The Private Sector Speaks:
Investing in Sustainable Forest Management

Editors
Mafa E. Chipeta
Mahendra Joshi
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A Note to the Reader

A set of four reports has been prepared to communicate the outcome of the “Oslo Workshop” to a range of audiences:

**Highlights**: A “Highlights” document was produced at the workshop itself that summarised the main messages from the meeting.

**Formal report**: With the intention of providing an input into the work of the United Nations Forum on Forests, an edited version of the “Highlights” was formatted as a formal report and officially transmitted to the Secretary General of the United Nations by the six co-sponsoring governments of the Oslo Workshop.

**Proceedings**: The “Highlights,” accompanied by the full set of papers for the workshop have been released as Proceedings but only as a CD-ROM and in electronic form on the CIFOR Website.

**Main report**: The main report combines an edited version of the “Highlights” with a complementary synthesis of the main messages from the rich discussion, as well as summaries of the papers prepared for the Workshop. This main report is available in hard copy as well as on the CIFOR Website.

**Private sector report**: The last output is a publication to communicate private sector views regarding its interest in Sustainable Forest Management, its perception of constraints, and suggestions for changes to facilitate its greater engagement in SFM investment.

The present publication is the private sector report. It has been deliberately designed for reading not only by officials and professionals but also by the general public. The editors’ introduction and synthesis are brief, use a bullet-point format extensively, and avoid excessive interpretation so that readers get information directly from the original papers.
A NOTE TO THE READER

This book has been compiled and edited by Mafa E. Chipeta and Mahendra Joshi working in their individual capacities. Conveying the essence of workshop discussions has involved some interpretation but in doing this, the editors have sought to communicate the spirit of the debate. For the synthesis, should there be cases where the efforts of the editors have not succeeded in fully conveying the main message and spirit of the originals, they accept responsibility as individuals. No such material should be attributed to their respective employers, the Oslo Workshop Steering committee, the original contributing authors, or the co-sponsoring governments. However, each of the full original papers reflects the individual author’s analysis and views and those of no other party.

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31 July 2001
Foreword

I take pleasure in introducing this report, which conveys private sector views on factors affecting private sector investment in Sustainable Forest Management (SFM). The report seeks to better understand how this important stakeholder group can be encouraged to play a more central role in SFM. It is one of the results of a workshop held in Oslo in January 2001 that was organised by the Center for International Forestry Research (CIFOR) in support of the recently launched United Nations Forum on Forests (UNFF). The Oslo workshop brought together experts from governmental, academic, and civil society backgrounds to discuss financing for sustainable forest management. At present the majority of investment in the forest sector comes from commercial companies and it is important to hear what the private sector believes to be the main factors that would motivate engagement in SFM. We seek to understand the main current constraints and what changes could make investment in SFM more attractive.

Adequate and reliable finance is critical if countries are to effectively respond to the international concern at the uncontrolled loss of forests. This concern, which took centre stage at the 1992 Rio de Janeiro Earth Summit, has driven governments of both developing and developed countries into committing themselves to ensure the sustainable management of forests. The Oslo workshop sought the best ways to mobilise funding for such endeavours, particularly for developing countries.

Sustainable forest management, where forests are managed to provide environmental benefits such as climate stabilisation, watershed protection, and conservation of biological diversity in addition to marketable commodities, is rarely commercially profitable. While exploitation of forests for timber, fuelwood or other commodities for narrow commercial gain can show a profit, the addition of currently little-marketed environmental services carries costs and generally makes investments commercially unattractive. The experts at the Oslo workshop, who came from different geographical regions and both public and private institutions, sought ways to promote mutually beneficial private/public partnerships to fund forest management. The challenge was to identify conditions under which the broader society gains from funding for public benefits while the private sector also profits enough to be interested in further investment.

CIFOR, a member institution of the 16-centre Consultative Group on International Agricultural Research (CGIAR), is proud be have been involved in the
organisation of this high-profile Oslo international policy dialogue. The CGIAR has a rich history of important contributions to development: it was CGIAR science that underpinned the green revolution which helped to end the scourge of hunger; I am convinced that the system’s natural resources research centres, including CIFOR, will help to spearhead a new ‘evergreen revolution’ that will contribute to solving the environmental problems that now confront the world.

I would like to express my appreciation to the governments of Norway and the United Kingdom, which funded the Oslo Workshop and those of Brazil, Denmark, Malaysia, South Africa that co-sponsored it. To all whom the Oslo workshop has addressed its recommendations, I appeal for early action so that investment in SFM becomes a reality; the threat to the world’s forests gives no room for complacency and delay. We in CIFOR stand ready to play our part as the international community faces its obligations to sustainably manage the world’s forests.

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The Steering Committee of the International Workshop of Experts on Financing Sustainable Forest Management (‘the Oslo Workshop’) gratefully acknowledges the contributions of all participants for the ideas exchanged on the topic of private sector engagement in SFM and the invaluable contribution of resource persons and support teams in all concerned institutions. It wishes to recognise in addition the specific contribution of the following people and institutions to sponsorship, organisation, preparation of papers and other support that helped to make the workshop dialogue on the private sector a success:

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Contributing Authors

Following the synthesis in Chapter 1 prepared by the editors, some 12 chapters or sub-chapters have been prepared by authors mainly from the developing regions who are presented below.

Chapter 2 (Humid tropical Africa) has been prepared by Jean-Jacques Landrot and Steven Speed. Jean-Jacques Landrot is Secretary-General of the Association Technique Internationale des Bois Tropicaux (ATIBT) and the Interafrican Forest Industries Association (IFIA). With a background in wood engineering and business, he was for 35 years chairman and chief executive of his own Group of Companies in Africa and Europe involved in forest production, industries and international trade. Landrot is currently Secretary General of IFIA which has joint headquarters in Abidjan and Paris. Steven Speed is Technical-Assistant, ATIBT (Paris, France), with a background in plant sciences and agriculture. His professional experience is in forestry consulting.

Chapter 3 (Humid Southeast Asia) has been prepared by Barney Chan who has for the last 13 years been managing the Sarawak Timber Association, Malaysia, a trade association with over 600 member companies. He has a background in economics and operations research, and started his career in manufacturing and marketing before joining STA.

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For the Southern Cone of South America (Argentina, Chile, Uruguay), Fernando Raga Castellanos prepared the review in Chapter 5. He is Vice Chairman of Corporacion de la Madera (CORMA), the Forest Industry Association of Chile, and Vice President of Forest Development of Forestal Mininco, the forestry branch of the CMPC industrial group. He has a background in economics, engineering and marketing, and long experience in both the Chilean and Argentine forestry sectors.

Chapter 6 offers the perspective of an investment house as presented by Peter Mertz, Managing Director and Chief Investment Officer of UBS Timber Investors, USA, which manages US$1.5 billion of assets on behalf of over 75 institutional and
CONTRIBUTING AUTHORS

private clients of UBS Asset Management. Mertz has over 25 years of forest management and investment experience in the timberland business. He has a university background in forestry and is a member of the Society of American Foresters, and of the External Advisory Committee of the Yale Forestry Forum. Mertz also serves on the Forest Industry Working Group of the World Business Council for Sustainable Development.

David Brand, who prepared Chapter 7 on investment opportunities offered by the environmental services of forests, is Director of Carbon Programs for the Hancock Natural Resource Group, based in Sydney, Australia. He is responsible for programs that combine traditional forestry investment with new environmental markets for forests including carbon sequestration, watershed management and biodiversity enhancement. He has formerly served as Executive General Manager of State Forests of New South Wales, before which he worked with the Canadian Forest Service as a scientist, science manager and ultimately as national director of forest research.

Chapter 8 presents the successes and challenges of South Africa's forest plantation sector as it has introduced certification. Mike Goldblatt, who prepared it, has a university background in geography and in environmental and natural resource economics. He is based at PDG, a private consulting group in Johannesburg, South Africa, where he specialises in natural resource economics with a focus on water resource management, climate change and the application of environmental economics to environmental problems in a developing country context.

Maharaj Muthoo is the Executive Director of the Forest Stewardship Council based in Oaxaca, Mexico. In Chapter 9.1 he presents the present situation in certification and efforts to address the challenges, including those of small-scale forest owners. Dr Muthoo has a university background in natural resource planning and economic development, forestry, and postgraduate management and sciences. He served as Director of Forestry Operations in FAO, Rome, after a field career in Africa, Asia and Latin America. Dr Muthoo also served as FAO Representative in Turkey.

Pedro Moura-Costa, Lionel Fretz and Gerald Kohn co-author Chapter 9.2 which is an extract on the magnitude, trends and attributes of private sector investment in forestry and SFM. Pedro Moura-Costa is the Managing Director of EcoSecurities, a company based in Oxford, England which specialises in environmental finance and sustainable forestry. His career includes substantial work on the development of financial instruments for sustainable forestry, including the main studies on financial mechanisms carried out for the IFF/UNFF process. Lionel Fretz, a director at EcoSecurities, Oxford, has worked on project finance, bank lending, treasury, capital markets and derivatives. Within EcoSecurities he has been responsible for developing the company's financing business in Europe. He chairs the Projects Group for the development of the UK Emissions Trading Scheme, works with the Advisory Committee on Business and the Environment (ACBE) taskforce on the Kyoto Protocol's Joint Implementation and the Clean Development Mechanism, and chaired the development of the International Emissions Trading Association (IETA) position paper on project eligibility for the UN Framework Convention on Climate Change for the 6th Committee of the Parties of year 2000. Gerald Kohn is a member of the professional team at EcoSecurities.
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Hans Gregersen and Arnoldo Contreras-Hermosilla co-authored the summation of private sector papers which is Chapter 10. They have co-authored many papers on forestry economics, policy, investment and many other aspects of forestry. Hans Gregersen is Professor Emeritus, Departments of Forest Resources and Applied Economics, University of Minnesota, USA. He is currently a member of the Technical Advisory Committee of the Consultative Group on International Agricultural Research and chair of its Standing Panel on Impact Assessment. He has worked for various United Nations organisations and as a consultant to various private and public groups dealing with forests and forestry. Arnoldo Contreras-Hermosilla is a US-based former Senior Natural Resources Economist of the World Bank and Principal Economist of the World Commission on Forests and Sustainable Development. He has also worked on economics and policy for the Food and Agriculture Organisation of the United Nations and is now a forest economics and policy consultant.
Chapter 1
Overview and Synthesis of Main Messages

THE OSLO WORKSHOP

The quest for sustainable forest management (SFM), like that for overall sustainable development, has lofty motives. It is important that the ultimate goals be achieved, but many developing countries and countries with economies in transition need international financial, technological and capacity building support if they are to do so. How can they secure this support from the international community? This question has vexed policy makers engaged in dialogue under the United Nations Intergovernmental Panel on Forests (IPF) and Intergovernmental Forum on Forests (IFF) processes; it will continue to do so under the United Nations Forum on Forests (UNFF) launched in 2001.

To provide a basis for further dialogue on financing under the UNFF, the Center for International Forestry Research (CIFOR) organised the International Workshop on Financing Sustainable Forest Management in Oslo, Norway, on 22–25 January 2001 (the Oslo Workshop). The workshop was co-sponsored by the governments of Brazil, Denmark, Malaysia, Norway, South Africa and the United Kingdom; it was co-funded by the governments of Norway and the United Kingdom. Its 70 participants came from some 40 countries and had diverse professional backgrounds in government, the private sector, non-governmental organisations, investment institutions, international organisations, and academia.

The Workshop adopted a set of ‘Highlights’, a set of key messages from which the elements dealing with the private sector have been reproduced as Annex 1. The main report of the Workshop which carries the full ‘Highlights’ has been issued, and its analysis draws attention to factors that can create an enabling environment for investment by both the public and private sectors.
WHAT IS THIS BOOK ALL ABOUT?

Worldwide, the private sector is expected to play a lead role in economic and production activities, while the public sector provides the supportive policy as well as the legal and other institutional environment for this. Given that national governments of most developing countries have limited financial resources to fund SFM, and that official financial transfers from the industrialised nations to developing countries are limited and not growing, society is increasingly expecting the private sector to fund SFM. However, the participation of the private sector is not as forthcoming as many would like to see.

Why is the private sector not already significantly engaged in SFM? How, and under what conditions, can it be encouraged to invest more? Conversely, how can it be dissuaded from engaging in unsustainable practices in forests? These are among the questions that the international community is still grappling with. The Oslo workshop provided an opportunity to address them. The papers prepared for it are, however, largely concerned with the situation of developing countries with relatively rich forests, where opportunities for private profit are most obvious but where private sector engagement to date has generally focused on unsustainable exploitation rather than responsible management.

This book presents the papers prepared for the Oslo workshop which convey the perceptions and views of the private sector, including:

- a glimpse of the current status of private sector involvement in the forest sector in general, and SFM in particular;

- the main obstacles the private sector currently faces that deter it from making greater investments;

- the desired changes in the policy and operating environment which can make conditions more ‘enabling’ for private sector engagement.

This first chapter gives a brief background on financing SFM, and a synthesis blending ideas from the papers on the role of the private sector with those from oral presentations and from discussions at the workshop. The next nine chapters are the original Oslo Workshop papers or extracts from them relevant to the private sector, each one constituting a separate chapter. The last part is composed of annexes giving extracts from the ‘Highlights’ of the Oslo Workshop, and a list of participants.

This publication is deliberately focused on conveying the commercial private sector’s perspective on financing SFM, presenting the authors’ views as directly as possible. It offers a chance for experts from this sector to state how private investors view SFM opportunities. A surprising outcome is that, in spite of the diverse conditions they face, the contributors from the developing regions of Africa, Asia, and Latin America carry remarkably similar messages.
WHAT IS THE BACKGROUND?

Much of society is interested in saving forests from widespread destruction. The alarming rate of deforestation during recent decades has led to calls by the world community for action in the pursuit of SFM that can balance the ecological, economic and social functions of forests.

The transition from unsustainable forestry to SFM will require a substantial increase in funding from all sources. Chapter 11 of Agenda 21 of the 1992 United Nations Conference on Environment and Development (UNCED) estimated annual funding needs at over US$31 billion to combat deforestation and improve forest management for the period 1993-2000. These investments are beyond the reach of many developing countries, and therefore private capital is an essential major source of funding for SFM.

But there is a challenge: sustainable forest management is a longer-term and more comprehensive approach than traditional sustained-yield timber production forestry. It is also complex, and consequently more expensive, at least in the short term. At the same time, many of its environmental services and some of its non-timber products are at present either under-priced or have not yet been commercialised, and thus bring in little if any revenue. How can the private sector have an interest in SFM under such circumstances? This is one of the crucial concerns affecting private SFM investment decisions, and it comes out clearly in all the papers in this book.

It is now generally accepted that countries that own the forests have the main responsibility for financing the forest sector, since they are the primary beneficiaries of sustainably managed forest resources. Their governments and domestic private sectors should take the lead. However, in the case of developing countries and those with economies in transition, local finance is limited and external funding must complement it. To secure such increased private sector engagement in SFM, the following issues must be addressed:

- Many of the benefits of SFM are public goods requiring public rather than private funding. Will governments be willing to pay their part of the costs and, if they are of developing countries, will they have the capacity to do so?

- A significant share of the benefits of managed forests (as well as the harmful effects of mismanaging forests) spill over political boundaries. How willing is the global community to share responsibility and to provide support to developing countries so that they can practice SFM that delivers such global benefits?

- SFM financing can come from private, public, and philanthropic sources, domestic or external;
The need for SFM financing is substantial, and beyond the capacity of most developing country governments;

National governments of developing countries and countries with economies in transition have differing capacities and give varying priority to promoting sustainable forest management;

Official Development Assistance (ODA) is important but it is not substantial. Neither is it a sustainable source of funding, nor a substitute for private funding. In recent years, all ODA, including that into the forest sector of developing countries, has been declining;

Developing countries are increasingly disillusioned by what they see as an apparent indifference of the international community to their calls for new and additional financial resources and other support for SFM. They also lament the failure of aid to reach many countries that need it most, or to be co-ordinated so that the limited aid can be more effective;

On the other hand, developed countries are frustrated that recipient developing countries generally appear unwilling to commit counterpart funding by mobilising their own domestic resources for SFM, to use ODA effectively, and to prepare ‘bankable’ projects for funding;

International private-sector investment in developing countries for all sectors, including for forest management and for forest products industries and related trade, is growing. However, much of this private forestry investment flows to only a few developing countries and this is mostly into plantations or industries.

