the public to private sector as part of the broader privatisation processes in forest resource management and utilisation. As part of this trend, the role of public sector international funding has been declining. It tends to be scattered through a large number of small projects with potential for addressing the forestry problems on

Table 3. Some Transnational Logging Companies with Concessions in Latin America

Company	Country of origin	Host country	Holdings (ha)
Berjaya Group	Malaysia	Suriname	300 000
		Guyana	760 000
Equatorial resources	United States	Brazil	600 000
KTS Group	Malaysia	Brazil	415 400
Kwitara	Malaysia	Guyana	760 000*
Mafira Group	Malaysia	Guyana	760 000*
Mitsubishi Group	Japan	Brazil	34 710
MUSA	Indonesia	Suriname	800 000
NV Tacoba	Malaysia	Suriname	150 000
Primegroup Holdings Ltd.	Malaysia		
		Guyana	800 000
Rimbunan Hijau Group	Malaysia	Brazil	53 997
Samling Corporation	Malaysia	Guyana	1 690 000
		Brazil	993 694**
Solid Timber Sdn Bhd	Malaysia	Guyana	760 000
Tenaga Khemas Sdn Bhd	Malaysia	Guyana	793 354***
WTK Group	Malaysia	Brazil	313 719
	Total		9 984 874

\* exploratory lease; \*\* proposed; \*\*\* includes exploratory lease

Source: Sugai and Mittermeier 1999

a required scale. However, the potential for leveraging private sector investment through this type of public funding is apparently far from being utilised (Gentry 1998; Best and Jenkins 1999). This is when the IDB and other international funding agencies may have an important role to promote the mobilisation of private sector resources.

### ..... Inducing demand for forest financing

The problem of limited demand for lending to forestry does not lie among the national authorities which have been entrusted with the responsibility for the conservation and utilisation of forests. The bottleneck is the lack of awareness and understanding of the opportunities offered by forests in the sustainable development of nations among decision makers in the ministries of finance, national planning agencies, and national financial institutions, etc. [In the original paper, a number of] lines of action have been proposed in order to facilitate public sector interest by the Latin America and Caribbean countries, [which focus on creating an enabling environment for investment and operations. In addition,] the following proposals for action are made in the area of cooperation with the private sector and promotion of private investments in forest-based activities:

- Assistance to governments to create enabling conditions for private sector investment in forestry; they would include regulation combined with appropriate incentives (linked with socio-environmental externalities provided by the investments).
- Support through technical assistance to private sector organisations in forestry and forest industry.
- Support private sector co-operation and business development through the organisation of business meetings and workshop involving potential investors and foreign buyers of forest products.
- Promote public-private partnership-based investment in forestry; apply certification as an instrument to ensure sustainability provisions in forestry financing.
- Monitor the future work related to the development of investment promotion facilities/entities targeted to sustainable forestry at international and country levels and assess the feasibility of such instruments as part of the Bank-supported activities.

The key measures to induce private sector investments in forestry are related to the reduction of barriers to sustainable forestry due to inadequate policy framework or operational constraints (markets, skilled labour force, information on production potential, participation of stakeholders, etc.). National policies and legislation need to provide internationally competitive and conducive business environment. In particular, secure land tenure is fundamental but reduction of unnecessary regulations and bureaucracy (licenses and permits), and tax reforms are also important issues in many countries of the region. However, a conducive business environment does not mean *laissez-faire*. Adequate forest management standards need to be in place and enforced to ensure sustainability.

The forest sector's capability for self-financing is significant, but the potential is far from being reached due to the under-valuation of forest resources. Underlying policy and market failures should be corrected. Private sector operations can range from timber production to non-timber forest products, ecotourism, and production of various services (such as watershed protection). Emerging new financing instruments have unexplored potential. These instruments are aimed at increasing the trade of both global and local environmental services offered by forests. The role of the private sector should be enhanced, as public sector funding is falling short of the financing needs of forestry development and conservation.

## ENDNOTES

<sup>1</sup> Chipeta, M.E. and Joshi, M. 2001. Financing Sustainable Forest Management. Report of the International Workshop of Experts. 22-25 January 2001, Oslo, Norway. CIFOR, Indonesia. Quoted from pp 61-62. Available also on [www.cifor.cgiar.org/fsfm](http://www.cifor.cgiar.org/fsfm)

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# Chapter 10

## Investing in the Future: The Private Sector and Sustainable Forest Management

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### EXECUTIVE SUMMARY

The paper addresses the following questions related to expanded private investment in sustainable forest management (SFM): (i) What is the nature and magnitude of private investment in forest management and utilisation? (ii) What is SFM and where and why do we need expanded private investment in SFM in the future? (iii) Why are the needed levels of investment not taking place spontaneously? What are the constraints - the market, policy and other institutional failures that need to be corrected? (iv) What are the most appropriate policy mechanisms to use to overcome the constraints?

### **Nature and magnitude of private investment in forestry**

Many types of private investment are relevant to the present discussion; and a number of distinctions between types are important, including that between: (i) foreign investment by large multinationals and investment by local companies in local situations; (ii) highly regulated companies, often from developed countries, and companies that invest with much less regulation and concern for international public images; (iii) direct investment and portfolio investment; (iv) individual private investment, e.g., in SFM related conservation activities by philanthropists and community investment in SFM; and (v) corporate and joint investment vehicles, such as public-private partnerships.

The challenge of getting more private resources into SFM will be met only if we look at broader combinations of private and public capital flows into various types of sustainable forestry and forest-based activities; we need to take a landscape or macro view of SFM requirements.

Few reliable numbers exist on the aggregate private investment in the forest sector of developing countries. We do know that all types of private investment in developing countries has been increasing rather rapidly over the past decade (with some very recent slowing in the rate of investment), while official development assistance (ODA) has been declining. Total direct private investment rose from US\$30 000 million in 1992 to US\$118 000 million in 1998 and then down to an estimated US\$ 98 000 million in 1999. More significant is the fact that in 1992 private direct investment accounted for only some 19 % of total net resource flows from OECD/DAC countries and multilaterals, while it had reached more than 50 % by 1999. What portion of this investment goes into forestry is not known. We do know that capital flows to the forest-based sector in developing countries are in the billions of dollars. Beyond the above, we have a few reliable case studies from countries, but little information on aggregate private investment in forest-based activities and particularly in SFM.

From the perspective of this paper, which deals specifically with SFM, it is the quality as much as the quantity of investment in forest management that is of key interest. The quality issue has been influenced by globalisation and privatisation trends in the world, which have acquired great dynamism during the last two decades. Together with the proliferation of structural adjustment programmes they have drastically shifted the role of government, with the private sector becoming relatively much more important.





The quality of forest management investment is a relative concept that depends on the context and the socially acceptable norms of economic and environmental sustainability. Some of the past, and even some of the new investment in the forest based sector is promoting unsustainable forestry and forest utilisation and is contaminating the government apparatus with illegal acts and corruption, all of which can lead to social hardship and disruption. Increased quantities of such investment are not wanted by most civil societies. Fortunately, much of the private investment flowing into forestry appears to be following either imposed or voluntary ‘codes of conduct.’ This type of investment is desirable and the challenge is how to maximise its flow to the forestry-based sector, while minimising the flows into unsustainable forestry activities and corrupt practices.

### **What is SFM; and where and why do we need expanded private investment in SFM?**

In the past, SFM would have been considered in most countries in the context of the sustainability of timber supplies. Sustained yield timber management as SFM has been replaced by a broader concept of SFM. In the words of the President of Finland:

‘based on the definitions and the general criteria of sustainable forest management at the European level, the following principles were agreed upon in Helsinki in 1993:



- *Forest resources should be maintained and enhanced for the health and vitality of forest ecosystems as well as for the global carbon balance;*
- *Forests should be tended for the biological diversity of forest ecosystems and to advance the socio-economic functions and conditions of forests; and*
- *Wood and non-wood productive functions of forests should be encouraged.'*

This broad concept of SFM has significant implications in terms of developing an operational definition of what the real aim is in getting more private investment into it. In particular, it implies that societies want the private sector (industry, individuals and other combinations of private capital) to be concerned with and invest in socially desirable outputs that currently are not traded in markets and in some cases cannot even be valued adequately in economic terms.

An important distinction exists between concepts of sustainability at the micro (forest stand) and macro (watershed or landscape) levels. At the extreme micro level, every forest stand has to be managed for sustainable production of all forest goods and services. At the extreme macro level, the concept refers to sustainability of the overall public and private forest estate of a state or country, where one output might dominate in one area and others in other areas. In fact, in most countries, we are dealing in practice with a point on the continuum between the two extremes.

In the case of market-based outputs, such as wood products, discussion tends to focus on corporate responsibility for practising SFM and seldom on societal and consumer willingness to pay a premium through the market to cover the additional

costs associated with SFM meeting the broad conditions outlined above. The question remains as to the extent to which the average consumer is willing to pay higher prices.

With regard to the amount of new private investment required to ensure global SFM, various estimates suggest that this amount is in the order of tens of billions of dollars per year. For the purposes of this discussion detailed aggregate estimates of investment needs should not be of much concern, since we know that the needs likely are orders of magnitude greater than will be forthcoming under even the most optimistic scenarios. Thus, the focus should be on the right path to take in promoting future private investment. If the path is right and the investment environment is favourable in the eyes of private investors, then more private resources will flow into SFM. The most important consideration in moving ahead is that private investors will pick up all or part of the tab only if the additional commercial benefits of SFM surpass or are at least equal to those of unsustainable practices or if they are required by law to do so and they have no alternative better investments.

### **Why is the private sector not investing spontaneously? What are the constraints?**

Under current market conditions in most developing countries, the profitability of SFM as defined above is not as high as that associated with unsustainable forest utilisation options, or investing in other sectors<sup>1</sup>. Simply put, ‘SFM does not pay’ for the private investor. This finding is now recognised widely.

Nevertheless, the sustainable management of these countries’ forests is still desirable from a societal perspective. How does this discrepancy between the wishes of society and those of private entrepreneurs arise?

Given a stable and attractive enabling environment, the basic constraints on private investment can be traced back to market failures of various kinds. Imperfect markets or lack of markets can lead to socially ‘sub-optimum’ levels of private investment, or to investment in unsustainable forest management and timber mining as opposed to SFM. The market’s inability to generate socially desirable outcomes in private forest management happens mainly because of:

- **Lack of markets or imperfect markets:** some of the goods and services associated with SFM are not traded in markets and thus provide no revenue to the private producer, unless payments are made by government; and
- **Higher costs and lower risk adjusted profits associated with SFM:** often the costs associated with producing market-based outputs through SFM (including the transaction costs for certification) are higher than for the same outputs from unsustainable forest management, but compensation in the market place through consumer demand is not high enough yet to

make the additional costs attractive on a voluntary basis to most producers. Adequate consumer willingness to pay (wtp) for ‘green’ or certified forest products (CFP) has yet to show up in a widespread fashion in consumer markets. Furthermore, because of the generally longer time periods involved in SFM than in unsustainable extraction, risks can be considerably higher. Both can lead to lower risk adjusted profits.

SFM can produce a number of benefits – biodiversity protection, carbon storage, scenic beauty, watershed protection – that are of interest to society at large, but that are not traded in markets and thus generally are not of interest in commercial operations. In short, markets fail to account for these benefits that can derive from SFM, even though the benefits are very real. Private production becomes sub-optimal from the point of view of society.<sup>2</sup>

Frequently, the distortions against SFM created by missing or imperfect markets are compounded by mistaken government policies. There are many ways in which they can easily result in a reduction in the effectiveness and efficiency of the underlying market mechanisms that determine investment in SFM. For example, governments may subsidise agricultural expansion, and this may result in increased displacement of natural forest with higher value from a SFM perspective. In other cases, it is a simple lack of social infrastructure such as transportation, communication, information flows and backup support services that lead to higher costs and sub-optimum operation of the private sector.

Further, since many of the forest resources in the developing world are publicly owned and mostly isolated from public scrutiny (at least until recently), there is ample opportunity for illegal activities that contribute to unsustainable forest management. . For a given entrepreneur, an environment in which law enforcement is weak can increase risk significantly.

Finally, social infrastructure provided by government in the form of clear property rights, publicly funded research, education, civil law, systems for settling property rights and other legal disputes is often lacking or inadequate. Again, a weak legal system and lack of adequate backup infrastructure can increase risks and transactions costs for the investor. When considering constraints on socially desirable private investment, the importance of government policies cannot be stressed too much.

### **How can the constraints be overcome and inducements for more private investment be created?**

The United Nations agencies, as well as both the Intergovernmental Forum on Forests (IFF) and the earlier Intergovernmental Panel on Forests (IPF) processes, have been interested for some time in the question of how to overcome the constraints on increased private financing of SFM. Several major workshops were held on the subject of financing, and they all have included the specific topic of private financing. The IPF and IFF processes were concerned with the overall health of the forests of the world and how they could contribute to alleviation of poverty on a sustainable basis. In the



process of those discussions, it became evident to the participants that they needed to be centrally concerned with private investment as a contributing factor in reaching the goals set forth.

As we move into the future, it is evident that a significant evolution and transition is taking place in the financing environments within which the private sector invests in forest management and associated processing and marketing activities. Further, these environments in many cases have become much more heterogeneous than in the past. First, as mentioned before, the mix of recognised and relevant forest outputs – goods and environmental services – has expanded, including in terms of new market based outputs that influence private investment. Ecotourism, biodiversity prospecting, payments for carbon sequestration in forests are examples of some that have moved into limited market situations.

Second, the situations in forest rich and forest poor areas have become even more diverse in terms of investment in the forest-based sector. Private involvement in watershed management forestry and forest reserves have become more important in some countries, while fast growing plantations have entered the picture in a significant fashion in other countries. As highlighted by the Latin American regional papers, private investment in plantation development is likely to be forthcoming in adequate amounts, assuming appropriate stable and consistent government policies.

Third, the distinctions between the large multinational corporations – truly global entities these days – and the small, local forest-based enterprises and investors have become more distinct. We also have seen a rise in large corporations based in the South investing in forest-based activities. Thus, almost all participants in the international trade of forest products — and frequently in logging — in major developing

countries, are transnational corporations. By some estimates, more than 80 % of international forest products trade is conducted by transnational corporations. They often operate under different sets of rules and norms than do the smaller forest-based investors.

Fourth, a whole host of international agreements and consultations has created a web of internationally recognised principles and guidelines to guide and influence forest activities at the national level. Criteria and indicators for SFM are being and have been derived in different geographic regions; international certification of SFM activities and outputs is growing; new multinational quasi-public institutions are evolving and, in general, the world is becoming more interconnected. The role of international agreements and policing of such has not been studied to any extent. In theory, international actions, including by large NGOs should contribute to resolving some of the problems of misguided use of forest resources. In fact, much of the concern throughout the IPF and IFF processes was devoted to the question of the role of international institutions, including various forms of agreements.

Finally, new technologies, including in the information and communication areas, as well as in forest product processing, have changed the nature of the mix of outputs that are sought from forests and the relative profitability of various investments in them.

Within the context of these new investment environments, overcoming the constraints on private investment in SFM will require that the public sector and civil society intervene with new or reinforced laws, more effective regulations, and with changes in the levels and types of incentives provided to private investors. However, one needs to caution that too much intervention in markets, or the wrong interventions can lead to worse problems than no intervention. Some of the dangers of the



intervention failures can be avoided by using a comprehensive approach, one that includes a variety of changes in policies, institutions and public management and control over resources, and based on the input of various stakeholders. The comprehensive approach includes consideration of changes in policies or mechanisms used for other sectors that have perverse effects on the forest-based sector, e.g., the use of agricultural subsidies that encourage deforestation and conversion of land to agriculture.

A number of guiding principles can be considered in developing an appropriate policy framework and set of policy changes for encouraging future private investment in SFM. These include: (i) clarifying the type of change being sought; (ii) distinguishing between types of private investors; (iii) considering investments in SFM in relation to those in post harvest activities; and (iv) developing policy mechanisms that recognise that private commercial companies respond to both regulatory ‘push’ incentives and market based ‘pull’ incentives.

Two broad categories of policy actions need to be considered by government and civil society in creating a favourable environment for private investment in SFM. These are:

- Actions that result in a set of laws and regulatory mechanisms that establish a positive investment framework in an environment that protects society’s interests while also being attractive to private investors;
- Actions that provide the market incentives for private individuals and firms to invest in SFM rather than unsustainable forest management.

In terms of the first category of actions, an integrated, interwoven set of laws and regulations must be in place to set the basic legal framework for SFM and an appropriate investment environment. In order to have the kind of stable and attractive environment for productive private investment in SFM, countries should have in place appropriate policies related to at least the following: i) distribution of forest land ownership and control among public and private sectors; clear property laws; ii) management objectives and approaches stated in law and regulation for the overall forest estate (including both public and private forests), this includes environmental protection objectives; iii) the levels and types of investment in social infrastructure, including research, training, education, information, and communication needed to move the forest-based sector along on the right track; iv) the mix and form of forest industry development desired and allowed (e.g., related to foreign investment); v) international and domestic market development and trade; and vi) programs in place to support financing of both private and public forestry.

While in theory, a body of laws and regulations dealing with the above should create a desirable environment for investment, we know that in fact of equal or greater importance are the ways in which existing policies are governed and implemented (or not implemented). While the private sector can be as much to blame as governments

for illegal acts and corruption that lead to unsustainable forest management and exploitation, the fact remains that productive, socially responsible investors – and thus those who would practice SFM - stay away from environments in which weak law enforcement is prevalent.

With a positive, stable investment environment in place, policy debates can move to consideration of the role of various forest-specific incentive and regulatory mechanisms in influencing the decisions of private individuals and firms to invest in SFM rather than non-SFM. Various past analyses, including the Croydon and Pretoria workshops, have identified and discussed in detail specific types of incentive mechanisms. These are summarised in the text. The main points to emphasise here are that:

- generally a combination of market related policy mechanisms will be needed and most effective in encouraging private investment in SFM;
- whatever mechanisms are used, there will likely be a need for some public payments to forest investors to cover the costs associated with production of environmental services (these should be treated as payment for services or public investments rather than ‘subsidies,’ a term that has a negative connotation to many people);
- some of these costs should logically be covered through international mechanisms, since some of the benefits are global environmental services; and
- none of the mechanisms will be successful in attracting private investment if the broader investment policy environment in a country is not stable and perceived to treat investors unfairly and inequitably.

The analysis carried out here, as well as those in the regional papers for this meeting, lead to certain conclusions regarding increased private investment in SFM. Bringing them all together, some suggestions emerge regarding the road ahead from a policy perspective, always keeping in mind a clear understanding of the motivations of private investors and the conditions under which they will invest in SFM. Thus, (1) private investors are motivated by i) commercial profits, ii) the potential to increase market shares; and iii) low levels of risk; and (2) SFM investments generally have: i) higher costs and lower levels of commercial profits than unsustainable forest exploitation, and ii) higher risk (mainly due to long investment periods) than unsustainable options that render a larger and quicker profit through timber mining.

It follows that, if we want to encourage increased focus on private investment in SFM rather than unsustainable FM, then we need to make sure that:

- SFM levels of profitability are high enough and risks low enough to attract such investment; and
- profitability of unsustainable forest management is reduced and risks increased, in order to discourage it.

### **Policy interventions to increase the risk-adjusted profitability of SFM**

In order to increase the profitability of SFM to levels that attract private investment, we need effective and efficiently managed policy interventions to:

- Establish clear ‘rules of the game’ and stable policies over time that help to create a positive investment environment.
- Establish clear provisions and conditions regarding changes in the rules of the game.
- Establish clear property rights or usufruct rights and enforce them uniformly.
- Involve local communities and NGOs in SFM and thus reduce conflict with large investors.
- Encourage, possibly through national or state forest laws, adoption of a ‘macroscopic’ concept of sustainability where specialisation, e.g., in terms of timber production exists along side of protection forests, recreation forests, etc., i.e., a landscape rather than stand level, or ‘microscopic’ perspective on sustainability; this can help to increase efficiency and profits associated with SFM.
- Increase efficiency of government regulatory functions and activities related to private SFM, rather than making them more complex and costly, something that generally comes back to increase costs even further for the private investor.
- Reduce fiscal or monetary policies that: i) increase costs of SFM, ii) reduce profits.
- Promote payments and transfers for externalities associated with private SFM for which the private investor cannot get remunerated. Examples



include promotion of carbon trades and payments for watershed protection associated with good forest management.

- Help develop and encourage national and international markets for traditional and non-traditional products from sustainably managed forests; ultimately, if widespread investment is to take place, the consumer must be willing to pay for the additional benefits in the market place or through taxes that directly support the non-market outputs associated with SFM.
- If social or environmental considerations are very important, i.e., if the private investor also produces social benefits, consider ‘payments for services,’ rather than subsidies in the traditional sense of the term (or consider these payments and public investment in the future). They are not welfare payments because of need, but rather legitimate payments for outputs (generally forest environmental services) that are deemed best paid for by society as a whole rather than through forced markets.
- Provide technical assistance, knowledge, and promotion of opportunities, particularly for smaller forest landowners and users who may not understand the intricacies of practising SFM.
- Facilitate financing of private operations (perhaps through preferential credit and credit that takes the oftentimes long time lags into account, insurance programs, tax breaks for good SFM, etc., or provide investment guarantees)
- Promote vertical as well as horizontal integration of operations (not necessarily ownership). For example, downstream operations may be

very profitable. This may justify greater private financial support and involvement in SFM upstream. As another example, integration may make possible the use of a wider range of species, thus making sustainable natural forest management more appealing. Consortia or other forms of joint operations can help to take advantage of economies of scale.