WHAT ROLE DOES THE PRIVATE SECTOR PLAY?

The multiple challenge is how to attract more of this international private investment into SFM, how to make it go beyond the few developing countries currently considered to have acceptable risk and profit levels, and how to create an interest in natural forests other than for mere logging.

In moving forward, it will be important to recognise that there is a variety of private sector actors, all with different interests, capabilities and constraints. One classification recognises the following categories: a) large foreign multinational investors; b) local companies; c) highly regulated companies; d) individual private investment, such as SFM-related conservation activities by philanthropists; e) community investment in SFM; and f) small-scale forest owners. These have, in various
OVERVIEW AND SYNTHESIS OF MAIN MESSAGES

ways, been engaged in owning forests, particularly plantations in some developing countries. The larger ones have had plantations to support pulp and paper or other wood-processing mills, prime examples being seen in Latin America. Some multinational forest-product corporations and domestic companies have started investing more in large-scale forest plantations. Now, privatisation of national public forests is occurring in some developing countries such as South Africa. In Latin America, particularly in Chile, there is also much tree growing by small investors who responded to past plantation incentives. Furthermore, in many developing countries, community forestry has become significant thus enabling forests to be managed by local communities, on subcontract to industry, or to be co-managed jointly by communities and governments.

An encouraging trend is the emergence of interest from large institutional investors, such as pension funds and insurance companies of industrialised countries, in forestlands as a safe investment vehicle. This has contributed to a change in ownership patterns and management emphasis towards more responsible stewardship, but so far mainly in developed countries. This institutional investor interest in forest assets has led to launching of professional investment funds, known as ‘Timber Investment Management Organisations (TIMOs)’, to manage such portfolios. These form a base for probable continued private sector interest in forest investments, which have increasingly come to be seen as financial assets rather than industrial assets.

Worldwide, most private sector investment is in developed countries. As an example, a recent assessment of institutional fund investors in forestry showed that timber land worth US$7 billion was under management for institutional investors, but three quarters by value was managed in the United States alone. Of the share going to developing countries, much of the external private capital goes to only a few countries, with the focus on profitable business ventures rather than holistic SFM alone. TIMOs are, however, showing increased interest in acquiring lands for plantations in developing countries, and many are advertising opportunities in countries such as Argentina, Brazil, Uruguay, and Chile. Fuller accounts of the attributes and operations of TIMOs are given by Mertz (Chapter 6) and Moura-Costa et al. (Chapter 9.2). The TIMOs estimate the funding potential for the forest sector at between US$1 and US$2 billion per year, providing there is capacity to produce a flow of attractive investments. A major shift in new pulp and paper investment can be expected from traditional producing countries to developing countries where plantation wood will be the main raw material.

Private forestry investment is dominated by firms from North America, Europe and other developed countries, but in recent times, smaller, less conservative Asian multinational investors have emerged. They take more risks; they largely engage in natural rainforest logging within Southeast Asia but, due to growing log scarcity there, are securing concessions in the Pacific, Africa, and South America. In Brazil alone, an estimated 7 million ha has come into the hands of forestry companies from developing Asia in the last five years. The high returns derived from unsustainable logging operations seem to compensate for the higher risks taken by these firms.
Some private firms are beginning to invest in forestry for environmental services such as carbon sequestration, rehabilitation of saline soils, conservation or prospecting for biological diversity, and water protection services. Brand (Chapter 7) offers good examples and analysis of current practice and prospects for the commercialisation of services. There is also increasing investment in expanded eco-tourism and outdoor recreation (e.g., fishing, camping, hiking, etc.).

Environmental services yield new revenue streams that are crucial in making the net returns to SFM more attractive, and therefore may help encourage greater adoption of SFM practices by the private sector. Sensing this prospect, some governments are making property rights exclusive enough for private profits to be possible. They are also developing new ways of ‘packaging’ services so that they can be measured for easy tradability and compensation.

WHAT ARE THE PROBLEMS?

In getting the private sector more interested in forestry, including reorienting its timber-oriented management towards SFM, many hurdles exist. Some of the issues identified by the authors, as well as by the experts at the Workshop, require serious consideration by the international community. The issues include the following:

- The private sector pursues profits, but SFM is not as profitable for private investors as unsustainable forest management or other opportunities. There are often easier and safer ways to make comparable profits, both within the forest sector and outside it. Thus the main policy effort should be to make unsustainable forestry less profitable and to make SFM more financially rewarding;

- The private sector’s scope for profit is diminished if it alone has to bear the additional costs of SFM (which include the costs of producing many public benefits) while consumers remain reluctant to pay more for sustainably produced forest products, and public money is not forthcoming to meet the additional costs. As an example of imperfect market conditions, Barney Chan (Chapter 3) presents the example of Sarawak forest products being displaced in the prime Japanese market by imports of timber from the Russian Far East where it is believed that controls are more lax;

- SFM means more regulations and standards to meet. Again, this means additional costs without complementary revenue. As a consequence, SFM products and services cannot compete with non-sustainably produced ones;
OVERVIEW AND SYNTHESIS OF MAIN MESSAGES

• The private sector perceives that society, particularly many environmental groups, does not appreciate that SFM cannot be achieved overnight;

• For practical reasons, the private sector would rather have sustainable forest management pursued at the landscape level. Within a landscape, there can be a mosaic that includes some specialised forests (planted as well as natural production, protection and multi-purpose forests). It does not believe that requiring every single forest stand be managed sustainably for all forest functions is either sensible or feasible;

• The private sector needs an enabling environment with reasonable but predictable laws and effective regulations. In particular, it needs clear and consistent rules on property rights, stable rules for SFM that do not unreasonably raise costs, simple and easily enforced laws, appropriate incentives and effective certification systems;

• The private sector believes that society should accept planted forests as a contributor to SFM;

• Risk is a big issue in any investment decisions. The private sector perceives SFM in general, and natural forests in particular, as a risky investment option in most developing countries. Thus it takes a very conservative view in assessing risks before investing and would need support to manage risk;

• The private sector is willing to explore markets for some emerging products and services (e.g., carbon offsets, water, biological diversity, soil salinity offsets, etc.). To be encouraged further in this direction, it would like to see conditions created which will support the development of these emerging markets that can improve financial returns to SFM;

• For small-scale private forest owners, there are particular challenges in adopting SFM practices. Therefore, they require additional incentives and supportive policy frameworks.

CONCLUSIONS: WHAT NEEDS CHANGING?

Given the substantial need for financial resources to promote sustainable forest management, countries should not just remove barriers but should explore and encourage all sources and mechanisms of funding for the forest sector. The private
sector should be a key target. On the global scale, the challenge will be to encourage bold decisions so that investment is less concentrated on the developed world, and to seek opportunities in a larger set of developing countries. Within the developing world, the challenge will be to move the private sector beyond its primary interest in logging (rather than management) of natural forests, plantation forestry, and the timber processing industry. Ways must be found to change attitudes and perceptions, and to provide the motivation and incentive to take a longer term and broader view of forests, to take on emerging opportunities, and to place perceptions of risk in perspective.

For this, both the private sector and governments need to adjust their conduct:

- the governments need to play their part in establishing the enabling environment and providing incentives and investment for ‘public goods’ benefits of forests in partnership with the private sector;
- the private sector in turn should not expect that society owes it everything while its only goal is to reap profits. It has to assume a good corporate citizenship role and it should develop and internalise codes of conduct conducive to sustainable development.

Encouraging the private sector to invest with full confidence and commitment to SFM amounts to creating an enabling environment. “Enabling environment” became a rallying cry at the Oslo Workshop and was referred to in discussions, in many papers prepared for the workshop, and in presentations. It was found to have many dimensions, both domestic and international. To improve the enabling environment, the following areas need attention:

- Correct or reduce the severity of domestic policy and institutional problems that restrain or discourage private sector engagement in SFM;
- Seek strategies which ameliorate or respond to international factors that undermine the enabling environment for SFM investment;
- Avoid excessive and inappropriate regulations and bureaucracy that contribute to unduly high costs of forest management;
- Ensure stable and clear policies, institutions and operating environments, including those that relate to tenure and concessions;
- Have adequate government commitment to, and support for, the forestry sector, and provide public incentives and investment in public infrastructure;
OVERVIEW AND SYNTHESIS OF MAIN MESSAGES

• Seek ways to achieve a level playing field in which forestry has potential to be competitive as an investment option;

• Consider developing instruments, or associating with existing instruments, to hedge against excessive market fluctuations and seek mechanisms for better prices in international markets;

• Provide conditions that reduce perceptions of risk or the adoption of unduly conservative weighting of developing country risk factors, so that SFM investment can flow to more countries;

• Seek ways to deter major markets from buying low-priced supplies from unsustainable sources that unfairly undermine responsible suppliers conscientiously seeking to achieve SFM;

• Help to expand the profit base of SFM investments by creating conditions for income from hitherto little-commercialised environmental services;

• Find ways to attract interest in management, rather than mere exploitation, of natural forests;

• Ensure training and skills development and research for the forestry sector;
• Control, and seek to eliminate, corruption;

• Seek the political stability necessary to assure investors.

In all the above aspects, pay special attention to the needs of small-scale forest owners who need assistance more than larger enterprises.
ENDNOTES


2 Barney Chan (Chapter 3) has observed that ‘SFM has too many benefits which are not enjoyed by the private sector alone to be treated as the sole or main responsibility of the private sector.’ Raga Castellanos (Chapter 5) has suggested a reasonable alternative for public/private sharing of responsibilities.

3 In a 1999 review Pearce compiled a useful summary of comparative studies, some showing conventional (and often unsustainable) logging to be 1.5 to 4 times more profitable than sustainable timber management in the short term.

4 Lack of recognition for incremental progress is criticised by Raga Castellanos (Chapter 5), who charges that some of society’s expectations give SFM targets that seem troublesome, expensive and perhaps unreachable. Tomasselli (Chapter 4) stresses that the abundance of laws and regulations to engender SFM achievement causes cost escalation not matched by higher prices for forest products and services.

5 Raga Castellanos reports lack of acknowledgement by some NGOs and the public of progress toward ‘sound practices’, preferring instead to insist on full and perfect SFM. He considers this unfair, unreasonable and, according to him, it leads to superfluous costs and restrictions.

6 Investors in SFM in developing countries often require higher rates of return and earlier payback to minimise exposure. The papers by Mertz (Chapter 6) and Brand (Chapter 7) give the private sector’s criteria for assessing investments. The paper by Moura Costa et al (Chapter 9.2) provides a useful categorisation of types of risk that the private sector seeks assurance about before making significant investments.


8 Brand (Chapter 7) has suggested that governments establish property rights for some services of forests that are not currently marketed, thereby providing private or profit-driven opportunities to drive investment. At the same time, they should create or expand markets for new environmental services of forests to increase revenues and enable investors to better absorb the higher costs of SFM.

9 See in particular Landrot and Speed (Chapter 2); Tomasselli (Chapter 4); and Raga Castellanos (Chapter 5). On the certification costs side, see especially Goldblatt (Chapter 8) and Muthoo (Chapter 9.1).
REFERENCES

Most references are listed in the endnotes; the list below covers those not included there:


Chapter 2

Private Sector Investment in Sustainable Forest Management in Humid Tropical Africa

Jean-Jacques Landrot and Steven Speed

Abstract

The objective of this report is to outline the extent of the private sector investment in SFM in humid tropical Africa. In order to meet this objective, the report is broken down into the following five sections:

• Introduction.

• The second section outlines the importance of the private sector in the region and its historical development. The most important points noted are the importance of the forestry industry to countries national incomes, as an employer and in the provision and upkeep of local infrastructures. The dominance of large trans-national companies is noted in terms of their positive role in the above factors.

• The third section looks into the areas where the private sector is already actively involved in financing and implementing SFM practices, giving examples. It was seen that there is a strong will to promote SFM practices amongst companies and that cooperation in the implementation of these practices with various International organisations, NGOs etc is healthy.
The fourth section outlines the constraints to further investment in SFM by the private sector. These were seen to be a combination of administrative, policy and market failures, all of which act as a barrier to industry confidence in investing in SFM.

The fifth section introduces the opportunities for increasing private sector investment in SFM, and stresses that all those parties involved from local and international governments, the industrialists themselves, NGOs and local populations etc., have a role to play in improving the environment for financing SFM.

It is concluded that the question of finance for the carrying out of Sustainable Forest Management (SFM) is one that is yet to be resolved, but that the private sector has started to contribute to and carry out numerous sustainable management practices and that it is willing to continue if given ‘compensation’ for its actions.

Finally, the need for continual partnership formation, and constructive dialogue in striving towards a solution to the financing problem is reiterated.

INTRODUCTION

The Food and Agriculture Organisation (FAO) stated in its publication ‘The State of the Worlds Forests’ (1999) that there had been a decline in the world’s forest area of some 56.3 million ha between 1990 and 1995, 18.5 million of which (33% of the total), were in humid tropical Africa alone.

Obviously the underlying and direct causes of deforestation vary enormously between and within countries. However, it is widely recognised that the principal causes of the loss of forest cover in developing countries are the conversion of forestlands for cultivation as a result of ever increasing demographic pressure (Africa’s annual population growth is running at 2.9%, resulting in massive demands for land, fuelwood and water), and to a lesser extent to the setting up of large scale infrastructure. The large disparity between the two causes is quantified by scientists such as Diehl, Bruenig and Myers who consider that the cultivation of forestlands is responsible for over 80% of forest destruction in developing countries.

It is therefore very understandable why the state of the world’s forests, notably their surface area, quality and capacity to fulfil multiple functions, is arousing growing concern.

These problems received a great deal of attention at the United Nations Conference on the Environment and Development (UNCED) held in Rio de Janeiro in 1992, where forestry principles were adopted defining those measures that should be taken to manage all types of forest in a ‘sustainable manner’, to fulfil the social, economic, ecological, cultural and spiritual needs of present and future generations.
Today, some eight years on, achieving SFM is still a high priority amongst governments and policy makers. Private forestry companies also understand this priority and are willing to practice SFM. However, SFM is not free, and the need for financing to support SFM is substantial in developing countries while the supply of financial resources is limited. Therefore, the question of how to mobilise funding for SFM is today one of the major challenges facing forest policy makers and was deliberated during recent Intergovernmental Panel on Forests (IPF) and Intergovernmental Forum on Forests (IFF) meetings.

The task of achieving SFM in humid tropical Africa primarily concerns governments themselves as the owners of the forest. However, it is usually the private forester who is held responsible for this task. Moreover, debt dissuades many countries from borrowing for forestry programmes where financial returns are not very attractive and benefits are realised only in the long-term. This situation is further aggravated by frequent regional conflicts which hamper any kind of progress.

According to Joshi and Chipeta (2000), the level of ODA is less than the targets set by Agenda 21 for international public funds for the forest sector and it is not likely to increase given that overall public financing for development has been on the decline. Public funds for SFM have generally been lacking and existing funds have not been very effective in reducing deforestation or in achieving sustainability objectives.

One of the reasons is that the multilateral funding agencies and donor institutions are dissuaded from allocating additional resources to forestry in Africa, as most African countries attach low priority to the sector in their development plans. Indeed, according to FAO (1997) Africa receives less than 5% of international investments, with the bulk going to South Africa. Moreover, Africa is the region where a lack of institutional capacity has most impeded the achievement of SFM.

It is also true that many large environmental organisations have never accepted the harvesting of primary forests, resulting in the international community’s unwillingness to invest in forestry. In addition, forestry has a number of unique characteristics that make financing forest operations more complex than in some other sectors. For example, long rotation periods are common in forestry; this represents a source of risk and uncertainty.
Therefore, many believe that private sector finance will be the most likely source of funds to make up for this current and possibly future shortfall of public finance for SFM. However, if private forestry companies resources are to be redirected and channelled towards SFM, methods of compensating them for the costs incurred must be found.

The solution to the problem of funding SFM lies in gathering more complete and reliable information to help guide the international policy dialogue towards pragmatic decisions as well as to assess the situation more realistically.

To shed light on the above challenges, this report outlines the existing state of private sector investment in SFM in humid tropical Africa, and discusses the constraints facing and opportunities for further private sector financing of SFM. To put the report into context it is felt that a brief overview of the private forestry sector in Africa is necessary; this will therefore be the subject of the first chapter.

THE PRIVATE FORESTRY SECTOR IN HUMID TROPICAL AFRICA

A brief history of the private forestry sector in humid tropical Africa

Since colonial times European companies have dominated logging activities and timber exports in humid tropical Africa, exporting quartered Khaya Ivorensis (African mahogany) and logs of Aucoumea Klaineana (okoume) in the last century and at the beginning of this century respectively. This European domination was generally due to the fact that investments, principally in infrastructure, were so great that they could only be met by European firms.

It was not until after World War II however, that the exploitation of African forests began on a large scale, becoming of real significance in national development.

After independence in the 1960s, governments progressively redistributed concessions and logging rights. Nationals profited largely from this redistribution, principally in coastal forests where infrastructures already existed. This resulted in the emergence of a generation of small-scale forest operators. However, their growing numbers have generally been inversely proportional to their financial means and competence, and accordingly unsustainable practices became common. Nevertheless, there still exist many European companies that have been installed in humid tropical Africa for between 30 and 40 years. Today, these companies still have a dominant, if
somewhat declining influence in the sector due to the fact that very few Europeans have entered the business in recent years.

For decades, the export of tropical timber from Africa went almost exclusively to Europe; however, in the past few years increasing volumes of logs have been shipped to Asia (more than 50% in 1998) due to growing demand and a shortage of supply in this region. This change in export patterns is most striking in those countries closest to the coast and with the lowest transport costs, such as Gabon, Cameroon and Equatorial New Guinea.

Much of this wood is being harvested by newly installed Asian companies (especially Malaysian and Indonesian), and several traditional European concessionaires have already been in negotiations to sell logging rights and processing plants to these new investors. Sizer (1999), estimates that up to 80% of all new investments in the region are made by Asian companies. None of these companies have yet established a local processing plant as the purpose seems to be the supply of raw materials to Asian factories, in particular Chinese. These new companies are less discriminate about species and quality, which has therefore resulted in the cutting of larger volumes of wood and of more species.

The importance of the private sector in humid tropical Africa

The exploitation of forest resources plays an important role in the national budgets of many humid tropical African countries, and is second only to petroleum in terms of foreign earnings (Jeune Afrique Economie 1998); forestry is often first in terms of direct and indirect employment in many countries.

The international community often neglects the particular role of private forestry companies in Africa in the social and economic development of the countries and their fight against poverty. Indeed, such companies are often responsible for building and maintaining important infrastructure such as roads and bridges, in addition to providing schools, hospitals and other services for staff working in processing plants and in logging concessions. Such companies also provide direct employment for around 100,000 people (the vast majority of whom are African nationals), and thousands more indirectly. This role is even more important in remote regions such as Central Africa, East Cameroon, the third Gabonese zone (6,000 jobs in direct employment
The private forestry sector in humid tropical Africa is made up of the following parties:

- The large European groups, with a global turnover of US$100 to 500 million per year. These companies are often established in several African countries with business offices and factories and pursue a long-term strategy.

- Asian groups, generally of Malaysian or Chinese origin. These groups have been established in Africa since the mid 1990s. Certain amongst them have since closed down due to the recent Asian crisis, although others have arrived.

- Medium sized businesses, whether they are African national, European or Lebanese in ownership. These businesses often lack technology and financial means. They generally have either very short or medium-term strategies.

- Small national businesses. These are often family or village businesses, generally informal. The small size of their forest concessions, their lack of technology and financial means does not allow them to pursue any strategy other than from day to day. In Cameroon there are now over 800 of these small national concerns and in Gabon, more than 150.

- In many African countries such as Ivory Coast, Cameroon, Gabon and Southern Congo many joint ventures are built up by Africans with political connections but using European or Lebanese workforce/expertise. Here the object is to generate a maximum amount of money in the shortest possible time. It is therefore obvious that SFM and legal preoccupations are far from the objectives of these businesses.

Despite this wide range of parties involved in forestry in humid tropical Africa it has been estimated by the sector itself that more than 50% of forestry harvesting and processing enterprises in certain countries belong to large foreign groups. Amongst the most important are: the Dutch group Wijma; the Italian groups Mussi Bianci and FIP Bruno; the German groups Danzer, Wonneman and Fedmeyer; and the French groups Rougiér, Servant, Thanry, and Interwood.

These and other private sector firms cover some 20 million ha of forest and are traditionally selective in their harvesting techniques, logging vast areas for a few
fashionable species at low intensity (it is not uncommon for companies to extract as little as 2-3 m$^3$ per ha). In 1997, they were responsible for the harvesting of 5 million m$^3$ of logs (half of the African total), 2.5 million of which were transformed (processed) within the countries of origin.

**AREAS IN WHICH THE PRIVATE SECTOR IS ENGAGED IN FINANCING SFM**

We have seen that the private sector possesses limited means to tackle this new challenge of SFM, and that without sufficient compensation for the additional costs that it incurs, its wide spread adoption by the private sector is unlikely. Therefore, implementation at company level has been slow to take effect, as companies fear that changes will result in high operating costs, which they will find difficult to absorb or pass on to customers while remaining competitive in the global market. Despite this, many private industrial forestry companies in humid tropical Africa are at present actively engaged in carrying out/financing various aspects of SFM.

What follows outlines the various actions related to the financing of SFM that have been and are being taken by the private sector in humid Africa. The information is by no means exhaustive, and there are numerous other examples that could have been used to illustrate the private sector’s commitment to SFM.

**Partnerships, dialogue and cooperation towards SFM**

Many private forestry operators are in close collaboration with national governments, research centres such as CIRAD (France) or Wageningen (Holland) and consultants in order to improve the sustainable management of their operations. Examples are:

- In 1999 the Dutch company Wijma invited the Tropenbos Foundation (a Dutch forestry research institute) into its concession for research to provide data for SFM. Wijma has stated that it is committed to implementing all practical recommendations from this report to ensure the highest level of SFM in its concessions. This same company has also been actively involved in financing reforestation schemes in Cameroon, Ivory Coast and Ghana with the help of local NGOs.

- The Congolaise Industrielle du Bois (CIB), with various NGOs, is involved in implementing an ITTO ‘biodiversity management and conservation project’ submitted by the Congolese government in the CIB forest concession adjacent to a totally protected area (Nouabale Ndoki National Park) in northern Congo. The total cost of the project was some US$1.2 million, of which US$410 000 was contributed by CIB. The objective of
this project is to establish SFM in liaison with fauna management over a surface area of 1.2 m ha. The project is to work in close contact with local people and is to have an educative approach.

- **The French group Rougier**, with the help of the Gabonese authorities, has helped finance and put into place an anti-poaching strategy and introduce wildlife guards in its concessions.

- **Various other companies** have established an internal code within their enterprises to tackle the problems of poaching and hunting, for example Leroy Gabon and Bois Tropicaux d’Afrique (BTA), CIB, Pallisco SHM, etc. This code includes the evaluation and monitoring of improvements in forest management, and awareness creation amongst local populations of the importance of wildlife.

**Professional training**

How can one speak of SFM and efficient industries without having competent forest operators and factory technicians?

Changes in forest management and logging practices can only be realised if employees are well trained and educated. Investing in the training of the workforce is an investment for the future, as these collaborators of today will be the forest contractors of tomorrow.

Most companies have realised this and have started to set up and run workshops on felling techniques, safe working practices, inventory and prospecting. These companies are enthusiastic about the results and are planning to continue with these training programmes. Many companies are also keen to be associated with the regional training of forest and factory technicians such as cartographers, prospectors, fellers, machine operators, grinders, sawyers, rollers, drying operators, etc.

**The drawing up and implementation of management plans for SFM**

Companies have become aware of the importance of management plans as a prerequisite for SFM and certification, several have therefore started the elaboration and implementation of forest management plans, based on sustained yields and with full integration of social and ecological conditions, examples of which are:

- **In Gabon**, where CEB/Thanry have already established a management plan of their concession, and many others have begun to establish this same plan. Others have started to elaborate contracts with the government based on long term management planning.
PRIVATE SECTOR INVESTMENT IN SUSTAINABLE FOREST MANAGEMENT IN HUMID TROPICAL AFRICA

- **In the north of Congo**, where Danzer, Rougier and CIB are in the process of elaborating management plans of their UFA concessions. These plans concern SFM and assure sustainable social, economic and ecologic development.

- **Central African Republic**, where ISB with the help of CIRAD and the French development agency (AFD), have recently elaborated a management plan and have started its field implementation.

The forestry management plan is a major investment on the part of companies (who are in effect standing in for the owner governments); therefore, there are few (if any) examples of small national logging concessionaires drawing up management plans for SFM at present. This is for two simple reasons:

- It is a financial investment which very few can afford to make to the detriment of other industrial and social investments.
- It is very difficult to define SFM in small concessions under short-term allocation.

The creation of associations responsible for the promotion of SFM to the private sector

A further initiative on behalf of the private forestry sector in humid tropical Africa towards SFM was the creation in 1995 of the ‘European Foundation for the Preservation of African Forest Resources’ by fourteen European industrialists, among them the largest forestry and industrialist investors in Africa. The objective was to create a discussion group and carry out actions for the better management of the forest heritage entrusted to them.

Conscious of their leadership role, and therefore their responsibility towards an entire profession, these same industrialists decided to propose that their colleagues as a whole join in this dynamic action for better overall management. This resulted in the creation of the InterAfrican Forest Industries Association (IFIA), with its headquarters in Abidjan (Ivory Coast) and a secretariat in Paris which it shares with the European Foundation. Together the two organisations represent some 300 companies throughout humid tropical Africa. Foundation members pay an annual membership fee, part of which goes towards the financing and development of professional tools for SFM.

National unions associated within IFIA and the Foundation are indispensable professional instruments essential for negotiating with both governments and investors, and as tools for policy transmission and implementation. Their role is to centralise the common denominator of problems on the part of all African foresters and to try to bring about a communal solution through dialogue with all the parties involved.

This has resulted in the development of contacts and cooperative agreements at the business level with large international organisations such as FAO, the World Bank, ITTO, the European Union, and governments. This cooperation is further reinforced by NGOs such as the International Union for the Conservation of Nature (IUCN), the
Conference on the Ecosystems of Dense and Humid forest in Central Africa (CEFDHAC), WWF, the World Conservation Society (WCS), the Ape Alliance, and many others in areas where the foresters’ competence needed reinforcement, such as in relations with rural populations, agricultural and professional training, wildlife management, and biodiversity protection.

IFIA has also formulated a strong cooperation with the African Timber organisation (ATO) to deal with forestry related problems in all countries in Africa where forestry is practised. This necessary cooperation was confirmed during the last ministerial conference (the 19th) of ATO countries in Brazzaville in October 2000. IFIA’s primary vocation to date has been to develop a group of actions with the objective of helping African foresters to meet their new obligations towards SFM. The following are examples of these actions that IFIA is engaged in at present to encourage better forest management amongst all small and medium sized forestry companies.

Reduced Impact Logging (RIL)

Work on Reduced Impact Logging has a major impact on the recovery and natural regeneration of the forest after harvesting, in addition to the optimisation of the initial harvest. The project was presented by IFIA, in association among others, with the Association Technique Internationale des Bois Tropicaux (ATIBT), and the Worldwide Fund for Nature (CARPO, WWF). It involves the updating of forest methods, editing of a manual and training sheets, a videocassette, and finally the promotion of these methods amongst smaller forestry companies. The FAO, the ITTO, and the American Tropical Forestry Foundation are also interested in this report, which IFIA hopes to have published from the beginning of year 2001.
Definition of a practical management plan for natural forests

Everyone is talking about the forest management plan but few actually know what it implies. It was therefore seen to be necessary to promote the requirements of such a plan and adapt these requirements to the context of each African country, keeping in mind the need for this plan to be accessible to small and medium sized companies. The project is entirely financed by IFIA, and was carried out by the ATIBT. The study was the object of numerous consultations amongst planners, scientists, environmentalists, NGOs and forestry companies. The outcome of this work will be available from the beginning of 2001.

Code of Conduct

A code of conduct is in the process of being established by IFIA with the collaboration of CEFDHAC/IUCN in order that transnational companies respect exiting national and international laws. The principal objectives of this code are to promote all aspects of SFM and to contribute to the countries economic and social development policies, etc.

If European Foundation members agree to sign and apply this code, it will be the deciding factor for Africa to promote the code to the profession as a whole, and will be a large step towards sustainable management practices.
**Formulation, adoption and promotion of a Pan-African Forest Certification (PAFC)**

The PAFC approach is based on work demanded by African governments, and was established by the Center for International Forestry Research (CIFOR) for the ATO. The first phase is to be financed by the French Agency for Development (ADF) and the rest hopefully by the European Union and the ITTO.

Foundation member foresters judged that the Principles, Criteria and Indicators (PCI) outlined by the PAFC approach were the best adapted to African specifications, as they had been established specifically for Africa by the largest tropical forest research institute CIFOR, with the cooperation of the ITTO and they have therefore decided to adopt this PAFC. In the next few months, a group of experts must define the procedure and propose an accreditation panel of certifiers. IFIA hope that this procedure, which will bring together all the concerned parties including the NGOs, can be operational from the start of next year.

IFIA presented this PAFC at a meeting in Brussels last June organised by the European Commission and with the participation of most of the world's certification representatives (some 25 in total), such as the International Standards Organisation (ISO), FSC, Pan European Forest Certification (PEFC), and many others. It was decided to establish a mechanism of mutual recognition by the year's end, a type of 'WOOD MARK' which would allow for a finished product composed of products originating from various certifications to be certified itself. This component of traceability is very important and will be settled very soon.

The situations which we have just examined are unfortunately not always as easy and Cartesian to carry out as we have described; let us now examine why this is the case.

**CONSTRAINTS FACING THE PRIVATE SECTOR FINANCING OF SFM IN HUMID TROPICAL AFRICA**

The optimal implementation and financing of SFM by the private sector is constrained by many factors which act as important obstacles in keeping companies away from long-term investments in improved forest management. These constraints are related to risks and incentives and can affect company profitability.

The following sections outline those constraints that are seen by the private sector to be most important in preventing it from financing and implementing SFM

**Poorly defined concession and ownership rights**

*Property rights* refer to entitlements defining the owners’ rights, privileges and limitations to a resource. An owner of a resource with a well defined property right
PRIVATE SECTOR INVESTMENT IN SUSTAINABLE FOREST MANAGEMENT IN HUMID TROPICAL AFRICA

has a powerful incentive to use that resource efficiently, as a decline in its value represents a personal loss.

However, in most humid tropical African countries there are poorly defined property rights over forest resources and their products and services. Lack of attention to these externalities is often the cause of unsustainable forestry in most developing countries. The internalising of these externalities is relatively simple in the case of single ownership, but when different vested interests are at stake, it becomes a political challenge which is far beyond the capacity of the simple concessionaire to resolve.

Poor clarity of property rights causes uncertainty about the supply of logs and this in turn makes investment a complicated and risky exercise. It has resulted in there being tremendous insecurity amongst forestry companies concerning:

- **How long they are able to hold on to their concessions.** In Cameroon, the duration of permits can be as little two years, this is much too short as it does not allow time to establish local infrastructure of any quality or to plan long term. The optimum concession length is seen by the industry to be around 30 years, but such a time scale is rarely granted. Instead, permits are often renewed after the initial time period has lapsed although renewal can take a long time. This incertitude concerning the length of concession permits results in there being no guarantee of a second cut, thus no incentive to manage the forest in a sustainable fashion.

- **The size of concessions.** The size of concessions is important as a forest concession with a substantial area enables the supply of the required volumes to processing units. This is a crucial element since an investment decision will be heavily based on a combination of the maximum production volume of the forest and minimum input volume of the factory. Rougiër stresses that in order to be efficient, concessions should be at least 60 000 ha in size (Form Ecology Consultants, 2000) and should be conglomerated with other concessions. However, in order to carry out SFM, the minimum size of concessions should be realistically around 300 000 ha.

Under these circumstances there is no motive to manage forests in a sustainable way or to carry out long-term investment in SFM, as companies can not be sure of holding on to the fruits of their investments. Therefore, the issues of property rights and concession size, etc., are key structural barriers that should be removed before private sector investment in SFM can be expected.

**Institutional requirements**

Many countries have deficient infrastructure for example railroads are blocked in Liberia, Congo-Brazzaville and the Democratic Republic of Congo, and are in poor
condition in Cameroon and in Gabon where a group of forest concession holders was forced to take control of the Transgabonais railway to ensure its proper functioning.