- Encourage investments in plantations that take pressures off natural forests, and discourage through various means development of plantations on lands that currently are in natural forests with environmental values.

### *Policies and Actions to Reduce Unsustainable Forest Management*

At the same time, in order to reduce the attractiveness of unsustainable forest management, policy interventions may be introduced to:

- Eliminate subsidies and other preferential treatment to sectors that compete for land with the forest sector, particularly if there are no compelling social or environmental reasons to keep them.
- Establish firm monitoring and control of illegal operations. Increase the probability of being caught through better surveillance, and impose stiffer penalties for illegal acts.
- Foster third party monitoring and control (e.g., international inspections, etc).
- Combat opportunities for corruption. Make transactions transparent and monitored by an independent party.
- Avoid transportation infrastructure placed near high value forests that also have high environmental value, particularly where land use law enforcement is weak or absent.
- Design administrative systems that avoid negative political interference (including international interference) in the control of the nation's forests.

We emphasise that all these policy interventions are not needed in all cases. Each country or region requires separate strategic, tactical and operational analyses that lead to the most effective and efficient mix of interventions to encourage expanded productive private SFM. There are no general needs that apply everywhere, except perhaps, as also pointed out in the regional papers, the need to create a stable, positive

investment environment with policies that create a level playing field for all potential investors. In such an environment, the door is open for specific policy interventions, as outlined above, that can result in significant increases in private investment in SFM.

## INTRODUCTION

The objectives of this paper, as set forth by the organisers of the Oslo meeting, are to discuss the role of the private sector in financing sustainable forest management (SFM) and to recommend proposals for action, or ways and means of increasing the sector's investments in SFM by taking into account political and policy developments both at international and national levels.

In order to provide some logic and coherence to the wide-ranging discussion on private investment, we need to have an overall framework of analysis. This framework needs to address the following questions:

- What is the *nature and magnitude of private investment in forest management* and utilisation? How significant is it now; and how is it changing over time?
- What is SFM; and *where and why do we need expanded private investment in SFM* in the future?
- Why are the needed levels of investment not taking place spontaneously? *What are the constraints* – the market, policy and other institutional failures that need to be corrected?
- *How can we overcome the constraints* and create inducements for private investment? What are the most appropriate policy mechanisms to use?

The rest of the paper is organised around providing answers to these questions.

## WHAT IS THE NATURE AND MAGNITUDE OF PRIVATE INVESTMENT IN FOREST MANAGEMENT AND UTILIZATION?

Many types of private investment are relevant to the present discussion; and a number of distinctions between types are important:

- foreign investment by large multinationals and investment by local companies in local situations.

- highly regulated companies, often from developed countries, and companies that invest with much less regulation and concern for international public images.
- direct investment vs. portfolio investment, where the investor provides capital for others to use.
- Individual private investment, e.g., in conservation activities by philanthropists, is yet another type of private investment, as is community investment.
- joint investment vehicles, such as public-private partnerships.

There are many other variations on the above types of private investment. It is beyond the scope of this document to analyze them in detail. The points of importance here are that:

- all types of private investment are relevant to our discussion and objectives – getting more productive private investment into SFM; different types take on prominence in different situations and countries; and
- the challenge of getting more private resources into SFM will be met only if we look at broader combinations of private and public capital flows into various types of sustainable forestry and forest-based activities; we need to take a landscape or macro view of SFM requirements.

### **The Magnitude of private investment in the forest-based sector**

Aggregate private investment in all sectors in developing countries has been increasing rather rapidly over the past decade (with some very recent slowing in the rate of investment), while official development assistance (ODA) has been declining. Overall foreign investment flows to developing countries from OECD/DAC member countries grew rather rapidly over the past decade, but have slowed somewhat recently (OECD 2000). Thus, total direct private investment rose from US\$30 000 million in 1992 to US\$118 000 million in 1998 and then down to an estimated US\$98 000 million in 1999. More significant is the fact that in 1992 private direct investment accounted for only some 19 percent of total net resource flows from OECD/DAC countries and multilaterals, while in 1999 this had reached more than 50 % (OECD 2000).

While relatively good numbers exist on the overall foreign private investment in developing countries, particularly from OECD countries, the sectoral breakdown to the level of forest-based investment does not exist in published form, as pointed out in

earlier workshops organised in support of the IPF/IFF process (*cf.* Croydon and Pretoria workshops, and as supported by the regional papers for this meeting (Chan 2001; Raga Castellanos 2001; Tomaselli 2001; Landrot 2001; Kufakwandi 2001). Similarly, numbers on domestic direct private investment in forestry and related forest-based activities are unavailable on an aggregate basis. Grieg-Gran *et al.* (1999) indicate the same point related to portfolio investment in forest-based activities. Crossley *et al.* (1996), as cited by Greig-Gran, suggest that overall capital flows to the forest-based sector in developing countries is in the billions of dollars. Beyond the above numbers, we have a few reliable case studies from countries, but few numbers available on aggregate private investment in SFM.

### Quantity vs. quality of investment

In any case, aggregate quantity of investment is not the key variable, but rather the quality of such investment and the extent to which it is associated with sustainable rather than unsustainable forest management. The quality issue has been influenced by globalisation and privatisation trends in the world, which have acquired great dynamism during the last two decades. Together with the proliferation of structural adjustment programmes these trends have drastically shifted the role of government, with the private sector becoming relatively more important. Depending on the circumstances, expanded benefits in the form of more sustainable forest management, economic growth and social improvement can result. However this will happen only if levels of governance are adequate and the economic incentives induce private sector actors to move in that direction. Improved governance in developing countries requires policies and government structures that would increase not only the levels of private investment but also the level of coincidence between private investment interests and the social goal of achieving more sustainable forest management.

Quality of investment in forest management – in the context of SFM - is a relative concept that depends on the extent to which it conforms to socially acceptable norms for economic and environmental sustainability. Some of the past, and even some of the new investment in the forest based sector is promoting unsustainable forest utilisation and is contaminating the government apparatus with corruption and illegal acts, which in turn can lead to social hardship. Fortunately, much of the private investment flowing into forestry appears to be following either imposed or voluntary ‘codes of conduct that meet societal norms for ‘good practice.’ This type of quality investment is highly desirable and the challenge is how to maximise its flow to the forestry-based sector.

## **WHAT IS SFM AND WHERE AND WHY DO WE NEED EXPANDED PRIVATE INVESTMENT IN SFM?**

What is meant by ‘Sustainable Forest Management’ (SFM); and where and to what extent does it need to be practised? How much private involvement in SFM is needed? Operational answers are needed to give dimensions to the goal of ‘encouraging more private investment in SFM.’

### **What is SFM?**

In the past, SFM was generally considered in the context of the sustainability of timber supplies. In that case, a macro, or country level perspective was adopted, where the concern was with private investment in sustained yield timber management to assure an adequate supply of timber at ‘reasonable’ prices to meet the needs of consumers. This concept takes on less importance in most political debates related to forests and forestry, although it still is very much a practical reality in strategic and operational planning of timber companies and governments. In its place has come a broader concept of SFM.

In the words of the President of Finland (Ahtisaari 2000): based on the definitions and the general criteria of sustainable forest management at the European level, the following principles were agreed upon in Helsinki in 1993:

- Forest resources should be maintained and enhanced for the health and vitality of forest ecosystems as well as for the global carbon balance;
- Forests should be tended for the biological diversity of forest ecosystems and to advance the socio-economic functions and conditions of forests; and
- Wood and non-wood productive functions of forests should be encouraged.

This broad concept has significant implications in terms of developing an operational definition of what the real aim is in getting more private investment in SFM. In particular, it implies that societies want the private sector (industry, individuals and other combinations of private capital) to be concerned with and invest in socially desirable outputs that currently are not traded in markets and in some cases cannot even be adequately valued in economic terms.

An important philosophical distinction exists between sustainability at the micro (forest stand) and macro (watershed or landscape) levels, as introduced in this discussion by the regional paper by Raga Castellanos (2001). At the extreme micro level, every forest stand has to be managed for sustainable production of all forest good and services. At the extreme macro level, the concept refers to sustainability of the overall public and private forest estate of a state or country, where management and use of



any given stand of forest could be for the sustained yield of an array of forest outputs, and where one output might dominate in one area and others in other areas. Raga favours the more practical and efficient macro approach to SFM.<sup>3</sup>

In fact, in most countries, we are dealing in practice with a point on the continuum between the two extremes. This is partly because we are dealing with situations where there are different mixes of private ownership and management, generally aimed at producing market based outputs within a public regulatory framework; and we are dealing with public and mixed management, aimed at producing various specific social outputs from public production and protected forests and park areas.

### **What is the Likely Magnitude of the Effort Needed to Ensure SFM?**

Private investment in SFM needs to be looked at in context. Thus, no inherent reason exists why the present stocks of forest resources in most countries should be maintained at their existing levels and condition of management. Additional forest is needed in some countries, and afforestation of non-forest lands may be desirable to achieve sustainable development in the broader meaning of the term. We know, for example, that the growth in forest plantation area over the past couple of decades has been dramatic.<sup>4</sup> At the same time, all deforestation is not bad. Some land now in forest may be needed for other legitimate purposes in some countries. Much depends on the current state and magnitude of the existing forest estate.

How much money is needed to ensure global SFM? We have refrained from producing yet another set of estimates of the amount that would be needed to secure global SFM. Such estimates would be open to controversy since underlying assumptions

are highly debatable. For example, investment requirements should be estimated after correcting for market and policy failures, which is an elaborate exercise that is seldom carried out in practice (Pearce and Steele, undated). It is sufficient to say that global investment required to achieve even minimum standards of SFM will run into tens of billions of dollars per year,<sup>5</sup> and that the current area of forest that is being utilised in unsustainable ways is very large, probably in the order of some 200 million ha.

In addition, estimates of aggregate investment needs are to a large extent irrelevant to this discussion: first, we know that the needs are great and probably beyond what can reasonably be expected; thus, we should be spending our time and effort on the best path we can take in moving towards the future, not on the magnitude of future needs. If the path is right in the eyes of private investors, then resources will flow in reasonable amounts. Second, private decisions are not made based on aggregate investment needs, but rather on the basis of expected profitability and risk levels, and this has little to do with estimates of aggregate global needs for such investment.

The most important consideration is that private investors will pick up all or part of the tab only if the additional commercial benefits of SFM will surpass those of unsustainable practices or if they are required by law to do so and they have no alternative better investments.

### **WHY IS THE PRIVATE SECTOR NOT INVESTING SPONTANEOUSLY? WHAT ARE THE CONSTRAINTS?**

Given present economic relationships and government policies in many countries, private investment in sustainable forest management generally is not attractive to the private sector. The use of forests by private investors is determined by the search for low risk commercial profits and market shares, within the context of a policy framework set by government. After years of examining the feasibility of SFM in various developing country situations, analysts have produced ample evidence that the profitability of SFM normally is not as high as that associated with unsustainable options, or investing in other sectors. As stated earlier, commercial profitability of SFM may be positive, but even in these cases, if it is lower than the profitability of unsustainable forest management, SFM will not be practiced voluntarily by the private producer unless there is some other incentive to do so.

This finding is now recognised widely. For example, the most recent internationally organised workshop focusing on financing issues related to sustainable forest management, held in Croydon, London, UK, on October 11-13, 1999, concluded:

“studies indicate that financially, SFM is currently not as profitable as unsustainable forestry, nor is SFM competitive financially with other land uses.... except in cases where sustainability is a concern to forest enterprises, conventional economic analysis and market forces promote the liquidation of forests and conversion into other land uses”. (Anonymous 1999).

In circumstances prevailing in most countries, the private sector will not be attracted spontaneously to investing in SFM meeting the broad principles cited by the President of Finland and listed above. Nevertheless, the sustainable management of these countries' forests is still desirable for the local, national and global society. How does this discrepancy between the wishes of society and those of private entrepreneurs arise?

We emphasise strongly here, that if the enabling conditions for fair, stable competitive private sector activity are not present in a country, then it does not matter what happens in terms of corrections of market imperfections. *The prime prerequisite for legitimate, honest private investment is the existence of minimum enabling conditions in a country.* These relate to a country's laws and regulations and how such create a fair and stable environment within which the private sector can invest. Again, the assumption is that such laws and regulations are enforced fairly and equally for all.

### **Lack of markets or imperfect markets**

Given a stable and attractive enabling environment, the basic constraints on private investment can be traced back to market failures of various kinds. Imperfect markets or lack of markets can lead to socially 'sub-optimum' levels of private investment, or to investment in unsustainable forest management and timber mining as opposed to SFM.<sup>6</sup> The market's inability to generate socially desirable outcomes in private forest management happens mainly because<sup>7</sup>:

- Some of the goods and services associated with SFM are not traded in markets and thus provide no revenue to the private producer; and
- The costs associated with producing market based goods through SFM (including the transactions costs for certification) often are higher than for non-SFM, and compensation in the market place through consumer demand is not high enough yet to make the additional costs attractive on a voluntary basis to most producers. This latter situation is particularly the case where forests are abundant and quite freely available for use.



As mentioned above, while the constraints eventually lead to failures or weaknesses in markets, the factors that lead to these problems most often are exacerbated by poor government policies, lack of implementation of good ones, and lack of civil society norms setting standards on the use of a country's natural resources through public policy.

### *Lack of markets*

Forests produce a number of benefits – biodiversity protection, carbon storage, scenic beauty, watershed protection — that are of interest to society at large, but that are not traded in markets and thus can hardly become of interest in commercial operations. In short, markets fail to account for these benefits that can derive from SFM, even though the benefits are very real. Since these services of forests have no markets in the traditional sense of the term, private investment – fundamentally guided and motivated by market signals and the prospects of commercial profits – does not deliberately produce them. Private production becomes sub optimal from the point of view of society.

All of the above would not matter much if the proportion of non-market to market outputs were minuscule in SFM. However, this is not the case. Furthermore, non-market values of forests have increased in importance and in recognition because of various factors, including greater public awareness of their value in the functioning of the global ecosystem and preoccupation with their rate of exhaustion. Changing preferences resulting from growing wealth also influences the concern with the social values of forests.

*Higher costs and lower risk-adjusted profits associated with SFM*

There are new societal perspectives on management opportunities and needs in forest management, and new consumer demands that distinguish between SFM and non-SFM outputs (*cf.* Rametsteiner 1999, 2000). Many of these developments have led to an increased recognition of the gap between commercial, private priorities and those of society at large, as expressed through the actions of governments.

The private sector in most cases will be happy to adjust to the newly emerging and recognised needs of society, so long as the returns to them equal or exceed the additional costs to them. As mentioned above, producing additional social benefits through SFM in most cases leads to higher costs, and to lower profits, unless the additional benefits can be captured in the market place. One notable way to help capture such benefits of SFM is certification supported by market differentiation. However, Chan (2001) points out that: ‘By and large, major international markets of timber and timber products have yet to respond to SFM initiatives. There is no affirmative support by the markets for actions towards SFM.’ Others agree that consumer willingness to pay (wtp) for ‘green’ or certified forest products (CFP) has yet to show up in a widespread fashion in consumer markets. For example, Rametsteiner (1999) summarises the European situation where resellers rather than buyers are taking the lead, as follows:

The majority of the demand (for CFPs) comes from companies (resellers) that have committed themselves to buying certified timber products. End consumers have not, up to now, created any significant market pressure on their own. Most of the companies are located at the consumer end of supply chains. The total market demand of these companies, loosely organised in cooperation with the World Wide Fund for Nature (WWF) in WWF buyers’ groups, was estimated to be around 9 million m<sup>3</sup> in 1997...This is only a fraction of the apparent consumption of sawnwood<sup>3</sup> and wood-based panels in Europe, which amounted to 131.8 million m<sup>3</sup> and the consumption of paper and paperboard, at 73.1 million tonnes in 1995 (UN/ECE-FAO 1996)<sup>9</sup>

The bottom line is that the ‘private sector’ by definition is in the business of producing commercial outputs and profits within the context of given societal norms and wtp for those outputs. Those who do not compete for profits and market share fall by the wayside. Such is the way of a functioning market economy. Profits depend on costs, but also on market prices reflecting consumers’ willingness to pay for what the private sector produces. Thus, ultimately, the consumers’ wtp for the additional outputs from SFM and society’s willingness to pay for non-market benefits, particularly environmental services of forests, have to be high enough to result in levels of



commercial profitability that exceed or at least equal those of competing investments. Presently, certification seems to have more relevance as a way to get market access or secure or expand market share, rather than as a way to increase the profitability of SFM (Bourke and Leitch 1998). Finally, because of the generally longer time periods involved in SFM than in unsustainable timber extraction, risks can be considerably higher. This combined with uncompensated costs can lead to lower risk-adjusted profits.

### **Importance of government policies**

The importance of government policies, or the lack thereof as a factor in creating imperfect markets and a constraint on private investment cannot be stressed too much. There are many ways in which policies and government action can result in a reduction in the effectiveness and efficiency of the underlying market mechanisms that determine investment. For example, Tomaselli indicates that governments in South America tend to support forest plantations by using a variety of incentives, while no such inducements are available for promoting the management of natural forests in either private forests or public forests managed under the system of timber concessions (Tomaselli 2001). Since plantations may have a large ratio of market values to non-market values as compared with natural forests, the latter may be displaced to make room for the government supported plantations. The net result frequently is a further erosion of the availability of those services of natural forests that are valuable to society but not to private investors. Chan (2001) points out that most of the timber industry of Asia supports the International Tropical Timber

Organisation (ITTO) 'Criteria and Indicators for sustainable Management of natural tropical forests,'<sup>10</sup> and at least four of the seven criteria support the importance of good government policies.

Social infrastructure provided by government in the form of clear property rights, publicly funded communications, transportation, research, education, civil law, and fair court systems for settling property rights and other legal disputes often is lacking, inadequate or unstable. For example, Landrot and Speed indicate that insecurity about ownership rights, the uncertainty of being able to hold to agreed timber concessions and deficient transportation infrastructures are the main constraints on private sector investment in SFM in Africa (Landrot and Speed 2001). Similar obstacles are reported by Raga Castellanos in Latin America (Raga Castellanos 2001). Moreover, in many cases, governments instead of facilitating private investment, overburden the operations of the private sector with a number of unnecessary or obsolete regulations when market forces could do the job in a better way (Tomaselli 2001, Raga Castellanos 2001). Thus, the existence of adequate social infrastructure plays a vital part in creating a favourable private investment environment. Without them, private resources go elsewhere. Further, in the case of global environmental services from forests, and related to the first category of constraint mentioned above, the international mechanisms for compensation are in their infancy and so far have not created much incentive for private investment to be forthcoming. Again, a weak legal system and lack of adequate backup infrastructure can increase risks and transactions costs for the investor.

### **The importance of law enforcement**

Good policies and laws to promote investment in SFM mean little if the state is unable to control forest crime. SFM carries financial and managerial costs that yield financial results in the long run. Unsustainable illegal activities are much more profitable and therefore legitimate investors are at a great financial disadvantage when forest crime proliferates. Unfortunately, this is the case in many countries. Studies carried out in various countries that have perfectly sound laws prescribing sustainable forest management practices show that illegal logging can exceed, sometimes by a large margin, legal harvests. Illegal activities that work against SFM investments happen in public as well as private forestlands. They include unauthorised occupation of forestlands, timber theft, woodland arson, logging in protected or environmentally sensitive areas and so on. In some extreme cases, unfortunately frequent, illegal acts are perpetrated in collusion with corrupt public officials. When the government is corrupt, there is little hope that other actors, including communities, private corporations or the public, will adhere to the legal framework. Sustainable forest management laws become largely meaningless and the profitability gap between SFM and unsustainable activities increases.

## HOW CAN THE CONSTRAINTS BE OVERCOME AND INDUCEMENTS FOR MORE PRIVATE INVESTMENT BE CREATED?

For a number of years, national governments, multilateral agencies and the private sector have focused on the means to overcome the constraints to increased private financing of SFM. Several recent major workshops were held on the subject of financing, and they all have included the specific topic of private financing.

The IPF and IFF processes were concerned with the overall health of the forests of the world and how they could contribute to alleviation of poverty on a sustainable basis. In the process of the IPF and IFF debates, it became evident to the participants that they needed to be centrally concerned with private investment as a contributing factor in reaching the goals set forth. Thus, past activities and thinking of the IPF and the IFF included significant discussion of private sector issues and private investment constraints and opportunities.

Both the Pretoria and the Croydon workshops (see UNDP 1999; Anonymous 1996), organised in support of the IPF/IFF process dealt with the subject of private sector involvement in SFM. The Croydon workshop report (UNDP 1999) concludes that *'...while generation of attractive returns remains essential, a new type of investor now combines it with forest resource conservation and development, and the social and economic development of the local population. The stated goal constitutes a significant shift in the investment attitude of some segments of private capital.'* Hard evidence of the magnitude of this shift is not cited in the report.