Therefore, the state often obliges forest companies to construct and maintain infrastructure of national interest, for example roads, bridges, airstrips, schools and hospitals. It also imposes a series of fiscal instruments such as taxes, levies and user fees, the administration of which is not consistent and the levels of which are often disproportionately higher than other sectors. These financial requirements weigh heavy on forestry companies and do not permit them to be attracted towards financing SFM.

The commitment of States towards the forestry sector

Many countries possess inadequate political will and commitment towards forestry, which includes the failure to include forestry as an essential part of their national development plans. This results in forestry policies that are often outdated, inadequate or conflicting and are not conducive to investment, in addition to an inefficient administration of the public forest estate which is often treated as an open resource with essentially no value leading consequently to unsustainable forest practices.

An example of inadequate political will is the Congolese forestry laws which were developed in 1974. These laws are amongst the most advanced in the region, integrating concepts of forest management with definitions of forest management units and with the need for a forest management plan. However, over two decades later, very few plans have been written and none have been applied in the field. This is due principally to the difficult transport problems encountered when extracting the wood and the reluctance to invest in better infrastructure. Another example is Gabon’s forestry laws (which are also very modern) that are still awaiting approval two years after being drawn up.

The stability of States

In many countries governments are weak and unstable and corruption is rife. This leads to massive deterioration of the economy, with the activities of all companies being seriously affected. For example, due to civil war in Congo the 1997 timber production was halved to around 300 000 m³, and one of the foundation members Socobois had its factory completely destroyed. The same happened to Danzer in Zaire. How can the private forestry sector be expected to carry out SFM where the rifle still rules?

These same countries often have strong institutional weaknesses such as inadequate research facilities, lack of trained officials, weak inter-sectoral links and planning deficiencies all of which are not conducive to long-term planning and private sector investment. Indeed, there is a strong correlation between government weakness, corruption, illegal logging and poor SFM.
Market and policy failures

The two factors affecting the economics of SFM and its adoption are market and policy failures. To a great extent these economic factors acting against the implementation of SFM arise because there are no markets for many of the benefits derived from such management (i.e., capturing carbon, preserving biodiversity and maintaining scenic beauty), and consequently the investor has to shoulder the costs. This inability to value some of the benefits of SFM results in market failure.

The fact that the state or international community does not often take any action to correct such market failure, results in policy failure. Policy and market failures result in a situation where SFM is profitable for neither the resource owner nor the resource manager.

Lack of knowledge concerning costs of SFM and its implementation

Few reliable estimates of costs of SFM are available due to the lack of specific information available on SFM implementation in tropical countries, thereby making accurate cost analysis projections problematic.

Various studies have shown however, that over the very short periods of time considered by private forestry companies, the financial profitability of SFM in the tropics is generally much below that of unsustainable methods. Two such examples that outline this are:

- A study carried out by C. Best and M. Jenkins of Forest Trends entitled ‘Capital Markets and Sustainable forestry’. In the study it was pointed out that in conventional forest operations total income is derived 60% from timber and 40% from asset appreciation. In sustainable forestry, the division is 35% from timber 15% from other products and 50% from asset appreciation (the value of the forest is higher). If companies cannot secure the benefits from the appreciation in assets then they will focus on timber.

- A recent study stated after an analysis of logging in tropical forests that the traditional non-sustainable logging method is two to five times more profitable than logging in a sustainable way.

Two major factors behind the financial disadvantage of SFM are the extensive nature of management and the slow growth rate of most tropical species (which is between 0.5-2 m³/ha per year). This growth rate is in most cases not sufficient to outweigh the benefits that could be achieved from liquidating all the commercially valuable timber in the stand in one go.
There is also fairly limited knowledge concerning silvicultural methods for SFM, therefore the long-term benefits of such practices cannot be measured. As a result of this uncertainty over costs and SFM techniques, a management switch is ever more unlikely as private investors have little financial incentive to adopt SFM practices.

OPPORTUNITIES FOR INCREASING PRIVATE SECTOR INVESTMENT IN SFM

If the private sector is to finance SFM, it must have the incentive to do so. This incentive can only be realised if major policy changes are put into place on the part of all the various parties involved in tropical production forests. The following chapter therefore outlines those areas that could improve private sector investment in SFM.

At local government level

The public sector should make every effort to make private sector investment in SFM secure and commercially viable as there is a clear indication from private investors interested in SFM that they require stability and reliability in the rules and conditions governing investment. For this governments need to address inherent barriers to investment in SFM, such as investment risks and uncertainties. For this to be possible, a stable and transparent social, economic, and political environment will remain an important pre-condition. Therefore, governments need to:

- Establish secure regional forestry development programmes which prioritise forestry activities, internalise externalities associated with land use and forest policies, maximise rent capture, reinvest a greater share of forest revenues into SFM, and improve coordination.

- Concerning land use problems, there should be a creation of a clear and permanent definition of national plans for terrain occupation in: total conservation forests (forest sanctuaries), production forests under sustainable management and conversion forests for agricultural or industrial purposes.

- Value forest resources properly and create markets that reward sustainable forest management.

- Encourage private sector investments in forestry through various financial and tax incentives that are simple, incentive-giving, and remain stable over time. Simple because complications breed corruption, incentive-giving because very clear signals must be sent to operators, be it on forest
management, industrialisation, social evolution or training. And finally, stable, because faith is based on reference points which, if continually changed, risk the establishment of mistrust.

- **Adopt land and forest legislation, guaranteeing the investor the fruits of his labour.** For example, give companies the right to get back benefits from investments that they have made in forest management, the granting of larger concessions (larger areas are easier to manage sustainably than smaller ones), for longer time periods thus allowing companies to profit from the second rotation. In addition, forest concessions accorded to nationals should not be distributed in order to generate votes, but genuinely to promote entrepreneurs. It is therefore necessary to verify the competence and solvency of beneficiaries and to create an obligation for the direct management of permits.

- **Establish a master industrialisation plan so that an industrial capacity superior to the potential of the forest is not created.** Therefore, do not follow the example of the Ivory Coast and Ghana, which presently have serious factory supply problems.

- **Grant incentives for industrialisation,** based on the added value of conversion work, not on the volume entering or leaving the factory.

- **Invest in professional training and research** adapted to the needs of administration but above all adapted to businesses.

- **Share with the region of production part of the profit derived from forests** in order to develop a better constructive relationship between economic operators and populations.

- **Improve respect for the laws concerning forestry taxes and social regulations.**
In turn, foresters will have to show that forestry contributes to a country’s economic development. They should strive to sell their sector to the politicians, ensuring that it is included in national development plans.

**At the international and donor level**

The international community has a responsibility towards those countries undergoing development, and SFM is certainly an area to develop. Moreover, it is evident that none of the actions proposed above are possible without the necessary financial means. It is for this reason that donors have a fundamental and determining role in these actions. Both can help in the following ways:

- **Consider partial debt relief**, which would release funds for sustainable management and give new impetus to investment in the sector. In addition, more ODA could be channelled into the forest sector if an enabling environment is created and if SFM were given higher priority within national development strategies.

- **Aid to offset private investment into aspects for general public gain.** It is clear that in most cases investments in technical and social infrastructure, and the cost of management plans, do not allow the forester to economically bear this extra work for very long-term investments. There should therefore be some form of aid put into place on the part of donors (at present only the French development agency and to a lesser extent the Netherlands have agreed to finance SFM with long-term loans).
PRIVATE SECTOR INVESTMENT IN SUSTAINABLE FOREST MANAGEMENT IN HUMID TROPICAL AFRICA

• An ‘International Forest Fund’ to ensure a flow of minimum sustained financing for SFM activities in developing countries needs to be set up. Such a fund could internalise at least partially some of the externalities and reward forest owners and countries for the public good and environmental services from their forests.

• Encourage politically and financially, all involved parties to evolve in their mentalities and actions towards SFM.

• A dialogue between donors must be put into place in order to harmonise:
  - Policies, notably between economic policies (repayment of debts by the increasing exploitation of forests), social policies (standard of living, development) and environmental policies (freezing of forestry exploitation).
  - Actions and subventions. For instance, before creating a new national organisation, one should make sure that such an organisation does not already exist which could already serve as a base with better economies of scale (example: ATO/CEFDHAC).

• Carry out various country studies to assess private flows and trends for SFM.

  The experts of international and donor organisations must be experienced and must first listen to and discuss ideas before imposing their policies. Their missions must be carried out over a long-term period and they should take note periodically of the good that has been and is being done by their advice and actions.

At the business level

The following recommendations could help the private sector to strengthen its position within countries, and the profession as a whole:

• Strengthen union power as an instrument of dialogue. The transmission and application of a social, forestry and industrial policy.

• Create investment insurance against major risks such as civil war, natural or technical disasters (highway disruption, etc.).

• Evolve marketing techniques, and examine the potential of innovative financial mechanisms and schemes to mobilise resources for SFM.
• Provide encouragement and incentives to follow the code of conduct.

• Establish a system of cooperation/partnership between large and small enterprises, covering the aspects of sustainable management, industrialisation and commerce. A cooperative system could be considered.

• Improve the profitability of the second and later harvests (see box 1)

• Set up and adopt the Pan African Forest Certification (PAFC), generating the potential for companies to increase market share and thus improving share price performance through the redistribution of the benefits of SFM, whilst avoiding incidents that can damage returns to shareholders.

At the local village level

The success of sustainable management relies more and more on discussing and collaboration with local populations. There can be no forest management if agricultural burning, poaching, or even the mass marketing of forest by-products do not respect this same forest. In a growing population, it appears that customary right must progressively give way to national right, which itself must take into account the specific customs of each region.

Local populations must be taught to understand the benefits of SFM and as far as possible be involved in its implementation. This will result in them having a greater respect for the forest and its survival. This is especially important concerning the importance of fauna and commercial poaching. Concerning this problem of bush meat, there needs to be a substitution of wild game protein by that from reared livestock. But this transition should not be to the detriment of the forest (La Lopé workshop, November 2000).

At the international NGO level

There was once a great opposition between the environmentalist NGOs and the private forestry sector. This opposition seems now to be over; most large NGOs have become more pragmatic in their outlook of the situation. They have therefore evolved internally and now recognise the will of the forestry sector to change. However, there are still areas of uncertainty that seem to remain in the policies of certain NGO’s, as follows:

• In accepting a degree of modification in the original biodiversity of production forests and accepting new definitions for production forests.

• The economic and social evolution of countries can only take place
Box 1. Profits after the first cut

Due to the extraction of large diameter trees of commercially marketable species at the first cut, a large proportion of the forest value is lost after initial logging, and does not have time to recuperate. Therefore, the second cut only offers a limited potential in terms of lesser diameter trees and species of secondary commercial value. Knowing that the profitability of forest extraction in remote areas is acquired solely through a drastic selection of species and qualities, and that it is almost impossible to raise the minimum logging diameter without negating profits, one can become anxious about the economic profitability of following cuts.

Therefore, increasing the profitability of the second cut could be of great importance to future incentives to finance SFM. This profitability could be increased by, enriching the forest in part with the regeneration of commercially marketable species.

In many already degraded forests massive plantation work must be carried out. Africa possesses only 4% of the world's plantations; this blatant discrepancy between Africa and South America and South East Asia has grave consequence for the present and the future. Indeed, in 30 years time there will be a combined decline in the commercial value per $m^3$, due to the exploitation of ever smaller diameters; the productive volume by hectare; and the number of hectares. In fact at present a dramatic deficit in wood raw material is being felt in certain countries such as the Ivory Coast, Nigeria and Ghana at least when it comes to providing outlets to local and regional markets. Moreover, most of the world's plantation timber is currently sold at an FOB price below US$100, which simply represents the transportation costs (truck or train) of most African timbers. We can therefore be really pessimistic regarding the future competitiveness of African timber originating from natural forests as only several $m^3$ or tens of $m^3$ per hectare are extracted, whereas world plantations now have production capacities of several hundred $m^3$ to the hectare, and are mostly within proximity to ports (Chile, New Zealand, Brazil, etc.). Provided that one can remain rational in the balancing of ecological and economic criteria, we can therefore affirm that the enrichment of primary production forests and forest plantations is essential to the future of the African continent. Governments and donors should take note and accelerate the concrete establishment of a plantation policy, many private forestry companies are ready to join in.

Finally, many are also suggesting that plantations will relieve the pressure on reserve forests (sanctuaries) and even on primary production forests.
progressively. Foresters wish to participate in this development but cannot be held responsible for the weak economic level of developing countries.

- The problem of ethnic minorities concerns the state. Foresters wish to facilitate the integration of these minority groups, but cannot assume the responsibility for this integration.

- The destruction of fauna is a concern for all village populations and for humanity as a whole. Foresters wish to participate in the safeguarding of this genetic heritage, but cannot alone be held responsible for its destruction nor bear the costs of correcting it.

- The confusion between total protection forests, production forests (where foresters are operating), and conversion forests (those that are subject to slash and burn agriculture) has also often been used as propaganda by Western environmentalists. This confusion of terms and responsibilities which can twist the spirit of the consumer is very damaging for the consumption of tropical wood and the development of African countries.

- The NGOs must not try to resolve local problems by imposing their own Western conceptions, but instead be realistic.

- The link which has been forged by the promotion of Certification by the Northern media between sustainable forest management and deforestation, appears to us to be very harmful. What will happen to the consumption of tropical timber when the northern consumer discovers that despite the certification of tropical products that he buys, tropical forests continue to burn and wildlife to be destroyed for consumption? This question must be of concern to Western NGO’s and environmentalists. The causes of deforestation are far more complex than simple SFM and certification issues; for example, in Ivory coast only 2 million m³ per year are harvested for the wood industry in comparison to some 15 million for fuelwood and 50 million for agricultural projects.

All these measures are concrete examples of pragmatic solutions, which if adopted would certainly increase the profitability of SFM systems, thus increasing the likelihood that they would be accepted by the private sector in the future.
CONCLUSION

The sustainable management of tropical forests has become a priority due to increased deforestation, chiefly as a result of forest clearance for agriculture (estimated to be responsible for more than 80% of forest loss) and to a lesser extent to traditional logging techniques. However, its financing has been and remains a major ‘stumbling block’ to its widespread implementation.

This report proves with numerous examples that the private sector has already, and continues to be willing to incorporate and help towards part-financing SFM practices, but before this trend becomes the norm, there are a number of fundamental barriers that need to be overcome to provide the private sector with the incentive to invest further in SFM:

• For example, if market and policy imperfections such as land tenure, user rights and resource security together with appropriate legislation were corrected, the relative profitability of SFM would certainly rise, increasing the likelihood that its financing would be accepted by the private sector.

• In addition to correcting these imperfections, if SFM is to be widespread, current evidence needs to be augmented substantially before it can be concluded that SFM will be a better land use alternative than unsustainable practices in terms of profitability.

• An important question that needs to be addressed is, ‘Who benefits from the wider aspects of SFM?’ The answer is the whole of mankind. Therefore, financing should be a joint effort and not just at the expense of the private sector. To this end, more funding should be channelled into SFM from all sectors.

• In addition, the importance of developing partnerships amongst all sectors cannot be overemphasised in order to arrive at a realistic forestry policy which is beneficial to all parties concerned. This is one of the biggest challenges facing policy makers today, and will continue to be so for the foreseeable future.

• Finally, the future of the importance of natural tropical forest exploitation is uncertain, faced with ever increasing areas of plantations and substitutes for tropical wood such as plastic and metals. However, what is certain is that if greater implementation and financing of SFM are employed, tropical forest ‘survival’ will be assured.
THE PRIVATE SECTOR SPEAKS: INVESTING IN SUSTAINABLE FOREST MANAGEMENT

ENDNOTES

1 This area could allow an annual cut of 10 000 ha over a period of 30 years with an average cut of 6 m³h/a having a potential of 60000 m³ per year; it would allow long-term plans to be drawn up for investment in social infrastructure and processing plants.
2 Despite this evidence, foundation members feel the difference is exaggerated, especially for the larger companies who already implement good practices which are profitable.