Further conclusions from the Croydon workshop of relevance to the present discussion are that:

- *The roles of public and private capital are distinct but complementary and they should be considered jointly in financing strategies for SFM. Public funding should be used to leverage private investment in SFM by addressing fundamental issues that inhibit private investment in SFM.*
- *It is important to ...explore the concept and modalities of public-private partnerships.*
- *The establishment of a 'global or international forest fund' (GFF) and/or an 'investment promotion entity/agency' (IPA) are complementary and mutually enforcing options for the global community.... While there was no consensus on the relative merit of an IPA and a GFF, it was clear that the conceptual basis for the former is far better articulated and well understood.*

- *Policy reforms and measures at the national and international levels are needed to create more conducive market conditions and allow the different financing sources to contribute more effectively and efficiently to SFM....It is the responsibility of the public sector to provide effective ground rules for private capital to be used in a socially and environmentally responsible manner if the private sector does not take on this responsibility.*
- *Enabling conditions are essential for investment in SFM. These require the elimination of various structural and operational barriers. Both policy guidelines and regulation, as well as incentives, are required. Incentives are generally more cost-effective than legislation, although they need to be supported by an adequate level of regulation.*

These points are considered later.

### **Evolving financing environments**

As we move into the future, it is evident that a significant evolution and transition is taking place in the financing environments within which the private sector invests in forest management and associated processing and marketing activities. Further, these environments in many cases have become much more heterogeneous than in the past. First, as mentioned before, the mix of recognised and relevant forest outputs – goods and environmental services – has expanded, including in terms of new market based



outputs that influence private investment. Ecotourism, biodiversity prospecting, payments for carbon sequestration in forests are examples of some that have moved into limited market situations.

Second, fast growing plantations have become a much more important source of wood products in some parts of the world, and the growth trend continues. At the same time, watershed management forestry has become more important in many countries. The challenge in the latter case is to combine the protective functions of the forest with activities that provide incentive for private landowner participation (*cf.* Ffolliott *et al.* 2000).

Third, the differences between the large multinational corporations – truly global entities these days – and the smaller, local independent forest-based enterprises and investors have become more distinct. We also have seen a rise in large corporations based in the South investing in forest-based activities. They often operate under different sets of rules and norms than do the more global, regulated multinationals.

Fourth, a whole host of international agreements and consultations has created a web of internationally recognised principles and guidelines to guide international forest activities (*cf.* Gluck *et al.* 1997 for an overview). Criteria and indicators for SFM are being and have been derived in different geographic regions; international and national certification of SFM activities and outputs is growing; new multinational quasi public institutions are evolving and, in general, the world is becoming more interconnected.

Finally, new technologies, including particularly in the information and communication areas, as well as in logging, forest product processing and wood utilisation, have changed the nature of the mix of outputs that are sought from forests, the relative profitability of various investments, and, potentially, the impacts on forests remaining after harvest.

### *Emerging markets for environmental services and NTFPs.*

As mentioned, private investors/producers would be more inclined to practice SFM if they were to receive payment for all the outputs – goods and services - provided through SFM. For this to happen two conditions need to be fulfilled: values need to be demonstrated and then mechanisms designed to enable private investors to capture those values through markets or otherwise. On the first condition, a large number of studies have produced a wealth of information about the magnitude of these various values (*cf.* the Table 1 and Gregersen *et al.* 1995b, and studies cited therein). The values often vary widely by output. However, based on review of the common threads in these studies, several observations emerge:

- some non-market values may be important, in some cases near or greater than the commercial value of timber. Therefore, if private investors could market these outputs, the chances of expanded SFM would increase.

- the dominant non-market value is carbon sequestration; and carbon trade offers a potential opportunity for increasing returns to private investors for increased efforts to provide forests that sequester carbon. This possibly could induce a greater propensity to invest in SFM.
- if carbon values are kept out of the picture, the other non-timber values of forests would probably be insufficient to tilt decisions in favour of SFM in most forests that otherwise would be used solely for timber extraction.

**Table 1.** Non-Market Values of Forests (US\$ per hectare)

Scope of value	Mexico	Costa Rica	Indonesia	Malaysia	Peninsular Malaysia
Timber (market value)	-	1240	1000-2000	4075	1024
Non-timber products (market and non-market values)	775	-	38-125	325-1238	96-487
Carbon storage (non-market value)	650-3400	3046	1827-3654	1015-2709	2449
Pharmaceutical (non-market value)	1-90	2	-	-	1-103
Ecotourism/recreation (market and non-market values)	8	209	-	-	13-35
Watershed protection (non-market values)	<1	-	-	-	-
Non-use value (non-market value)	15	-	-	-	-
Option value (non-market value)	80	-	-	-	-

Note: Option values relate to the non-market value of preserving forests for future use. Existence values are those attached to forests by people even if they will not use these forest resources.

Source: Adapted from Pearce, 1995.

There is a great deal of controversy surrounding the use of non-timber forest values in policy decisions. For example, in the case of carbon sequestration, the question of whether and how to deal with forests as a ‘clean development mechanism’ was a key item on the agenda of the 6<sup>th</sup> Conference of the Parties on the United Nations Framework Convention on Climate Change in the Hague recently; and it was part of the reason why the talks were suspended. A number of questions surround the ability to actually monitor and verify how forestry projects affect carbon stocks. Chomitz (2000) discusses some of the difficulties. He suggests that it is hard to develop the counterfactual, i.e., what would have happened in the absence of such forestry projects. Also, the question of duration or permanence of the mitigating effect is an issue. There is potential for using the value associated with carbon sequestration by forests as a justification for SFM projects, but there are sizeable obstacles that need to be overcome before this option can lead to widely used market based mechanisms that will influence the expansion of private investment in CO<sub>2</sub> sequestration through SFM projects.

In sum, whether private investors can capture the currently non-marketed values associated with SFM is still a question that needs to be resolved. Costa Rica, Colombia and other countries have experimented with creation of markets for carbon sequestration and watershed management values. Other countries are also entering the picture. In theory they are important. However, the technical and political implementation difficulties are considerable.

### *The role of plantations in SFM*

The relatively rapid increase in plantations in many countries can contribute to overall improvements in the management of forests by producing substantially larger amounts of raw materials per ha and diverting pressures away from natural forests (although there are some who contend that just the opposite could happen). Projections show that increasingly, future industrial supplies of wood will come from plantations, reaching up to 40 % or even 50 % of total supplies by the middle of the century as compared with some 22 % today. Because of the substantially higher yields of intensive plantations, this supply – about half of the world’s industrial wood raw materials — could come from only 3 % of the world’s forest area, 100 million ha (Spears 2000; Brown 2000). Plantation yields are higher in tropical and subtropical countries and thus, and it is expected that a larger proportion of such investments will take place in developing countries (Brown 2000).

As highlighted by Tomaselli (Tomaselli 2001; Box 1) and Raga Castellanos (Raga Castellanos 2001), plantation development by the private sector requires stable government policies and may require government incentives. This has been the case in South America: Brazil, Chile, Argentina, and Uruguay are countries that developed successful plantation programmes starting in the 1960s and 1970s, all based on public incentives, policy changes and private action (see Box 1). However, the speed and nature of the transition from dependency on natural forests to plantations depend on



the quality of plantation investments. If these replace natural forests, SFM would suffer, as many natural forest attributes would be lost. In addition, there are questions related to the environmental and social impacts of large forest plantations. Many of these can be avoided with proper design of these investments (*cf.* Kanowski and Savill 1992). These potential effects must also be considered in the ‘macro’ context of what the SFM situation may be in absence of plantations and having a good grasp of the many trade-offs involved.

Finally, it should be pointed out that a number of major previous buyers of Southeast Asian naturally grown hardwoods are switching to plantation grown wood, e.g., radiata pine from New Zealand or from Chile. Thus, Chan (2001) indicates that in the case of Japan, in the 1993-1999 period, plywood from Southsea logs dropped by considerably more than half, while softwood plywood (temperate) more than quadrupled. Chan argues that cost was the main factor and the uneven application of SFM certification standards was a contributing factor. Also, Chan argues for the need for better financing mechanisms for sustainable plantation investments, since traditional banking windows generally are not appropriate.

### *Evolution of multinational corporations and investors*

Transnational investors likely have a considerable impact on SFM in developing countries. It is believed that the majority of participants in the international trade of forest products – and frequently in logging – in many developing countries, are transnational corporations. By some estimates, about 80 %-90 % of the forest products international trade is done by transnational corporations (Dudley *et al.* 1996; EIA, undated).

While many international investors adhere to strict codes of conduct and will continue to make serious efforts to improve SFM in their transnational operations,

recent years have brought concern about the practices of some unscrupulous and powerful transnational corporations that have a poor record of environmental or social management. Their operations are growing extremely fast. The impetus or 'push' for fast expansion is coming from the expansion of markets in some of the Asian economies and the fact that the majority of the forests remaining in Southeast Asia are already covered by forest concessions. The lure of a rich resources and apparent high profitability of operations together with weak governance is an irresistible pull for many transnational corporations. While no global or even regional assessment exists, evidence is mounting that at least several transnational corporations engage in illegal acts (Contreras-Hermosilla 1997, Sizer and Plouvier 2000). This type of private investor would not help the cause of increased investment in SFM. Thus, the main challenge governments in many forest resource rich countries face is how to provide incentives for investors that practice SFM management and create barriers to those that are more interested in 'cut and run' operations.

### **Developing a framework for action**

In order to overcome the constraints on private investment in SFM, within the context of the new investment environments that exist, governments need to intervene with new or reinforced laws and regulations and/or with changes in the levels and types of incentives provided to private investors. However, as Wibe (1992) cautions, too much intervention in markets, or the wrong interventions can lead to worse problems than no intervention. More broadly, public servants (decision makers) can make the wrong decisions regarding public intervention because:

- they do not know the implications of the decision at the time the decision has to be made (e.g., the intervention decision is made, but it has no impact for unforeseen reasons, or an intervention in another sector adversely affects the forest-based sector);
- a very powerful group or individual forces the decision; the decision makers are afraid to go against that group or individual, e.g., because the decision makers want to keep their jobs or are afraid of other consequences;
- the decision makers themselves are corrupt and are enriching themselves by making the wrong decision in terms of the public good and a healthy private investment environment.

There also are the cases, of course, in which the government has already made a decision that leads to adverse effects (from a social welfare perspective) and either (i) does not have proper monitoring at hand to know that the effects are taking place,

or (ii) cannot correct the mistake even if it knows that it is a mistake, e.g., because it does not have enforcement power. Of course, these various intervention failures may co-exist and overlap in a single decision.

Some of the dangers of the intervention failures can be avoided by using a comprehensive approach, one that includes a variety of checks and balances, changes in several, complementary and/or conflicting policies, institutions and public management and control over resources, and based on the input of various stakeholders. In the case of private investment in SFM, in addition to government agencies and regulatory bodies, consumers need to enter the picture, showing their willingness to pay the higher costs for verified SFM produced outputs. Finally, the comprehensive approach includes consideration of changes in policies or mechanisms used for other sectors that have perverse effects on the forest-based sector, e.g., the

**Box 1. Argentina: forest plantations development program**

The government created an incentive program for the establishment of plantations in 1995. The program offered subsidies to private investors. Subsidies varied according to the conditions of plantation establishment. Additional funds were available to finance the management of these plantations. The conditions related to these subsidies are such that there is no discrimination against small landowners; in fact, over 4,000 small landowners have already benefited from the program. Incentives are also available to large corporations.

In addition, the government carefully put in place policies that ensured stability for the investments in plantations. Fiscal obligations affecting plantation establishment and also their management, harvesting and trade of forest products from plantations, were 'stabilised' for a period of 33 years. This policy was, according to investors, a determining factor in their decision to invest and engage in forest plantation development. The government disbursed some \$60 million to support plantation development during the period 1997-2000 and indications are that the total area under plantations by 2003, only 8 years after the policy was adopted, will reach some 1.5 million ha, a 50 % increase over the pre-program years. This is an impressive accomplishment.

As in the case of Chile, that we describe later in the text, successful cases of promotion of private investments in forest plantations, rest on the twin pillars of increasing profitability and reducing uncertainty of investments through clear regulatory mechanisms. In turn, a successful base of industrial plantations is likely to trigger substantial investments in processing facilities now made safer because of the very existence of plantations. The process becomes self re-enforcing. Arguably, these developments will contribute to deflect destructive and wasteful practices away from natural forests.

*Source:* based on Tomaselli 2001

use of agricultural subsidies that encourage deforestation or ‘forest mining’ with eventual conversion of land to agriculture.

The investment framework needs to include at a minimum a broad set of laws that govern the operation of the private sector in general and a set of laws and regulations that guide the forest-based sector in particular, e.g., related to forest ownership and control, land use, environmental impacts and trade (Gregersen 1993). As amply demonstrated in the past, lack of such a broad framework of legal mechanisms can lead to non-productive, socially undesirable investment in unsustainable and unproductive forest-based activities (*cf.* OECD 1992).

A number of guiding principles can be considered in developing an appropriate policy framework and set of policy changes for encouraging future private investment in SFM. These include the following:

- **Clarify the type of change being sought.** Thus, one can be seeking increased total investment in SFM; or trying to make existing investment more responsive to sustainability issues. If SFM is the primary objective, then focusing on some combination of actions to generate new investment and to create incentives for existing forest-based investors to practice more sustainable forest management may pay off more in the long run than merely focusing on more investment. The actual conditions and results sought by countries in encouraging investment in SFM can be highly variable by country.
- **Distinguish between types of private investors.** Thus, both large, multinational commercial investors and smaller local private investors are important in the overall scheme of expanding SFM globally, as well as in most countries. Different investors require different approaches – different regulatory and incentive mechanisms.
- **Consider investments in SFM in relation to those in post harvest activities.** Most private investors in the forest-based sector, except for the independent logging firms, are in the business of forestry because they have an end purpose in mind, and that purpose quite often involves primary and/or secondary processing of forest outputs. Appropriate instruments will recognise these linkages and the fact that the effectiveness of incentives for SFM depends on having the total incentive package in order.
- **Develop policy mechanisms that recognise that private commercial companies respond to both ‘push’ and ‘pull’ incentives.** The main pull is demand, or market signals from consumers and intermediate buyers of forest products that they want products that are the result of SFM (and

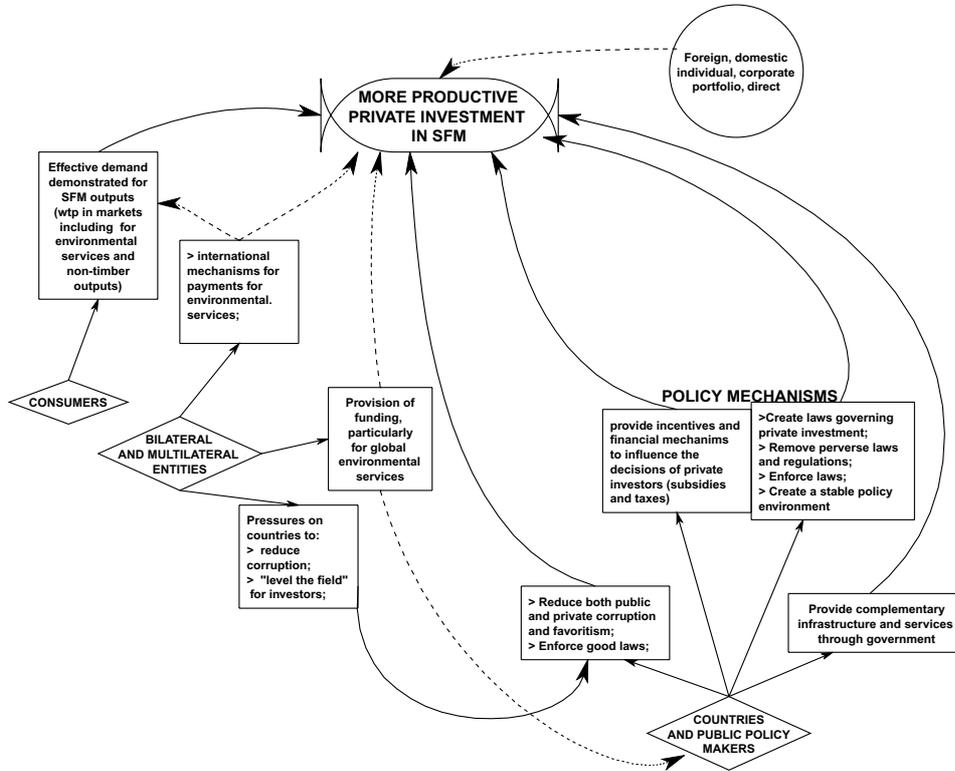
that they are willing to pay a premium for them). A second set of ‘pull’ factors (leading investors toward specific countries and forest areas) are incentives created by countries to attract investment in SFM. The main ‘push’ factors are laws and regulations that guide investors to avoid or internalise negative externalities associated with their investments. Both are important and both need to be considered in an overall policy framework and in designing appropriate policy mechanisms.

- **Ensure an institutional set up that will adequately enforce the law and regulations.** It is now abundantly clear that responsible private investors shy away from countries where forest crime and corruption is prevalent. Fighting illegal activities and thus generating a more favourable climate for private investment in sustainable forest management involves more than simply strengthening the public forest administration or the police force. It also involves actions such as identifying the core functions of government and sharing other functions with the private sector and the civil society, streamlining the policy framework to make bureaucratic procedures simpler, with less room for interpretation, more transparent and less discretionary, establishing clear property rights, and increasing penalties for illegal acts.

Figure 1 provides an overview of the elements that need to come together in a comprehensive framework for an action program to gain expanded productive and socially responsible private investment in SFM. As indicated on the left side of the figure, there is a role for consumers in this process, namely through their market ‘votes,’ or willingness to pay for outputs from SFM. The consumer movement can be helped along by a set of international mechanisms, some of which already are in place (certification, international agreements related to forests, emerging international markets for carbon, trade agreements, etc.). The mechanisms are managed by a set of interwoven bi and multilateral entities. These entities also provide critical funding, both as loans and as legitimate payments to the private investors for environmental services. Some of the international entities – including many environmental NGOs – provide critical information that can help in establishing better functioning markets for environmental services as well as in reducing transaction costs and making private investors better aware of options. Finally, some provide help to countries in overcoming problems of corruption, which can destroy the market environments within which the private sector can operate legitimately and in a more sustainable manner.

The right hand side of Figure 1 indicates the role that national and local level policy makers and civil society groups play in providing an appropriate and attractive investment environment for SFM. Governments have undertaken and can undertake many actions and policy changes to correct policy imperfections and support stronger social infrastructure in ways that will stimulate markets and remove or make up for

Figure 1. Overview of the factors influencing private decisions to invest in SFM



market imperfections. This, in turn, should attract additional legitimate and productive private investment into SFM.<sup>11</sup>

### Developing an Appropriate Set of Public Policy and Institutional Mechanisms.

Figure 1, on the right hand side, indicates two broad categories of policy actions that need to be considered by government and civil society in creating a favourable environment for private investment in SFM. These are:

- Actions that result in *a set of laws and regulatory mechanisms that establish an investment framework that protects society's interests while also being attractive to private investors;*
- Actions that provide *the market incentives for private individuals and firms to invest in SFM rather than unsustainable forest management.*

In what follows we look at each of these categories of policy action.



### Establishing appropriate laws and regulatory mechanisms

An integrated, interwoven set of laws and regulations must be in place to set the basic legal framework for SFM and an appropriate investment environment (*cf.* Laarman 1995). Almost by definition, SFM involves longer term intentions and investment. As indicated earlier, such investment is not likely to be forthcoming if there is an unstable policy environment, or one in which all potential investors are not treated fairly and equally.

In order to have the kind of stable and attractive environment for productive private investment in SFM, countries need to develop appropriate policies related to at least the following (Gregersen 1993):

- distribution of forest land ownership and control among public and private sectors; clear property laws;
- management objectives and approaches stated in law and regulation for the overall forest estate (including both public and private forests), this includes environmental protection objectives;
- the levels and types of investment in social infrastructure, including research, training, education, information, and communication needed to move the forest-based sector along on the right track;
- the mix and form of forest industry development desired and allowed (e.g., related to foreign investment);
- international and domestic market development and trade; and
- programmes for financing both private and public forestry.

While in theory, a body of laws and regulations dealing with the above should create the desirable environment for investment, we know that in fact of equal or greater importance are the ways in which existing laws and policies are *implemented* or not implemented.

The role and effectiveness of international agreements and policing of such by national governments has not been studied to any extent in the case of forestry. In theory, international actions, including by large NGOs should contribute to resolving some of the problems of lack of law enforcement and misguided use of forest resources. In fact, much of the concern throughout the IPF and IFF processes was devoted to the question of the role of international institutions, including various forms of agreements. These have been usefully reviewed by, among others, Gluck *et al.* (1997).

### **Influencing the decisions of private individuals and firms to invest in SFM rather than non-SFM: The role of various incentive mechanisms**

Many studies have looked at the various specific market related instruments that have been and can be used to ‘...alter the market signals facing the private sector, in such a way as to make SFM more profitable and thus more attractive than unsustainable practices.’ (Landell-Mills and Ford 1999). The seven categories set forth by Landell-Mills and Ford include:

- reforms of forest revenue systems,
- changes in forest concession conditions,
- explicit financial incentives,
- trade liberalisation,
- promotion of markets for non-timber benefits from SFM
- forest certification, and
- payments for forest conservation

Landell-Mills and Ford (1999) discuss these seven categories of instruments in some detail using data from 76 countries, with a special focus on 23 countries in which the forestry sector is particularly significant and/or where considerable change is taking place. Two conclusions from their study relevant here are that: (1) countries vary greatly in what they are doing to get more private participation in forestry; and (2) most countries use a suite of policy mechanisms – regulatory and fiscal and financial incentive mechanisms.