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Chapter 3

The Private Sector and Sustainable Forest Management — Southeast Asian Perspective

Barney S.T. Chan

Abstract

Sustainable forest management (SFM) has too many benefits which are not enjoyed by the private sector alone, therefore the public sector is a critical partner in implementing SFM. In Asia, the timber business currently faces critical commercial problems like market saturation, weak demand and market failures. These problems create the following concerns: (1) SFM needs both private and public sector involvement, (2) international markets have yet to recognise SFM, (3) tropical against temperate timber, and (4) pivotal role of planted forests. These concerns can be addressed if the United Nations Forum on Forests (UNFF) creates a new fund specially for planted forests, supports SFM with new instruments/mechanisms and small encourages the private sector to carry out relevant training, research and development towards SFM.
INTRODUCTION

A personal view

Nobody can truthfully claim he can give a truly Asian perspective on such a complex issue when you consider how vast Asia itself is in terms of national forestry initiatives, national development aspirations and stages of national economic development. I certainly cannot speak on behalf of 60% of the world's humanity. However, through my own work, I do know about the East Asian tropical timber trade and industry in general and about Sarawak, Malaysia in particular. My own experience is derived mainly from a production country in Southeast Asia with a high percentage of forest cover which exports mainly to South Korea, Japan, China and Taiwan. With the above caveats in mind, this paper is essentially a first-person narration of personal opinions.

Though it was not stated as an objective, this Workshop nevertheless gave an opportunity to expose the private sector’s perspectives to the various proponents and detractors of the United Nations Forum on Forests (UNFF). It allows a rare opportunity for the private sector to ask: why has the private sector been targeted to carry the financial burdens of sustainable forest management (SFM)?

This paper shall argue that the benefits of SFM go well beyond the confines of the ‘private sector’ and hence the financial burdens of SFM should be shared by all the recipients of those benefits.

After the United Nations Conference on Environment and Development (UNCED) in June 1992, the world witnessed the formation of the Global Environment Fund (GEF) by the World Bank, the United Nations Development Programme (UNDP) and the United Nations Environmental Programme (UNEP). Unfortunately, GEF funding is applicable for forestry projects only if there is a strong biodiversity conservation element in the projects. SFM by itself is not attractive to GEF funding though the role of biodiversity is mutually recognised. Of late, the world has watched the negotiations breaking down for implementation of the Kyoto Protocol in the Convention on Climate Change. The international government-to-government initiatives on Biodiversity and Climate Change are attracting all the attention, and most of the limited funding, away from SFM.

Where is the new and additional financial aid promised by the developed countries to help the developing countries move towards SFM? Is it the breakdown of such promises that brought the private sector unfairly into the limelight, to step in and finance SFM in the absence of new and additional government expenditures?

Let it be very clear that the ambitions of SFM are far too wide and complex for the private sector to tackle by itself. The public sector has to do much more, especially on elements of the forests that do not produce direct profits for the private sector.
A NOTE ON PRIVATE INVESTMENTS

Private investments are profit motivated. The goals, functions and activities of private companies are geared towards the generation of profits. Management does not put a high priority on work which increases costs but does not contribute to a profit centre. However, recent developments indicate that more and more companies are moving towards 'good corporate citizenship' where non-profit efforts are tolerated and even encouraged. This is mostly in relation to employee welfare and local communities. Still, SFM will only take place if it is economically feasible to the timber companies.

This does not necessarily brand timber companies as 'eco-pirates', or whatever terms is used to denote a lack of care for the environment; rather it highlights the difference in perspectives and priorities. In recent years, Asian private investors have been struggling with three critical problems; though these problems are not related to SFM per se, they are nevertheless significant problems of a commercial nature:

- **Market Saturation.** The production of timber and timber products in Asia can more than satisfy the demand in the region, hence the importance of exports beyond Asia. As a product, plywood will illustrate the implications of this situation well. Plywood is the most significant processed forest product for the region which has a bearing in international markets. Indonesia and Malaysia alone produce something like 10-12 million m³ of plywood a year, which is more than enough to supply the entire world demand for tropical plywood (given the current weak market conditions). The oversupply has pushed prices down to an extent that the survival of producers is at stake. In such a scenario, it seems very unlikely for any new investments to go into tropical plywood production.
• **Weak Demand.** The traditional buyers of timber and timber products in Asia are Japan, South Korea, Taiwan and China. They have been joined recently by Thailand and Philippines, which were once exporters themselves. The biggest buyer, Japan, has been struggling for years with a weak economy and Japanese demand for new houses has been on the decline for the last several years, from 1.7 million units in 1990 to 1.2 million units in 1999. China over the last few years has turned more to her own supply of timber and new Russian supply, thus hurting the traditional producers (more on this later). Current weak demand and market sentiments are far from conducive to any investments.

• **Market failures.** Timber is a commodity and like all commodities it faces the boom-and-bust cycle. This unpredictability is a damper for any investments. One of the many market failures is the lack of an instrument to hedge against future market changes. Another failure is the lack of a price determination mechanism in international markets. These failures need to be addressed to create a more transparent international market for sustainable investments. Without this, prices which are not remunerative will only force producers to cut corners, maybe at the expense of SFM. Moreover, the presence of illegal activities in the forests is a major disincentive for legitimate companies to carry out SFM.

## CRITICAL PRIVATE SECTOR CONCERNS

An understanding of the prevailing business climate in Asia, especially of the three problems outlined above, will form the basis for the discussion that follows on concerns facing the private sector in the timber business and industry. These concerns are critical and have strong effects on the entire investment process. The concerns are grouped under the four headings below.

### Concern 1. The private sector and SFM

Most countries in Asia are members of the International Tropical Timber Organization (ITTO) and therefore subscribe to the decisions made under the ITTO process. Asians choose to accept the ITTO’s definition of SFM amongst the many definitions floating around. Producer countries in Asia use the ‘ITTO Criteria and Indicators for sustainable management of natural tropical forests’ (ITTO 1998) as these were debated and agreed upon by all the 56 ITTO member countries.

There are seven criteria (see Appendix 1.) in the ITTO Criteria and Indicators (ITTO C&I) and they have indicators which have differing impacts on either the National Level or the Forest Management Unit (FMU) level. ‘National Level’ in this
sense refers to activities carried out by government agencies which generally cover the entire country. FMU refers to ‘a clearly defined forest area, managed to a set of explicit objectives and according to a long-term management plan’; generally speaking, this management is undertaken by the private sector.

Of the seven criteria in the ITTO C & I, only three have indicators with direct impact and one with indirect impact on business decisions (though it is admitted that the other criteria have some sort of intangible impact). The following criteria have little or no input into the decision making process of running profitable private companies:

- **Criterion 1. Enabling Conditions for SFM.** The private sector has no decision making control in the legal and institutional frameworks of a country.

- **Criterion 2. Forest Resource Security.** This is more on national planning and land use policies in which decisions are made by the government.

- **Criterion 3. Forest Ecosystem Health and Condition.** This covers the effects of humans and nature on the biological functioning of the forests. Logging is but one of the many human activities listed.

- **Criterion 5. Biological Diversity.** Not the prime interest of private companies though the actions of such companies may impact adversely on biodiversity.
The four points listed above confirm the importance of the public sector in SFM; at least it is obvious that both public and private sectors must work together in order to achieve real SFM. The private sector alone will not be able to do so.

**Concern 2. Markets choose not to recognise SFM**

By and large, major international markets for timber and timber products have yet to respond to SFM initiatives. There is no affirmative support by the markets for actions towards SFM. Rather, the market punishes SFM!

As the private sector is profit motivated, it reacts to SFM efforts by measuring the incremental costs and then factoring those costs into prices. This is true for both the producer and consumer of timber and timber products.

A key factor in sustainable forest management is the production of logs. The process of logging can either contribute towards or destroy SFM. The example of log production and log exports in Sarawak is very telling.

At the request of the state government, the ITTO sent a Mission to Sarawak at the end of 1989/start of 1990, basically, to check if the log production there is sustainable. The Mission eventually recommended steps to be taken for Sarawak to move towards sustainability. These steps were difficult to implement and came with high costs.

Generally, there have been considerable improvements in forest management in Sarawak since the ITTO Mission of 1989/1990 though there have been no further studies to quantify such improvements. However, one can assume that log production costs have increased since 1990 as loggers adopted new and more complicated methods of working. Let us discuss the log exports with these two points in mind.

Table 1 shows a steady decline in log exports from Sarawak to Japan, with a corresponding increase in log exports from Russia to Japan. *The increased SFM efforts by loggers in Sarawak were neither rewarded by higher export volumes nor better prices; rather, the Japanese switched to cheaper Russian logs in order to maintain their profitability* (see Box 1, see also Box 2 for China). A recent Report said that more than 90% of the logging in the Russian Far East is by clear cutting and as much as 40%-50% of Russian timber is sold to Pacific Rim countries under dumping prices and faked contracts (Friends of the Earth 2000). The same report stated ‘forestry practices in Far East and Siberian forests are destructive and unsustainable’. Be that as it may, the fact remains that Russian logs are sold cheaply.

The Japanese markets deemed Sarawak logs to be more expensive than Russian logs, hence the substitution of Russian logs for Sarawak logs.

**Concern 3. The tropical versus temperate timber debate**

It cannot be denied that over the last ten or so years, discussions on the sustainability of tropical timber have brought on the Tropical versus Temperate timber debate; the ramifications of this debate do have an impact on private sector investments.
Table 1. Japan Log Imports (Unit: ‘000 m³)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total South Sea</th>
<th>Sarawak</th>
<th>Russia</th>
<th>New Zealand</th>
<th>Africa</th>
<th>Total Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>10 114</td>
<td>6 684*</td>
<td>4 303</td>
<td>1 604</td>
<td>96</td>
<td>16 117</td>
</tr>
<tr>
<td>1992</td>
<td>9 969</td>
<td>6 418*</td>
<td>4 268</td>
<td>1 812</td>
<td>100</td>
<td>16 149</td>
</tr>
<tr>
<td>1993</td>
<td>7 438</td>
<td>4 924</td>
<td>4 985</td>
<td>1 539</td>
<td>512</td>
<td>14 474</td>
</tr>
<tr>
<td>1994</td>
<td>6 802</td>
<td>4 462</td>
<td>4 847</td>
<td>1 757</td>
<td>652</td>
<td>14 058</td>
</tr>
<tr>
<td>1995</td>
<td>5 925</td>
<td>3 905</td>
<td>5 464</td>
<td>1 754</td>
<td>531</td>
<td>13 674</td>
</tr>
<tr>
<td>1996</td>
<td>4 781</td>
<td>3 486</td>
<td>5 448</td>
<td>2 045</td>
<td>626</td>
<td>12 900</td>
</tr>
<tr>
<td>1997</td>
<td>5 233</td>
<td>2 826</td>
<td>6 134</td>
<td>1 799</td>
<td>666</td>
<td>13 832</td>
</tr>
<tr>
<td>1998</td>
<td>3 192</td>
<td>1 976</td>
<td>4 761</td>
<td>1 805</td>
<td>153</td>
<td>9 911</td>
</tr>
<tr>
<td>1999</td>
<td>3 404</td>
<td>2 013</td>
<td>6 096</td>
<td>1 511</td>
<td>202</td>
<td>11 213</td>
</tr>
</tbody>
</table>

Sources: Japan South Sea Logs Association, Japan Lumber Importers’ Association, Ministry of Finance, Japan, and *Department of Statistics, Malaysia.

The root cause of this is ironically some environmental NGOs that were trying to address the issue of sustainability by focussing mainly on biological diversity, genetic resources, carbon sinks (global warming), species extinction, wildlife and local communities. ‘Ironically’ because these NGOs have identified and interpreted the errors and problems they perceived in tropical forest logging, but the very same NGOs have been slow to come up with solutions or at least a road map for the tropical countries to follow.

In their zeal and enthusiasm, these NGOs organised boycotts and demonstrations against the use of tropical timber and timber products in the consumer countries (mainly Europe initially). However, tropical timber trade can only take place when there is a producer and a consumer, so both producers and consumers are responsible; they are two sides of the same coin. These NGOs are concentrating on the wrong side of the coin, instead, they should also help the producers.

It has been observed that Japanese users are moving away from tropical timber and replacing it with unsustainably-produced temperate timber (for example, see Table 2). And this has a big impact on investment sentiments.

In the Asian region, tropical timber overwhelms temperate timber in production volume and, more importantly, in export volume. Therefore, in the Asian context, private investments in the production of timber and timber products will factor in the perceived discrimination by the international markets towards tropical timber. This bias will distort the investment calculations. On the other hand, investments by consumers are moving away from tropical timber into temperate timber (e.g., recent plywood manufacturing capacity in Japan using temperate logs).

Perhaps in all fairness, can the above be attributed to a short-term adjustment due to the environmental NGOs’ concerns? In the long term, one hopes that the playing field between Tropical and Temperate timber will be levelled. As it is today, there are several big bumps in the playing field.
Forest certification is one such big bump. For all its favourable points, forest certification has been ‘forced’ (though everyone says ‘voluntary’) on the tropical forests while the temperate forests, with all their environmental concerns, are not scrutinised by the consumers in general. [I recognise, of course, that this very Workshop in Oslo is part of a long process to address this disparity in the world’s forest dichotomy!]

In the long run, one hopes that forest certification, and subsequent timber certification, will become a marketing tool to promote SFM; but in the short term right now, it is a discriminatory tool. Moreover, forest and timber certification adds to production costs; these additional costs are not reflected in selling prices yet.
Private investors will continue to pay close attention to the ongoing debate by the users of timber on Tropical versus Temperate.

**Concern 4. The pivotal role of planted forests**

There are real moves, by the Asian private sector, towards investments in planted forests and therefore an opportunity for influence by appropriate financial instruments.

Discussions of tropical and temperate timber eventually boil down to natural and artificial forests. There are claims that timber from temperate planted forests is ‘green’ and consumers can use it without any fear of harming the environment (though with some caveats). Similarly, there are claims that timber from old growth temperate forests is considered bad for the environment. The same arguments can be applied to tropical timber except that there is currently very little timber from planted forests in the tropics. This is an area which will attract considerable investment attention in the near future.

Investors are keen to plant trees in the tropics. The reason is purely economics. Planted forests are more efficient in producing volumes of timber than natural tropical forests. Production costs of timber from natural tropical forests are high when compared to those of temperate plantations (e.g., the cost of Sarawak meranti logs versus New Zealand pine). Industrialists in the tropics fear that they may be priced out of international markets if they do not have cheaper log inputs because the end consumers are not discerning in terms of the inherent quality of timber.
On the plus side, rightly or wrongly, some private investors feel that planted forests will take the pressure away from production in the natural forests, though this seems to imply that production in the natural forests is ‘bad’ or at least not sustainable. Moreover, in the context of global warming, it is certainly useful to have significantly more areas under forests in the world.

On the minus side, tropical plantations face the same environmental issues as temperate plantations: mono-culture, ugly landscape, exposure to pest and disease attacks, exotic species, etc. However, these issues can be properly addressed and mitigated to an acceptable level.

In short, planted forests in the tropics will take place and should be encouraged actively in many countries with severe forest degradation, in or outside Asia. One of the many problems faced in establishing planted forests is in the finance side; and this should be vigorously addressed in the UNFF.

As it is, tree plantation developments are hindered by a lack of funding because traditional banking instruments were not designed for projects which such long gestation periods. Moreover, tree plantations have to compete against other agricultural plantations that may be more financially rewarding.

**PROACTIVE PRIVATE SECTOR IN UNFF**

This Workshop in Oslo is a follow up to the IPF/IFF process, in particular, to deliberate the mobilisation of financial resources for sustainable forest management and to come out with concrete proposals on finance.
Whilst the private sector can only blame itself if it does not make a case for itself, the private sector can also blame the international fora for not taking it seriously. All blames aside, this is the time for both parties to make a concerted effort to place the private sector prominently on the UNFF agenda. Proponents of the UNFF process must recognise that the private sector is a major stakeholder in SFM and must, accordingly, be very actively engaged in the due process.