Richards (1999) classifies (innovative) financial incentive mechanisms as:

- Transfer payments (including ‘polluter and beneficiary pays’ taxes; differential land use taxes; forest pricing (including concession bidding, performance bonds); tree planting subsidies; debt for nature swaps; international timber trade taxes; other international taxes);
- Market approaches based on ‘public goods’ benefits (including carbon offset trading; fair trade practices; certification of forest products; bioprospecting deals; forest protection and management obligations);
- Private/public investment flows (including micro-finance to local users; channelling private international flows, especially portfolio capital; multilateral funds to stimulate private investment and public/private financing);
- Property rights approach (including clarifying existing property rights; creating community usufruct rights; tradable development rights (TDRs); service concessions; international TDRs, franchise agreements and conservation easements; intellectual property rights agreements).

Many other analysts and researchers have developed other classifications (*cf.* UNDP 1999; Anonymous 1996 McGaughey and Gregersen 1988).

The main points to emphasise here are that:

- generally a combination of market related policy mechanisms will be needed and most effective in encouraging private investment in SFM;
- whatever mechanisms are used, there will likely be need for some public payments to forest investors to cover the costs associated with production of environmental services (these should be treated as payment for services rather than ‘subsidies’ which has a different connotation to most people);
- some of these costs should logically be covered through international mechanisms, since some of the benefits are global environmental services; and
- none of the mechanisms will be successful in attracting private investment if the broader investment policy environment in a country is not stable and perceived to treat investors unfairly and inequitably.

**Box 2.** Chilean Forest Sector: Economic evaluation of D.L. 701 and Forestry Incentives

In some cases, countries have fostered private sector investments by providing explicit incentives, such as subsidies, and f creating markets for sustainable forest outputs. Probably the most classic example, is that of Chile. Santa-Cruz, in an unpublished paper (Santa-Cruz 1988) analysed the early evolution of the now thriving and quite sustainable plantation based forest products industry in Chile, focusing on the impacts of the key law DL701 that provided the initial incentives for the growth. The interesting conclusion of this study may provide a lesson for many of those who strongly oppose any kind of fiscal “subsidy” for forestry or, for that matter, any kind of massive government intervention in the way market forces operate.

Estimating ex post rates of return on investment in forest plantations in Chile, Santa-Cruz found that from a financial perspective there was an average 9.6% return excluding all incentive payments and tax advantages under D.L.701 (which included tax holidays and direct subsidies for plantation management). Santa-Cruz reaches the conclusion that: *‘...DL 701 might not have been necessary to boost forest sector activity, if a more stable and healthy economic environment existed at the time it was passed. The lack of a well developed market for the radiata pine might have inhibited investors to tie up large amounts of capital without having any indicators that there would be a market for the output in the future. In this regard, back in 1974 (when the law was passed) there was no appropriate secondary market for plantations of radiata pine, and the scenario 25 years down the road was highly uncertain. In addition, exit barriers in the forest sector were considerably higher than they are today.’*

In most cases, combinations of government policies and programs can create incentives that contribute to improving investment in SFM without creating distortions and without, in the longer run, resulting in a net cost to society. In fact, quite the opposite can happen, such as in the case of Chile, where a package of incentives and policy reforms was introduced (Raga Castellanos 2000). Santa-Cruz and others have analysed the early evolution of the now thriving and quite sustainable plantation-based forest products industry in Chile, focusing on the impacts of the key law D.L. 701 that provided the initial incentives for the growth (see Box 2).

So even though the private rates of return seemed satisfactory without the incentives, the uncertainty of the market in the early days created a barrier to productive, sustainable investment, a barrier that the incentives contributed in reducing. However, by focusing only on D.L. 701, Santa Cruz missed to some extent the more complex and interactive nature of the whole integrated suite of policy actions and investments that helped to create the market environment that contributed to the Chilean forest sector and its growth to what it is today.

Thus, in 1975 the government introduced measures to eliminate previous restrictions to the export of unprocessed logs and wood raw materials (Decree 259, Ministry of Agriculture). At that time this was a radical change in Latin America, a



region where nearly all countries had strict log export prohibitions in place. With the liberalisation policy, the previously restricted large log export market was now open to Chilean entrepreneurs. Shortly after, in 1979 the government also abolished prohibitions to the export of logs of small dimension (Supreme Decree 350). This policy reform offered possibilities for improving the cash flow situation for many investors that could not wait extended periods to get the returns on their plantation investments.

The net effect of these *integrated* policy reforms was to open enormous possibilities in the export market and for investments in plantations. With these reforms, the conditions were set for a massive export of logs. The high commercial profitability of producing and exporting logs (with internal rates of return 25% and 45%) generated strong incentives for further investment in plantations. At the same time, also exports of industrialised products based on plantation wood, such as wood-based panels, various types of wood pulp and paper, started to accelerate.

There is little doubt that, from the economic point of view, the impact of this package of policy reforms was extremely positive. These policy reforms provided a strong push for the establishment of plantations which now extend over 2.1 million ha, supply some 90 % of industrial requirements, and form the basis for annual exports in excess of US\$2 billion thus making the sector the second largest exporter in the Chilean economy. The government spent some US\$150 million in subsidies during the 20 years Decree 701 was in force but, the Decree and its associated legislation contributed to catalyse for investments for US\$4 billion (Raga 2000). The government profited handsomely by receiving more than US\$200 million a year in direct taxes alone (Contreras-Hermosilla 1997a).

While the economic effects of the policy reform package are generally recognised even by detractors to have been positive, its environmental and social effects are

somewhat less clear. Private investment has concentrated almost exclusively on monocultures, and this is generally undesirable from the environmental point of view. Some of the natural forests were lost because of the private plantations drive. However, only 1% of the natural forests were displaced by plantations (Raga Castellanos 2001). Against this, arguably some natural forests were saved because of the plantations program. The net effect is not obvious. Most plantations were established in wastelands (Unda and Ravera 1994). This translated into the greening of several degraded areas of the country, particularly 500-1000 km south of Santiago and in the coastal zones where plantations are effective in controlling erosion, sedimentation, and fertility loss (Crovetto 1994). It is estimated that by 2001 some 60% of private investments in plantations will be certified (Raga Castellanos 2001).

Social impacts also were mixed. The forest policy reforms outlined above probably provided economic opportunities mainly for the powerful and relatively wealthy. There is evidence that the Chilean pattern of forest-based development initially resulted in three large enterprises controlling more than 70 % of all plantations. Some critics indicate that plantation establishment resulted in the expulsion of local rural people from their lands and that many displaced workers migrated to cities compounding unemployment problems there (Lara and Veblen 1993) However, more recent studies suggest that the proportion of plantation investments controlled by small or medium size entrepreneurs may now be between 40% (pines) and 50% (eucalypts) (Raga Castellanos 2001).

There is evidence that a large share - as much as 96% - of the financial resources dedicated to the incentives programme embodied in Decree 701 went to large corporations. On the other hand, examining the possible trade-offs involved in the Chilean strategy, it is possible to imagine that the export-led Chilean forest development





probably generated income for workers that would have not been created without such development. Some 120,000 jobs, enough to provide income for as many families or more than half a million Chileans are linked to the government incentives. In fact, employment creation in forest plantations exceeds that created in traditional crops, on a per ha basis (Varela 1995).

To summarise, even when these integrated policies may have been overkill, the results on the private sector indicate that, on the whole, they were beneficial and key to generating a powerful drive for sustainable private investment in the sector. In contrast to many private sector developments in forestry, the Chilean forest-based sector appears to be healthy and sustainable and to have deflected unsustainable pressures away from the natural forest.

Another interesting variation on this theme in terms of getting more private investment flowing into responsible, SFM is that of privatisation of what previously was public forest-based activity. New Zealand is the classic example. While it is still too early to tell whether this will result in much additional private investment in SFM, assessments to date have been generally positive about the social benefits involved (*cf.* Clark 1999).

Various other policy incentive mechanisms also can be used to strengthen market environments for private investment in SFM. Thus, creation of stable property rights regimes, public research supporting forestry, government market information programs and establishment of appropriate infrastructure can go a long way toward creating a favourable market environment and an incentive for private investment. Indeed, even in fairly open economies with stable and transparent investment policies, such elements of public support may be necessary to create the environment within which private investment will take place.

## SUMMING UP ACTIONS FOR THE FUTURE

Synthesising the foregoing discussion, the policy conclusions from the regional papers by Raga Castellanos (2001), Tomaselli (2001), Landrot and Speed (2001) and Kufakwandi (2001), other assessments of what has happened in the past and what is attractive for the future, including the discussion and papers for the Pretoria and Croydon meetings, a set of suggestions emerge regarding the road ahead from a policy perspective in terms of providing incentives for more private investment in SFM.

Fundamental to this synthesis is an interpretation of the motivations of private investors and the conditions under which they will invest in SFM:

- Private investors (as investors and not as individual members of civil society) generally are motivated by i) attractive commercial profits, ii) the potential to increase market shares; and iii) low levels of risk, which relate to stability and fairness of policies and the existence of good information and a positive investment environment in a country.
- SFM investments generally have: i) higher costs and lower levels of commercial profits than unsustainable forest exploitation, and ii) higher risk, mainly due to longer investment periods than unsustainable options that render a larger and quicker profit through timber mining.

It follows that, if we want to encourage increased focus on private investment in SFM rather than unsustainable FM, policy and market changes need to be introduced to ensure that:

- levels of profitability associated with SFM are high enough and risks low enough to attract such investment; and
- profitability is reduced and private risks increased for unsustainable forest management, in order to discourage it.

The remainder of this paper sums up the types of policy changes and interventions that need to be considered in each country and region in designing its specific plan of action to achieve these two goals.

### **Policy interventions to increase profitability of SFM**

In order to increase the profitability of SFM to levels that attract private investment, we need effective and efficiently managed policy interventions to:

- Encourage, possibly through national or state forest laws, adoption of a ‘macroscopic’ concept of sustainability (*cf.* Raga Castellanos 2001), where specialisation, e.g., in terms of efficient timber production exists along side protection forests, recreation forests, etc., i.e., a landscape rather a stand or ‘microscopic’ perspective on sustainability; this can help to increase efficiency and profits associated with SFM.
- Increase efficiency of government regulatory functions and activities related to private SFM, rather than making them more complex and costly, something which generally results in increased costs for the private investor (*cf.* Tomaselli 2001)
- Reform fiscal or monetary policies that: i) increase costs of SFM, ii) reduce profits.
- Promote payments and transfers for externalities associated with private SFM for which the private investor currently cannot get remunerated through the market. Examples include promotion of carbon trades and downstream payments to upstream land users for watershed protection that results in improved downstream conditions (e.g., as in Japan).
- Help develop and encourage national and international markets for traditional and non-traditional products from sustainably managed forests. Ultimately, if widespread investment is to take place, a broad array of consumers must be willing to pay for the additional benefits in the market place or through taxes that support directly the non-market outputs associated with SFM.
- If the private investor produces important and significant social benefits, consider programs that involve public ‘payments for services,’ through taxing the beneficiaries. These payments should not be considered subsidies, but rather legitimate payments for outputs (forest environmental services) that are deemed best paid for by society as a whole rather than through forced markets.
- Provide technical assistance, knowledge, promotion of opportunities, particularly for smaller forest landowners and investors who may not understand the intricacies of practising SFM, nor the costs and benefits associated with it.

- Facilitate financing of private operations (perhaps through preferential or concessional credit, sensible loan terms, insurance programs, tax breaks for good SFM, etc., or investment guarantees).
- Promote vertical as well as horizontal integration of forest-based operations (not necessarily ownership). For example, this might make possible the use of a wider range of species, thus making sustainable natural forest management more appealing. In terms of horizontal integration, consortia or other forms of joint operations can help take advantage of economies of scale and produce the volumes and qualities demanded in international markets that individual producers could not satisfy.
- Encourage investments in plantations that take pressures off natural forests, and discourage through various means development of plantations on lands that are currently in natural forests with environmental values.



## **Policies to reduce risks associated with SFM**

The private investor is sensitive to risk, and it is risk-adjusted profit that is of concern. Thus, in order to reduce risk, we need to consider policy interventions that:

- Establish clear ‘rules of the game’ and stable policies over time that help to create a positive investment environment.
- Establish clear provisions and conditions regarding changes in the rules of the game.
- Establish clear property rights or usufruct rights and enforce them uniformly.
- Involve local communities and NGOs in SFM and thus reduce conflict with large investors.
- Provide improved information programs, affordable insurance options, loan guarantees, and other policy mechanisms that result in reduced risk for the individual private investor.
- Reform trade laws, where such currently are discriminatory.

## **Policies and actions to reduce unsustainable forest management**

At the same time, in order to reduce the attractiveness of deforestation and unsustainable forest management, policy interventions may be introduced to:

- Eliminate subsidies and other preferential treatment to sectors that compete for land with the forest sector, particularly if there are no compelling social or environmental reasons to keep them.
- Establish firm monitoring and control of illegal operations. Increase the probability of being caught through better surveillance, and impose stiffer penalties for illegal acts.
- Foster third party monitoring and control (inspections, etc).
- Combat opportunities for corruption and illegal acts. Make transactions transparent and monitored by an independent party; introduce checks and balances where such are currently absent.

- Avoid infrastructure placed near high value forests that also have high environmental value. Particularly, reduce uncontrolled use of such infrastructure that could lead to deforestation and timber mining.
- Avoid political interference (including international interference) in the control of the nation's forests. (E.g., in Bolivia, the Congress proposes three names of persons for the position of 'Superintendente Forestal,' the top authority in the forestry sector. The President chooses one. The Superintendente is appointed for a period of 6 years thus straddling the presidential period, which is 4 years. Financing for the Superintendencia comes from directly forest fees, not the Central Treasury. All this is to avoid political use of the Superintendente's Office).

We emphasise that not all these policy interventions are not needed in any given case to overcome the constraints to investment. Each country or region requires separate strategic, tactical and operational analyses and debate to develop and agree on the most effective and efficient specific mix of interventions to encourage expanded productive private investment. There are no general prescriptions that apply everywhere, except perhaps, as also pointed out in the regional papers, the fundamental need to create a fair, stable, and positive investment environment, with a level playing field for all existing and potential investors. In such an environment, the door is open for introducing specific incentive mechanisms and market reforms that can result in significant increases in private investment in SFM.

## ENDNOTES

<sup>1</sup> Commercial profitability of SFM may be *positive*, but even in these cases, if it is lower than the profitability of unsustainable forest management, SFM will not be practiced voluntarily by the private producer unless there is some other incentive to do so.

<sup>2</sup> It is worth noting that even if the private entrepreneur could somehow 'capture' the value of all these non-timber goods and services, this still does not guarantee that SFM would take place because the combined profitability of market and non-market captured benefits may still be below that of unsustainable forms of management. However, capturing these non-market benefits would certainly increase investments in more sustainable forest management as it would create commercial revenues that the market is now unable to produce.

<sup>3</sup> The contrast between them parallels the older debate in the US on 'sustained yield multiple use' management of forests.

<sup>4</sup> Industrial plantations now supply just about one quarter of global industrial roundwood and it is expected that they will supply as much as 40 % of all industrial needs of wood raw materials by 2050 (Brown 2000).

<sup>5</sup> UNCED Agenda 21 estimated annual requirements for various activities related to SFM to be about US\$ 31 billion per year. Other analysts estimate investment needs in the order of US\$60-67 billion per year (CIFOR 2000, Crossley *et al.*, 1997).

<sup>6</sup> 'Sub-optimum' investment occurs (a) when private benefits from SFM are below social benefits for a variety of reasons discussed below and, thus, less investment occurs than is socially desirable (or optimum), or (b) when private costs are below social costs and more private investment occurs than is socially desirable (optimum) i.e., in the case of unsustainable forest management where investors are not forced to consider the loss of socially desirable outputs.

<sup>7</sup> Two other general conditions also can be associated with imperfect markets for forest outputs. These are: (1) monopoly and monopsony - if a firm can set its own price and its own conditions of production, or if a large buyer can influence the price it pays, then production likely will be sub optimal from a social perspective; and (2) existence of a situation where the market is too small for an individual producer to take advantage of the available technology fully under free competition, and higher costs per unit output result. While relevant, these are likely to be less important factors across a wide variety of country situations than the two featured in the text.

<sup>8</sup> It is worth noting that even if the private entrepreneur could somehow 'capture' the value of all these non-timber goods and services, this still does not guarantee that SFM would take place because the combined profitability of market and non-market captured benefits may still be below that of unsustainable forms of management. However, capturing these non-market benefits would certainly increase investments in more sustainable forest management as it would create commercial revenues that the market is unable to produce.

<sup>9</sup> UN/ECE-FAO. 1996. Forest products markets in 1996 and prospects for 1997. E. TIM/BULL/49/6 Vol. XLIX (1996) No. 6. New York.

<sup>10</sup> *Criteria and Indicators for Sustainable Management of natural Tropical Forests*. ITTO, July 1998.

<sup>11</sup> Chan, B. (2000) suggests from the Southeast Asian timber producers perspective that there are four main needs: (1) activities that stimulate positive market response to SFM; (2) a new fund for tree plantations in the tropics; (3) more training; and (4) research and development of appropriate technologies.

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# Annex 1.

## Extracts from the ‘Highlights’ of the Oslo Workshop

### PRIVATE SECTOR FINANCING OF SUSTAINABLE FOREST MANAGEMENT

‘Sustainable forest management offers opportunities for economic gain alongside ecological and social benefits. To achieve this, greater investment is needed not only by the private sector (ranging from small farmers and communities to large international corporations) but also by the public sector, including through official development assistance.

Private investors seem to prefer investing in industrial plantations rather than in natural forests; accordingly, large companies have directed substantial flows of private capital to industrial plantations. Although this has occurred mainly in developed countries, the trend is spreading to include a growing number of developing countries where conditions are attractive for private capital. Given their more predictable levels of output and their relatively short rotations, industrial plantations carry a lower level of perceived risk for investors than natural forests. Thus, public sector incentives for this market segment appear to be less needed. In comparison, promoting sustainable management of natural forests and plantation development by smallholders will continue to require public support and incentives.

Major factors that influence private sector decisions about forest-related investments include levels of returns, risks and transaction costs. Sufficient returns are a prerequisite; thus, any factors that increase costs represent another burden for the private sector and deter investment. Evidence indicates that small investors, in particular, find it difficult to meet the additional costs often associated with sustainable forest management. Weighing returns against risks, private investors generally demand much higher returns (typically 15 % to 30 %) from developing countries where conditions are such that risks may be seen as very high. Given this situation, risk mitigation – much of it in regard to factors outside the forest sector’s control – could significantly help to promote investment in SFM. Reducing transaction costs is also important, especially to attract small investors.

Private sector investors appear more reluctant to invest in SFM in natural forests because they see it as having high investment costs, being technically complex and offering only modest returns compared with alternative investment opportunities.

Besides having significant risks and uncertainties, it is also associated with contentious environmental and social issues.’

## **AN ENABLING ENVIRONMENT FOR INVESTMENT IN SUSTAINABLE FOREST MANAGEMENT**

‘Funding the forest sector also requires an enabling environment at the international level. In general, the current situation is not positive. A continuing decline in commodity prices at the international level has prevented the forest sector, even in forest-rich developing countries, from yielding adequate financial surpluses that could be reinvested into SFM. Major international markets for forest products are price sensitive and tend to favour low-priced forest products, which often come from non-sustainable harvesting. This trend undermines the market share of responsible suppliers of forest products, which have to bear the full costs of sustainable practices yet often receive no price premium for their efforts. Therefore, promoting remunerative trade and fair prices is potentially important in making SFM investment possible.

Other important factors that constrain SFM investment are insecure tenure, policy and market failures, high levels of actual and perceived risk related to factors outside the forest sector’s control, a lack of suitable credit options adapted to particular attributes of the sector, and weak and unstable regulatory environments that encourage, rather than discourage, unsustainable or illegal practices. Similarly, factors that raise operational costs or reduce returns, such as overregulation, poor infrastructure and undeveloped markets, are disincentives for private investment. The additional costs involved in seeking to achieve SFM at a micro-scale (that is, seeking all benefits of SFM from each individual forest stand) compared with at the landscape level also discourage investment, especially by smallholders.

Because situations vary, individual developing countries and countries in transition must find solutions that are best suited to their own conditions as they seek to create an environment conducive to investment in SFM. Making SFM more profitable and less risky through policy interventions would increase the self-financing prospects of the sector and help mobilise new private investment. Nonetheless, many countries still have a need for external public funding through official development assistance (ODA) to support capacity building, the development of appropriate legal frameworks, and the creation of social and economic conditions conducive to investing in SFM.’

# Annex 2.

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INVESTING IN SUSTAINABLE FOREST MANAGEMENT: THE PRIVATE SECTOR SPEAKS

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## ANNEX 2

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