The above four main concerns explain the reluctance of the private sector to go into new investments in the Asian timber business and industry. But a proactive distillation of those four concerns point to the essence which is lacking in the private sector; the essence which with well designed financial instruments, society can encourage, or even force, the private sector towards SFM. The missing essence can be addressed by way of the following four concrete proposals:

- **Market Instruments/ Mechanisms.** The international markets for timber and timber products must respond and send the correct signals whenever products are from SFM sources. Good SFM practices must be financially rewarded. New market mechanisms must be developed (e.g., Carbon trading, an international market for certified timber) to address not only Reduced Impact Logging but also the other non-timber aspects of SFM (e.g., conservation of biodiversity, forest eco-health, legal conditions). New markets must be developed to recognise products with a sustainable life cycle (e.g., use of timber against aluminium/steel in house construction). Non-timber forest products must be brought into the mainstream of international marketing so that their real values can be ascertained;

- **New Fund for Tree Plantation.** The case for this was made above (see Concern 4) by way of two problems. Firstly, traditional bank loans cannot cover the development of tree plantations because of the long gestation period even for the very fast growing species. Secondly, investors are spoiled for choices. Studies have shown that, for all the benefits to mankind, tree plantations are not attractive investments when financial returns are studied. (An example of this can be seen in Indonesia and Malaysia where oil palm plantation investments are very active by comparison to tree plantations). A new type of fund must be created to break through the current banking barriers and to overcome the above two problems. UNFF must be engaged in the planting of more global forests by owning this new fund specially designed for planted forests;

- **Training.** Without a doubt, SFM is not possible without skilled and trained manpower. Unfortunately, ‘training’ is a major distraction in many international fora. The debates are endless in, say, FAO and ITTO circles, about the importance of training, and then an appeal is made for financial
assistance which presumably leads to an execution of the much needed training itself. However, closer inspection may expose the inappropriate level and quality of said training. *In the case of the tropical world, there is a lack of home-grown expertise, so often experts with temperate experience are used for training. The tropics must develop their own training institutions as a cornerstone for SFM.* Here the benefits of privatisation can also be reaped: the private sector must be encouraged to train, and to train intensely as an ongoing non-stop process. However, without appropriate financial instruments in place, this will never take off;

- **Research and Development.** In general, R & D are carried out by the public sector, thus it is necessary to use some financial instruments to nudge the private sector into this critical arena where its very existence will be determined in the long run. But, the private sector will only handle short-term R & D with direct benefits for profitability; long-term and fundamental R & D often has to be left to the government agencies. Here lies a significant problem: the private sector is not party to the design of the R & D programmes. Right now, there is very little economic research in the timber business; for example, why are the prices not remunerative in tropical timber to reflect its inherent quality?. Why is there no R & D on price stabilising mechanisms like, say, a plywood futures market? This type of work will form the basic fundamentals which an investor can call upon to make his decisions.

In conclusion, there is nothing very extraordinary about the above four proposals (except the direction of R & D). Many international fora have tossed them around enough times for years. The only extremely significant difference this time is that the proposals are made by the private sector.

The private sector must have a hands-on participation, and ownership, in developing the four proposals into solutions that will not only profit the private sector but also ensure SFM for global forestry.
Box 1. Japanese switching from tropical to temperate logs

The Japan Lumber Reports reported on the release of statistics of lumber and plywood by the Ministry of Agriculture, Forestry and Fisheries.

Quote:

‘In an attempt to escape from heavy dependency on south Sea hardwood logs and to diversify sourcing of material logs, plywood mills shifted to using more softwood logs like Russian larch and New Zealand radiata pine. The prices of these species are overwhelmingly lower than south sea hardwood logs. Such superior cost performance has contributed to develop the market for softwood plywood in the housing sector, such as for structural panel and roof sheathing.’

Source: Japan Lumber Reports. 26 May 2000. No. 324.

Box 2. China Log Import Trends

Deputy Secretary General of the China Log Distribution Association, Li Xiaobin, reported on the import trends for the first nine months of 2000:

• Log imports were 10.06 million m³ or up 43% over the same period last year. It was expected that total imports for the year 2000 will exceed 13 million m³, an all time high for China.

• Orders have changed from bulk order of single species to smaller orders of a variety of species. This satisfies the diversified markets of China.

• Log imports from Russia increased sharply to 4.65 million m³, an increase of 55%. It was expected that the total imports from Russia will be 5.8 million m³ for the year 2000.

• Russia is expected to be the main supplier of logs. In 1999, Russian logs made up 38% of all imported logs. By September 2000, that share rose to 46%.

Box 3. Philippines: from exporter to importer

After 12 years, the Senate and House of Representatives decided to present a common bill on forestry, entitled the Sustainable Forest Management Act, 1999. This sought to make it a policy of the Government to ban commercial logging in natural primary forests.

The dependency of the final action by Congress on this bill, and the fact that other bills do not offer many incentives, has stymied plans of the wood industry to develop forest plantations, invest in re-tooling of wood processing mills and undertake marketing networks.

The capability of tree plantations to supply industrial roundwood is suspect as its capacity is estimated at 400 000 m$^3$ a year while the annual requirements of the country are around 2.5 million m$^3$. Logging in the residual natural forests currently yields 600 000 m$^3$; but if full access is allowed, it may produce 2.0 million m$^3$ of round logs.

Thus, the wood industry has to rely on increasing imports of logs, lumber and veneer to meet the domestic need of the country for wood materials.


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China Imports of Russian Logs, 1995-1999 (m$^3$)

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<tbody>
<tr>
<td>Logs from Russia</td>
<td>357 788</td>
<td>529 374</td>
<td>949 324</td>
<td>1 591 272</td>
<td>4 304 946</td>
</tr>
<tr>
<td>Total Log Imports</td>
<td>2 582 601</td>
<td>3 185 483</td>
<td>4 470 669</td>
<td>4 823 042</td>
<td>10 135 683</td>
</tr>
<tr>
<td>Russian Logs, % of total</td>
<td>13.9%</td>
<td>16.6%</td>
<td>21.2%</td>
<td>33.0%</td>
<td>42.5%</td>
</tr>
</tbody>
</table>

ENDNOTES

1 In 1997, the population of greater Asia was about 3.5 billion out of a total world population of 5.8 billion. Pocket World in Figures. The Economist, 1999.

REFERENCES


## ITTO Criteria and Indicators for Sustainable Management of Natural Tropical Forests

<table>
<thead>
<tr>
<th>No.</th>
<th>Criterion</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Enabling Conditions for Sustainable Forest Management</td>
<td>This criterion addresses the general institutional requirements that are necessary to make sustainable forest management possible. Most of them cover the legal and institutional frameworks and are mainly descriptive in nature. Taken together, the information gathered indicates the extent of a country’s political commitment to sustainable forest management.</td>
</tr>
<tr>
<td>2.</td>
<td>Forest Resource Security</td>
<td>Sustainable forest management is a long-term enterprise and depends critically upon the stability and security of a nation’s forest estate. Hence, this criterion lays the basic foundation for sustainable forest practices. It considers comprehensively the extent and percentage of land under natural and plantation forests, the needs for conservation of biological diversity and the aspirations of present and future generations in relation to forest goods and services in the overall context of national economic planning, as well as in the quest to achieve sustainable development.</td>
</tr>
<tr>
<td>3.</td>
<td>Forest Ecosystem Health and Condition</td>
<td>This criterion relates to the condition of a country’s forests and the healthy biological functioning of its ecosystems. Forest conditions and health can be affected by a variety of human actions and natural occurrences, from air pollution, fire, flooding and storms to insects and diseases.</td>
</tr>
<tr>
<td>4.</td>
<td>Flow of Forest Produce</td>
<td>This criterion is concerned with forest management for the production of wood and non-wood forest products. Such production can only be sustained in the long-term if it is economically and financially viable, environmentally sound and socially acceptable. Forests earmarked for timber production are able to fulfil a number of other important functions such as environmental protection and the conservation of species and ecosystems. These multiple roles of forest should be safeguarded by the application of sound management practices that maintain the potential of the forest resource to yield the full range of benefits to society.</td>
</tr>
<tr>
<td>No.</td>
<td>Criterion</td>
<td>Description</td>
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<tr>
<td>5.</td>
<td>Biological Diversity</td>
<td>This criterion relates to the conservation and maintenance of biological diversity, including ecosystem, species and genetic diversity. At the species level, special attention should be given to the protection and of endangered, rare and threatened species. The establishment and management of a geographic system of protected areas or representative forest ecosystems can contribute to the maintaining of biodiversity.</td>
</tr>
<tr>
<td>6.</td>
<td>Soil and Water</td>
<td>This criterion deals with the protection of soil and water in the forest. This is best ensured by specific guidelines for different situations; to monitor the quality of soil and water in the forest and aquatic ecosystem, and also downstream water quality and flow.</td>
</tr>
<tr>
<td>7.</td>
<td>Economic, Social and Cultural Aspects</td>
<td>This criterion deals with economic, social and cultural aspects besides those mentioned under Criteria 4, 5 and 6. As a sustainably managed forest is a constantly self-renewing resource which produces a host of benefits, it can enhance the quality of life of the population and contribute to the sustainable development of the country.</td>
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Chapter 4

The Private Sector and Sustainable Forest Management – South America Perspective

Ivan Tomaselli

Executive Summary

South America is a large continent and most of its land is still covered by forests. As in other parts of the world, countries of the region have for many years considered forests as an obstacle to development and to have relatively low economic importance.

The total forested area in Latin America is around 880 million ha. Most of it is natural forest located in Brazil, Peru, Bolivia and Argentina. Forest plantation area is relatively small, only 8.8 million ha, but the plantations have an important contribution to the socio-economic development of the region.

Most forest plantations, which are particularly important in Brazil, Chile, Uruguay and Argentina, were established based on fiscal incentives. Brazil and Chile are successful models of forest plantations development while Argentina and Uruguay are still developing theirs. The fiscal incentive programs implemented in the past to establish plantations were important to attract investments from the private sector, to increase employment and revenues, and finally to generate taxes. The incentives were and still are limited to forest plantations. No incentive or other mechanisms were identified to help fund sustainable forest management (SFM) of natural forests.

Forest regulations are growing in most Latin American countries. These regulations tend to be excessive and inappropriate; this fact, together with the low managerial capability of local governments, increases the costs of public administration. These costs are at the end transferred to the production chain, and funding of operations to improve forest practices at field level remains a problem to be solved.
Decentralisation policies adopted by many countries in the region are not working as expected for forests. Decentralisation in forests has created overlapping structures and legislation, increased bureaucracy tremendously and added new costs.

Costs of SFM will continue to grow during the coming years as new issues are incorporated into the concept of sustainability and further improvements in forest practices and forest protection are required. The governments of South American countries will tend to accommodate external pressures and the size of the State will grow; this will further increase costs.

Certification is gaining importance and it will become an important element to ensure market access in the future. The control and monitoring mechanisms of governments, and the government-established permit systems per se should be sufficient to ensure that forest products traded in the market (that have fulfilled government requirements and are documented) have originated from properly managed forests. This has so far not been the case. It is said that the governments’ control and monitoring systems have failed and thus are not sufficient to assure customers that the goods they are buying are from well managed forests. The result is another overlap of functions, and a source of more costs.

In Latin America, the private sector is already a major investor in SFM, but governments have a role to play in attracting more private funds to further improve forest practices. Some lessons can be learned from programs developed and implemented to support the expansion of forest plantations. There are several alternatives to be explored and tested to encourage private sector investments. In a first stage incentives can be used as a catalyst for the adoption of SFM. A second stage could consider
incentives for the enhancement of performance and, finally, mechanisms to sustain the
process should be considered.

At the same time, the existing regulatory measures should be revised and efforts
should be made to increase the efficiency of the governments of the region. Reducing
regulatory measures and bureaucracy and increasing efficiency in enforcement of laws
and regulations are among the important issues to be discussed. International
cooperation has been very significant and active in the region but has not been able to
effectively help governments to improve their managerial capability and to overcome
existing limitations. International cooperation needs to review the progress made so
far, and based on lessons learned, to find alternatives to improve their efficiency and
effectiveness.

The solution requires coordination among all stakeholders, and this means
governments, international cooperation, the private sector and civil society. It has to
be recognised that the private sector is already playing an important role in financing
SFM, but for sure can do more. The private sector needs to work towards continuous
improvements in forest and industrial operations to gain productivity.

The introduction of new species in the market is also in principle a task for the
private sector, but other stakeholders need to be involved and to cooperate. Introducing
new species is fundamental to make compatible the raw material source (forests)
compatible with the market demand (consumers choice). This has a direct effect on
productivity and also on facilitating the implementation of forest management plans
accordingly to the principles of sustainability.

There is no simple solution envisaged but the basic principle is clear: if the
private sector has to increase its contribution to financing SFM, governments and
other stakeholders need to create the necessary environment for investment. Investment
is needed to improve performance and competitiveness in the market. The market is,
in the end, the main source of funds to finance SFM.

Incentives need to be developed to catalyse adoption and to enhance performance,
but to sustain the process, other conditions need to be met. These other conditions
include, among other things: appropriate, stable and transparent regulations, economic
and political stability, guarantee of access to forest resources and to markets.

INTRODUCTION

This paper was prepared at the request of CIFOR in order to support discussions on
how to attract more private investment toward sustainable forestry activities, aiming
to facilitate the implementation of IFF proposals for action, that called upon countries
and relevant organisations 'to encourage private investments in SFM by providing a
stable and transparent investment environment, within an adequate regulatory
framework that also encourages the re-investment of forest revenues into SFM'.

This paper deals mainly with the South American perspectives, although the
main aspects discussed and concepts presented might be more generally applied.
In the preparation of this paper, emphasis has been given to policy issues. The discussion presented is based on the hypothesis that the private sector is actually the main investor in SFM, and that governments in the region need to be more efficient and develop new mechanisms in order to improve their contribution to the effective adoption of SFM.

South America is a large continent and most of its land is still covered by forests. In the region are located over 30% of the world’s tropical rainforests, but there is a large variety of other forest types with an enormous biodiversity.

In the past, as in other parts of the world, forests in Latin America were considered an obstacle to development and to have relatively low economic importance. In fact, until recent years, the potential of forests to contribute to the social and economic development of the region was, with the exception of some countries, not fully recognised.

For a long time the region had a negative international forest products trade balance. Only after the 1960s did land, agriculture and forest policies developed by some countries contribute to changing economic perspectives related to forests and forestry in the region. In the 1960s and 1970s new forestry policies put in place had a substantial impact particularly in Brazil and Chile. These countries developed fiscal incentive programs to support the establishment of fast growing forest plantations. In a short period, the plantations made available uniform and low priced raw material and this has been recognised, as probably the most important element to attract capital needed to further develop forests, and also to establish a competitive forestry industry in these countries.

Around the same period, land and agriculture policies, including incentives, led to the occupation of tropical forest areas, particularly in Brazil. As a result, large volumes of high quality and low priced timber were made available. Also during that period the tropical timber industry was flourishing in Asia and tropical timber products gained new markets. These facts opened new perspectives for investment, particularly in the Amazon basin, but forest operations were carried out mostly based on unsustainable practices.

Following the 1992 Rio Summit, sustainable forest management (SFM) started to occupy more space in the global discussions. Many South American countries, as in other parts of the world, started to develop and implement new policies and mechanisms to enforce the adoption of SFM.

To achieve desirable changes (improvements) in forest practices, new and additional financial resources are required. The issue started to be discussed domestically and also became part of discussions in international fora. The discussions continue, and mobilisation of international and domestic financial resources for SFM remains one of the most critical and politically sensitive issues on the international agenda.

It has been recognised that availability of domestic public funds especially in developing countries, even when combined with resources made available by international cooperation, have not been sufficient to implement SFM. It has also been recognised that additional funds should be made available and that the private sector has a role to play, and that it can fill the gap between the needs and the present availability.
At the moment the flow of capital from the public and private sector is directed mostly at monoculture plantations and is concentrated in a few countries of the region. Thus the financial resources needed to ensure SFM in natural forests, particularly in the less developed (tropical) countries, are still limited.

FORESTS IN SOUTH AMERICA

Most of the South American land area is still covered by forests. There are various forest types in the region, varying from tropical rainforest in the north to temperate forests in the southern cone. Most of the forests are native and plantations are only significant in some countries.

Areas covered by forests in South America are presented in Table 1. Total forested area in the region is around 880 million ha of which about 80% are concentrated in four countries: Brazil (with 63.2%), Peru (7.7%), Bolivia (5.5%) and Argentina (4%).

<table>
<thead>
<tr>
<th>Country</th>
<th>Area (1 000 ha)</th>
<th>% of Total</th>
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<tbody>
<tr>
<td></td>
<td>Native</td>
<td>Plantation</td>
</tr>
<tr>
<td>Argentina</td>
<td>33 942</td>
<td>950</td>
</tr>
<tr>
<td>Bolivia</td>
<td>48 310</td>
<td>30</td>
</tr>
<tr>
<td>Brazil</td>
<td>551 139</td>
<td>4 500</td>
</tr>
<tr>
<td>Chile</td>
<td>7 892</td>
<td>1 900</td>
</tr>
<tr>
<td>Colômbia</td>
<td>52 988</td>
<td>200</td>
</tr>
<tr>
<td>Ecuador</td>
<td>11 137</td>
<td>120</td>
</tr>
<tr>
<td>Fr. Guyana</td>
<td>7 990</td>
<td>-</td>
</tr>
<tr>
<td>Guyana</td>
<td>18 577</td>
<td>-</td>
</tr>
<tr>
<td>Paraguay</td>
<td>11 527</td>
<td>40</td>
</tr>
<tr>
<td>Peru</td>
<td>67 562</td>
<td>300</td>
</tr>
<tr>
<td>Suriname</td>
<td>14 721</td>
<td>-</td>
</tr>
<tr>
<td>Uruguay</td>
<td>814</td>
<td>300</td>
</tr>
<tr>
<td>Venezuela</td>
<td>43 995</td>
<td>500</td>
</tr>
<tr>
<td>TOTAL</td>
<td>870 594</td>
<td>8.840</td>
</tr>
</tbody>
</table>

Source: FAO, adapted by STCP
In South America the rate of conversion of native forest land to other uses over the last ten years was on average around 0.5% per year (FAO 1999). This rate is much lower than the general perception, but in any case over the years large forest land areas were converted to other uses. Native forest areas continue to be reduced, but as a result of new policies and regulations developed by local governments to protect the environment and also improvements in the enforcement of the laws, the deforestation rate in the region is now declining.

Forest plantation areas are relatively small, contributing only 1% to the total forested area in the region. Plantations are important in the southern cone, with areas located in Brazil, Chile, Argentina and Uruguay. These countries, together with Venezuela, have over 90% of the total existing forest plantations in South America.

As previously mentioned most of the existing plantations were established during the 1960s and 1970s when some countries of the region developed fiscal and other financial and incentive mechanisms. These mechanisms were fundamental in making available the required capital to invest in forest plantations, particularly in Brazil and Chile. Forest plantation areas in South America are generally increasing. In the last few years, forest plantations areas have increased substantially in Argentina and Uruguay, as these countries have put in place incentives to expand them.

EXISTING FUNDING MECHANISMS FOR FORESTS

In spite of the reduction in the rate of deforestation during the last few years, and at the same time an increase in forest plantation areas, there is still much progress to be made to ensure the sustainability of forests in the region.
Demand for forest products is growing, as countries seek to satisfy their domestic needs and at the same time to increase exports to raise foreign currency for priority social and economic development programs. Reinvestment in forests has generally not been a real priority for most countries of the region.

Past development of forest plantations in Brazil and Chile served as a model to other countries of the region, and some have to develop and implement their own mechanisms. Argentina, for instance, developed and is putting into practice a very aggressive program to expand forest plantations. The results have been very positive (see Box 1).

**Box 1. Forest Development Program in Argentina**

In 1995 the Agriculture, Cattle, Fishing and Food Secretariat - SAGPyA, based on Law 21695 of 1992, issued regulations to promote forest plantations in Argentina, and created the National Program of Forest Development.

The program includes allocation of funds for direct investment by the Government in the establishment and management of forest plantations. From 1997 to 2000 around US$60 millions were invested by the Government in the Program.

The Program defines priority regions for forest plantations. The amount made available by the Government to establish plantations depends on local conditions and varies from US$340.00/ha to US$700.00/ha. Additional funds are made available to manage the plantations: US$40.00/ha for pruning and US$50.00/ha for thinning.

The Program has been an important mechanism to enlarge forest plantations in Argentina. Most of the plantations are in small properties (so far over 4000 small landowners benefited from the Program) but funds are also available to large landowners and companies. It is expected that by year 2003 forest plantation area in Argentina will reach 1.5 million ha, and increase of 50% over the pre-program area.

Besides the direct investment the program also includes other important mechanisms, such as the Law of Fiscal Stability. This law establishes a fiscal stability period of 33 years for activities related to forest activities, including fiscal implications related to plantations establishment, management, harvesting and trading of forest products. The private sector in Argentina considers this instrument as a key element, as stability in the rules is fundamental in long-term investments, such as in forest plantations.

On the whole, forest plantations areas are expected to expand rapidly over the next few years in Argentina, Uruguay and Paraguay. There is no doubt that funding mechanisms and other forms of incentives put in place by Governments are, at least for plantations, an important element in starting a process that ends up attracting new funds from the private sector, used both to enlarge forest plantations and to develop the potential represented by the forests (industrial investments). Additional private funds, and revenues from the investments, will sustain the process.
Taking this into consideration, the Government of Brazil which has been very reluctant to reintroduce incentive mechanisms for the forestry sector, at least based on the model used in past, has recognised at least the need to have more appropriate credit lines to support private company programs to expand forest plantations. As a result of this recognition credit lines for the establishment of forest plantations are available at the National Economic and Social Development Bank (BNDES), a Government organisation engaged in the implementation of national economic and social development priorities.

In spite of this fact, it seems that there are still limitations in Brazil on financing forest plantations. The private sector claims that the existing financing mechanism is neither sufficient nor appropriate. Interest rates are said to be too high and grace and repayment periods are too short. Independently of these facts it has to be recognised that some progress has been made, and BNDES loan terms are better than credit lines made available by the private banking system.

In any case, it is felt that direct incentives (such as fiscal incentives) should not be just banned from the discussion. There are cases where further analysis is needed. A fiscal incentive is at first a problem since government revenues are reduced. The establishment of incentive has to be based on technical and political aspects. It should take into consideration, among other things, how efficient the process can be in order to ensure attractive returns on the long term ‘invested capital’ which the incentives represent.

More and more governments will need, within certain limitations, to think as investors. The funds available are limited, and investments need to be made in those opportunities where higher socio-economic returns are possible. Studies carried out in Chile revealed that the fiscal incentive program for forest plantations achieved an attractive rate of
return on the investments made. The Chilean program attracted substantial amounts of private capital, increased employment and revenues and finally taxes returning to the government. When all aspects were considered, it was found that the internal rate of return (IRR) of fiscal incentives for forest plantations in Chile was around 15%, higher than most of the investments made in the country during the last decades.

On the whole, forest plantation areas are expected to expand rapidly over the coming years in Argentina, Uruguay and Paraguay. No doubt that funds and other forms of incentives put in place by Governments are, at least for plantations, important to start a process of ensuring forest area expansion and that will attract private funds to sustain the process. Studies carried out in Chile also point out that fiscal incentives had a positive and attractive rate of return on the investments made, since the long range investments made by the private sector increased employment, revenues and finally taxes returning to the government.

The governments of most countries in South America have other social and economic short-term priorities that need to be met, and thus sufficient capital is not available for long term investments in forest plantations. Thus, public funds to support forest plantation establishment are still limited, and it has accordingly been generally accepted that investments from the private sector will gain importance in this area, and so the gap in plantations financing will be gradually solved.

The problem really remains of how to finance SFM of natural forests. In the region, no mechanism has been identified to fund SFM of natural forests that could, as in the case of plantations, be used as a catalytic element to attract private investments that, in the end, would sustain the process.
CONTRAINTS IN FINANCING SFM OF NATURAL FORESTS

Low sustainability of agricultural projects in the Amazon and environmental pressures were important factors for the development of new forest policies in South America. The process started in Brazil, where several legal instruments to further regulate forestry activities were developed in the last 20 years. In recent years other countries of the region have also developed new mechanisms to regulate forest-related activities. Bolivia adopted a new forestry law in 1996 (Gobierno de Bolivia, Law 1700). Peru just approved a new forestry law in 2000 (Gobierno del Peru Law 27308) and other regulatory mechanisms are under development (Ministerio de Agricultura/INRENA 2000).

The models adopted may vary among the countries, but in terms of concept, the policies are similar. Resource ownership and forms of access to resources are, for instance, different. For example in Brazil, production forests are basically private, while in Peru and Bolivia native forests are, by constitution, State-owned, and their use is made available to the private sector (privatised) under a concession model.

It seems that one of the most radical changes in the region during recent years was in Bolivia. The enforcement of the new forest law introduced, no doubt, the principles of SFM for natural forests, but on the other hand the economic sustainability of the process can be questioned (see Box 2).

There are indications that it will probably be necessary to revise the forestry law and to find new alternatives if forests are to be protected in Bolivia. Under the present scenario, the private sector of Bolivia (that at moment is basically the only party responsible for financing SFM) will probably not be able to survive. The impact of having transferred SFM costs to the private sector, the application of excessively high standards in forest practices right from the beginning, and the creation of several regulatory bodies and uncontrolled bureaucracy are now part of the equation. They create a major problem to be solved to turn forestry activities in Bolivia into a viable activity to support national development.

In practice, the new forestry law of Bolivia, instead of supporting SFM, has created new and additional costs for both the private and public sectors, and this has been detrimental to forestry activities and to Bolivia as a whole. Industrial activities collapsed after the new law, forest products exports drastically decreased in 1999 and private sector debts soared.

A recent study (STCP 2000) indicates that there were other factors that contributed to the present situation, but in any case the new forestry law had a substantial impact. At the moment, Bolivian forestry sector debts are over US$250 million, an amount much higher than the existing capacity for re-payment, taking into consideration current interest rates. Bolivia is a small economy, but has large forest areas that can be sustainably managed and forestry can play an important role in socio-economic development. The forestry sector plays an important role in the country and there is no doubt that the poor performance of forest industry in the recent years has contributed to the growing social problems, and hence also to the political instability of the country.
Box 2. The New Forestry Law in Bolivia

After a long process of consultation coordinated by the Government of Bolivia, involving several stakeholders, the new forestry law was approved in 1996 (Law 1700). According to the Bolivian Constitution, forest belongs to the State and the new law establishes that natural forests concessions can be made available to the private sector by an open bidding process under certain agreed conditions.

Law 1700 establishes that payment for the concession made available to the private sector (timber companies) is to be based on the total area of the concession, at a rate of US$1.00/ha per year; this value paid every year, independently of the amount of timber or other forest products removed from the area. The concessionaires are also responsible for costs related to planning, forest inventory, preparation of the forest management plan, and implementation of SFM, as well as for the infrastructure establishment and maintenance, security and protection of the area (against illegal logging, hunting, deforestation, and other non permitted activities), for the conservation of protected and special environments within the concession and other related costs.

The law also establishes other forms of access to forest resources, the so-called ASL (Agrupación Social de Lugar) and TCO (Tierra Comunitaria de Origen). These other forms of concession were specially developed to accommodate local communities (ASL) and indigenous populations (TCO) interests. In these types of concession most costs related to SFM are covered by specific funds, mostly based on the payments (royalties) paid by the timber industry. Also in the ASLs and TCOs responsibilities of the concessionaires are reduced and payment is based on the area operated, rather than over the full area of the concession as in the case of the private sector. The overall result is that payment by cubic metre and costs of operation in concessions made available to the private sector is much higher than in the case of other alternatives.

Outside of the concessions, forest areas can be converted to agriculture. The so-called ‘agriculture lands’ are private and logs obtained during the conversion process can be made available to the timber industry. Also ‘agriculture land’ can be kept forested, and managed for timber production. In this case no payment over land area (as in the private sector concessions) is due to the government.

In order to enforce the law new regulatory bodies were created at federal, state and municipal level (as established by Law 1700). The increase in control and monitoring structures and in the bureaucracy increased government expenses substantially. At the same time, as a result of the new law, large concession areas were returned to Government and the total area under concession in the country was reduced from about 22 million ha in 1997 to the current 6 million. Thus, government revenues dropped below initial projections, resulting in a ‘sectorial’ government deficit.

The reduction in the government revenues might not be the main negative impact. Land returned to the State has had no protection. Illegal logging and deforestation in the returned areas have increased substantially in the last few years.

The law did not consider any transition period. The private sector was not ready to cope with the new and additional costs to sustainably manage the forests and
Peru is following the same track, and will also face the same problems in the future if regulatory measures under development at the moment do not take into account the lessons learned in Bolivia.

Early this year, Brazil created the National Forest Program (Ministério do Meio Ambiente 2000). The Program foresees, among other aspects, the expansion of government owned production forests in the Amazon region (expanding National Forest areas). The intention is to make these areas available to the private sector through a concession model.

The basic concept in Brazil is different from other countries. It has to be remembered that while in Bolivia and Peru natural forests belong, according to their constitutions, to the State, in Brazil natural forests can be (and mostly are) private. The adoption of a forest concession model in Brazil has been defended as way to facilitate access to the resource by the private sector. Defenders of the process have basically two explicit arguments:

- The private sector is largely composed of small and medium size companies, under-capitalised, with limited capacity to invest and maintain sufficient land forest land areas as required to implement SFM;

- Implementation of SFM in private areas would concentrate private land ownership, and this would create a potential risk of increased social conflicts.

These arguments are no doubt valid, and the combination of the two models, having private and government land under SFM might be, in the case of Brazil, a better solution than the existing system.

Box 2. Continued

at the same time, to cover additional costs imposed by the government increased expenses as a result of the expanded structure established to enforce the new regulatory measures.

Furthermore transition to the new situation took place at the same time the international market for tropical timber was suffering due to the Asian financial crisis (Pleydell and Tomaselli 1999). With increasing costs and reduction on returns due to low market demand and price collapse, the private sector of Bolivia has shrunk in the last two years.

Prospects for the near future are not good. Private sector debts are out of control and companies have no way invest to further in SFM, as investment to reduce debt became a priority to continue to work. There is no development agency or state bank that could take into consideration the particularities required in financing SFM. Private banks consider the forestry sector of Bolivia as high risk, and concessions are not accepted as a bank guarantee.
The model to be considered is a constant part of the agenda in discussions between government and the private sector in most South American countries. It is also generally a point of disagreement. In the end it really does not matter if forests are privately or publicly owned. The crucial problem relates to how SFM is going to be financed, especially considering that as the concept of sustainability develops, the requirements for SFM (and thus costs) increase.

At international fora, governments have agreed on several standards to implement SFM that are gradually upgraded. Nevertheless it seems that most governments have, during this international dialogue, underestimated the needs for new and additional funds to implement SFM. Trapped by the process, governments are now inclined to:

- Leave the task of finding new and additional funds to finance SFM to the private sector;
- Increase regulations and the monitoring/control structure and bureaucracy, thus creating more costs;
- Search for new revenues to cover sectoral fiscal deficits due to misdirection of funds and increasing bureaucracy.

So in fact, besides finding ways of meeting the new and additional costs of implementing SFM in natural forests, the private sector is now also being requested to support growing government expenses resulting from excessive regulation and the growing size of the State.
**Bolivia** is an example of how the State and its expenses have grown in South America. The Federal government was the only one dealing with forest related issues in the past. With the new forestry law, state and municipal governments are also involved. The basis for that decision was the decentralisation law (Gobierno de Bolivia, Law 1654), but decentralisation in forests seems not to have worked as expected since government structures are now needed at the three levels, with more expenses and bureaucracy. Furthermore the new model has so far not promoted the social and public interest in SFM that would be expected.

Government decentralisation policies are spreading everywhere, and no doubt this has advantages. It improves transparency, facilitates adjustment to local specific conditions, involves local communities and in principle it should increase efficiency (and reduce expenses).

**Brazil** is also moving towards decentralisation in forest regulation and control. Some States have already established structures to regulate and control forest activities. So far, the results have not been positive, as several overlapping areas have been created, tremendously increased the bureaucracy, opened new areas for conflict and added new costs to the private sector (see Box 3).

As it is at the moment, the private sector is paying for two bills: new and additional costs for the adoption of SFM and costs of covering the growing government expenses. As the private sector is not willing (or has no means) to pay the full bill, the result is less money to SFM, and growing informality (illegal logging). Of course, in this context, to cover government expenses will always be a priority, and more money is now flowing to maintaining the overlapping structures governments think they need for growing control and monitoring and less for the implementation of SFM at field level.
Box 3. Decentralisation of Forest Regulation and Control in Brazil

The federative pact considers that the responsibilities related to forest and environment control and monitoring are to be taken by State governments, and the Federal government would be responsible for the development of general polices related to the matter.

As the rules are not clear, overlapping in legislation is quite common, and it has become a problem to the private sector. The conflicts now need to be solved between the private sector and the two different levels of Government. Besides, State Governments are now discovering that forest and environment can be a source of revenues to cover growing government expenses. All this ends up in new and additional costs to the private sector.

One of the cost implications arises from the permit system. In several states permits for forest and forestry industry operations now need to be requested at Federal and State levels. So the decentralisation process has resulted in two times more bureaucracy and costs.

Conflicts between the Federal and State Governments are, as expected, increasing. An example of conflicts is in Rondonia. In the recent years Government of Rondonia, supported by international cooperation carried out a program called PRONAFLORA. Under this program a land use zoning activity established that 60% of the territory has to be kept as forest (Governo de Rondônia, 2000). This is not compatible with the national legislation that established for the Amazon region a minimum forest (original vegetation) coverage of 80% (legal reserve area).

As a result of the national legislation, existing degraded land needs to be recovered in order to achieve the minimum level of 80% for the legal reserve. The most peculiar fact is that forest plantations are not acceptable as legal reserves, so degraded land cannot be used for forest plantations as recommended in the land use zoning defined by the State of Rondonia government.

As long as the governments do not decide, private companies that established plantations in degraded land are under threat, and can be penalised by federal government authorities. Basically forest planters have two options: destroy the already established forest plantations and recover original vegetation converting into legal reserve or purchase new forest land (with original vegetation) to compensate.

Another example is the new state law under discussion in Mato Grosso State. The law under discussion introduces under the permit system the requirement of an Environment Impact Assessment (EIA) in forest management plans. There is a specific regulation at federal level on EIA, and for this reason the federal government removed this requirement for forest management plans two years ago.

The law under discussion in Mato Grosso will enable the state government to create new forms of taxes and duties over timber produced from natural forests. The parameters under discussion suggest that if the new law is passed and enforced costs of raw material will be increased by at least 30%.
PROSPECTS FOR THE FUTURE AND POSSIBLE SOLUTIONS

SFM costs will continue to grow

It is likely that during the coming years, new issues will be incorporated into the concept of SFM and further improvements in forest practices and forest protection will be required.

The governments of South America will continue to be in a weak position to defend their interests in international fora. Many governments are also not capable of screening out what is really needed to ensure sustainability of forests from those points that are in fact driven by the interest of pressure groups.

Internally, governments in Latin America will try to pass the responsibility for financing the growing costs of SFM to the private sector. In order to have this task completed, new regulatory measures will be developed. To enforce the regulations it will be necessary to strengthen institutions, and this will lead to a larger state.

Governments will continue to accommodate pressures with no real plans for the future

SFM in fact has, no doubt, opened up new options and opportunities for international cooperation, and this will continue. Support for institutional strengthening, policy development, and other related matters are amongst the most frequent offers from international cooperation partner.

There are several outsiders that for several and different reasons are interested in the continuation of this process. For the governments there are also different reasons to maintain the present move towards more regulations and increase in the government size. There are parties with legitimate interests in the process, and there are others that are willing to progress slowly and accommodate pressures from outsiders.

Very few have realised or want to discuss the fact that the process is leading to a growing size of the state (and other organisations), with limited results in the implementation of sustainable forest practices. In fact financing the new government structures, and to keep other national and international organisations of various types operating and visible, has in many cases become a priority while funding SFM practices in natural forests remains, and will in the coming years continue to be, an unsolved problem.

Other costs and factors are gaining importance

As already discussed, the adoption of SFM increased and will continue to increase direct forestry costs and also government expenses. These new and additional costs have been mostly transferred to the private sector. Besides, as already mentioned, there are clear indications that the costs will continue to increase in future and this fact per se is a problem to be solved. Nevertheless it has to be remembered that there are other indirect emerging costs to be covered. Among them it is worth mentioning the costs of forest certification.
The primary reason for forest certification, as stated by certification promoters, is to create a credible system that could assure the market that forest products made available to consumers were produced under sound forest management practices, in conformity with internationally agreed criteria. In practice, governments should be doing that, as:

- The governments have discussed and agreed at international fora criteria and indicators (C&I) for the measurement of progress towards sustainable forest management;

- The principles of sustainability have been incorporated into the legislation of most countries;

- National institutions have been restructured and strengthened, and other actions have been taken to enforce law, improve monitoring and control.

So it would be expected that forest products traded in the market, have been authorised by the government, taking into consideration the existing legislation. As governments have put in place an institutional framework compatible with internationally agreed principles of sustainability, including internationally agreed C&I, products traded in the market duly authorised by governments should be considered as a certified products.

The reason for requiring an additional certificate of origin is said to be the lack of credibility of governments and failures in the official control and monitoring system. The result is in fact another overlap of functions, and in the end more cost. Certification costs are high, and are directly paid by the private sector which in fact already pay taxes to governments. So the private sector is in principle charged twice for the same work. Furthermore, the incorporation of new concepts will in the near future increase the costs of certification.

There is no premium for certified wood products, but it is becoming a must to ensure market access, and for the private sector market access is of crucial importance. Pressure groups have been able to use certification to create market impediments, and this will in future years make forest certification gain space in South America and in other parts of the world.

Among South American countries, the fastest developments in certification of natural forests have happened in Bolivia, promoted basically by international cooperation partners that provided technical assistance and also covered part of the costs for certification. There was a strong expectation that certification would help to overcome the forestry sector crisis in Bolivia, but this apparently did not happen. No price premium was paid, and other decisive market factors did not change with certification: price, quality, delivery time, and preference for traditional species continue to be the main market selection factors (see Box 4).
As already mentioned, there are several differences in terms of forest ownership and other issues related to forests among the South American countries. Thus, as expected, the role of several stakeholders and actions needed to be taken by them in order to improve future conditions and to facilitate the attraction of more private investments towards SFM, will depend, of course, on the particular conditions of each country.

In any case, as in other parts of the world, governments in South America have an important role to play in attracting more private investment towards sustainable forestry activities in natural forests. Lessons can be learned from programs developed and implemented to support the expansion of forest plantations.

Especially for natural forests, but not exclusively, there are at least two basic elements (or conditions) that governments need to take into consideration to facilitate investments from the private sector in SFM. They are (a) a stable investment environment and (b) clear and appropriate regulatory mechanisms. The sections below expand on these:
Stable investment environment

Forestry activities are only sustainable if long-term investments are envisaged. In South America, guarantee of access to the resource (and that includes land tenure in countries having private forest land as the case of Brazil) is among the most important issues for attracting private investments in SFM. Fiscal and legal stability is also of particular interest in long-term investments. Furthermore, as in any investment area, general economic and political stability is required.

Clear and appropriate regulatory mechanisms

The growing concern directed at environmental issues is a driving force for increasing regulation and for creating complex instruments that are normally costly, difficult to understand and, in general lack transparency. Moreover in many cases the instruments are based on experience gained in other conditions and do not take into consideration local peculiarities. In most cases regulations become a source of conflict, and inevitably lead to a substantial increase in costs and open opportunities for corruption. There is no doubt that this situation needs to be revised. Besides, it is also necessary to find ways of increasing efficiency at different government levels, to avoid overlapping and new expenses that, unavoidably, are transferred as costs to the production chain.

There are several other alternatives that could be explored and tested by governments in order to encourage private investments in SFM of natural forests. One possibility would be to consider the phased implementation of the following aspects that would sequentially promote adoption of SFM, enhance performance of management regimes, then sustain the process:

First phase: incentives for the adoption of SFM

On this aspect, lessons can be learned from incentives that were made available for plantations. The fiscal incentives (subsidies) were not developed to be in place forever, but to serve as a catalyst element in the development process. The results obtained prove that this premise was correct.

In the case of SFM of natural forests no mechanism has been foreseen. In fact in most cases regulations were not even agreed among the stakeholders, local knowledge was ignored, and internationally agreed criteria were used as parameters. Costs are now difficult to internalise.

So, properly designed incentives are important to facilitate and motivate the adoption of SFM, but, as in the case of plantations, the most important point is that the incentives should be designed to work as a catalytic element for the adoption of improved forest practices.
Second phase: incentives for the enhancement of performance

The regulatory instruments should set, from the beginning, the minimum requirements. In some cases further improvements can and need to be made, and higher performance standards should be achieved.

In practice anyone achieving better performance than the minimum required standards should be eligible for a premium. An innovative incentive scheme can be designed for this purpose. Facilitated access to capital would be an example of such an incentive, but there are several other options to be explored, taking into consideration gains in environmental, social and economic performance.

In the development of such an incentive scheme, the following basic premises should be considered:

- Regulations should be kept to a minimum (simple and transparent, covering core issues only). This would help to reduce corruption and government expenses;

- Incentives should include participation of government in financing SFM, taking into consideration the fact that as performance in the implementation of SFM by the private sector increases, costs to public sector (requirements on monitoring and control) are reduced.

Third phase: mechanisms to sustain the process

Forestry activities will only be sustainable if long-term planning is taken into consideration. There are no financing mechanisms in Latin America for SFM, and the development of appropriate mechanisms is of outstanding importance.

Other and innovative mechanisms are also needed here. Among them, it is worth mentioning the need for hedging mechanisms, to create more stability in the market place. This is an important factor to increase investments from the private sector in SFM. Lessons on how instability can affect forestry activities were learned from the Asian financial crisis (1997/1998); an ITTO study (Pleydell and Tomaselli 1999) carried out on its effects on tropical timber already recognised the need to develop a hedging system.

International organisations need to be involved in the process and their investments and priorities need to be reoriented. There are cases where the policies of the organisations need to be fully revised. A more proactive approach is needed from most international organisations.

One of the examples is the 1991 World Bank Forest Policy. The policy does not have the necessary elements to attract more private investments to SFM. It does not create the necessary environment to attract investments nor support actions to improve efficiency in the production chain, which would help to generate new funds, based on
the market, to finance the adoption and implementation of SFM. In fact the World Bank 1991 Forestry Policy was one of the elements that contributed to increasing the bureaucracy and added new costs to the system. There is little expectation that this will change substantially with the new policy now under discussion.

The private sector is already playing an important role in SFM. It has to be recognised that among the stakeholders the private sector is, for many countries, by far the most important, if not the only, direct investor in SFM. In any case there is no doubt the private sector can do more.

In general, the private sector is reluctant to cooperate with other stakeholders. There is no doubt that in many cases the reluctance is based on concrete arguments, as cooperation among stakeholders has not been easy, and conflicts are frequent.

In any case there are key issues that will need to be faced by the private sector, and the solution will be much easier if cooperation among stakeholders improves. Perhaps among the most important issues at the moment is to find ways to make SFM practices compatible with market requirements. In this connection, it is of extreme importance, for example, to find markets for less known species (LKS). The market has been extremely reluctant to accept LKS as this requires development of processing technologies. Given generally conservative market, it is most important to break traditions if introduction of LKS is to succeed.

The existing mechanisms, such as certification, are not and will not solve the problem. There is no question that during the coming years the market will increase its demand for certified timber products, but it will also continue to buy mostly the best grades and from a restricted number of selected species.

To solve the problem, the private sector in South America dealing with natural forests has to coordinate with other stakeholders in order to:

*Improve the forest and industrial operations performance*

Again a benchmarking can be made with the timber industry based on plantation forests operating in the region. Basic technology and knowledge are available to improve forest and industrial performance, and in the end upgrade product quality and gain competitiveness. On the other hand this will require investments in equipment, adoption of new technologies and an increase in human resources skills.

Governments and international cooperation agencies need to support these efforts. By improving industrial performance better products will be produced and made available to the market and at a lower cost. This will increase profits and make more funds available to invest in SFM.

*Increase the number of species in the market*

The diversity of species, and the lack of markets for LKS, is perhaps the most serious constraint for the implementation of SFM. The diversity of species and lack of a market for LKS has been one of the factors responsible for failure in several forestry
investments in the region. The market is very selective in terms of species, and working with a few species increases operational costs (see Box 5). Logging a reduced number of species is a constraint not only from the cost point of view, it can also represent a problem in the implementation of forest management plans, if agreed SFM criteria are to be fulfilled.

**Box 5. Impact of Timber Volume Harvested on Costs**

A recent study carried out in Bolivia shows that by increasing the volume harvest of natural forests under sustainable management, costs of timber production can be significantly reduced.

Most tropical forests in South America have high species diversity. LKS have market restrictions with the market continuing to give preference to traditional species. When a market for LKS is found, prices are much lower, and in the case of Bolivia it does not cover the costs of production and distribution. Thus in fact LKS, at this moment, have no market.

As a result of lack of a remunerative market for LKS, timber producers in Bolivia are only harvesting a few species, and removals during harvesting are generally low (on average 3 m$^3$/ha). Recent studies have shown that with a small improvement in the market conditions (acceptance of a few more species) the volume to be harvested could reach around 12 m$^3$/ha.

The increase in the volume removed would have a substantial impact in log production costs. Costs of logs delivered at the mill would drop from the present average costs of about US$45.00 per m$^3$ to an estimated US$26.00 per m$^3$. This represents a reduction in costs of more than 40% over the present situation.

Increasing the volume reduces the cost per unit volume of all operations: forest silviculture and management, harvesting and transportation. The efficiency gained in forest operations has important impacts on the final product cost. First estimates indicate that by only increasing the harvested volume per unit area from 3 to 12 m$^3$, the costs of primary products at the mill gate (ready for shipment) could be reduced in certain cases by 25% or even more.

In the case of Bolivia, the increase in harvesting volume per unit area is fundamental to allow local producers to regain markets. With the adoption of SFM, enforced by the new forestry law, the Bolivian timber industry lost large market shares, and to regain the market it is fundamental to enable the industry to increase production and revenues. This, of course, would enhance the financial capacity of the Bolivian timber industry, and it would be a market-driven incentive for the private sector to re-invest into SFM.
To improve the situation, much has to be done but in the end, opening markets for LKS is probably one of the most important points to enhance the financial capacity of the forestry sector, and thus increase the resources needed to finance SFM.

The introduction of new species in the market is a real problem. The solution is not simple, especially when market issues are involved. Changes in market patterns involve several aspects. Market forces are mostly based on the competitiveness of the product in the market, taking into consideration mainly economic-related factors (price, payment terms, delivery, availability and quality).

Non-economic related factors can also be used to change market patterns. It is often mentioned that market education can take care of changing consumer’ perception and thus influence market patterns. The experience indicates that market education is normally an expensive exercise, results are only obtained in the long run, and the involvement and commitment of all stakeholders, including government, the timber industry, trade and civil society is required. The importance of market education cannot be over-emphasised, but it also has to be recognised that market education alone is not the solution.

CONCLUSIONS

For some South American countries the financing of forestry operations based on plantations and sustaining this plantation-based process is practically a solved problem. Incentives made available by governments have played an important role and catalysed the process. The flow of private capital into forest plantations is expected to increase in the future.

By contrast, there is no mechanism available in South America to finance SFM of natural forests yet. In spite of having several problems that are and will continue to inhibit the private sector from investing in SFM in natural forests, most of the financial resources flowing into SFM come at this moment from private sources.

One of the factors limiting investments in SFM is the existence of excessive and inappropriate regulations.

Governments in the region have failed to put in place proper mechanisms to make environment concerns and development policies compatible. Low managerial capability is the main problem, and this is not likely to be solved in the next few years. International cooperation has not been able to help to solve this and other limitations. In the end it seems that international cooperation has been an expensive and inefficient mechanism.

Governments are motivated internally and externally to increase regulations, which require new structures to enforce the legal instruments. The process is and will continue to increase government expenses that in the end will be transferred to the private sector, adding costs to the production chain.
Reducing regulations and bureaucracy is amongst the important issues to be discussed. Regulations, when needed, should only set a minimum standard in a clear and transparent way, while at the same time they should help to solve conflicts, accommodating different interests and creating a stable investment environment.

There is no simple solution envisaged but the basic principle is clear: if the private sector has to increase its contribution to financing SFM, governments and other stakeholders need to create the necessary environment for investments. Investments are needed to improve performance and competitiveness in the market. The market is, in the end, the main source of funds to finance SFM.

Incentives need to be developed to catalyse the adoption of SFM and to enhance performance, but to sustain the process other conditions needed to be meet. These other conditions include, among other things: appropriate, stable and transparent regulations, economic and political stability, and guarantee of access to forest resources and to markets.

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