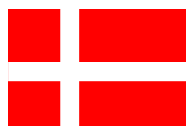




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**Investing in the Future: The
Private Sector and Sustainable
Forestry Management**

by

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USA

TABLE OF CONTENTS

Executive Summary	4
1. INTRODUCTION	11
2. WHAT IS THE NATURE AND MAGNITUDE OF PRIVATE INVESTMENT IN FOREST MANAGEMENT AND UTILIZATION?	11
2.1. The Magnitude of Private Investment in the Forest-based Sector	12
2.2. Quantity vs. Quality of Investment	12
3. WHAT IS SFM AND WHERE AND WHY DO WE NEED EXPANDED PRIVATE INVESTMENT IN SFM?	13
3.1. What is SFM?	13
3.2. What is the Likely Magnitude of the Effort Needed to Ensure SFM?	14
4. WHY IS THE PRIVATE SECTOR NOT INVESTING SPONTANEOUSLY? WHAT ARE THE CONSTRAINTS?	14
4.1. Lack of markets or imperfect markets	15
4.2. Importance of Government Policies	17
4.3. The importance of law enforcement	17
5. HOW CAN THE CONSTRAINTS BE OVERCOME AND INDUCEMENTS FOR MORE PRIVATE INVESTMENT BE CREATED?	18
5.1. Evolving Financing Environments	19
5.2. Developing a Framework for Action.	21
5.3. Developing an Appropriate Set of Public Policy and Institutional Mechanisms.	24
6. SUMMING UP ACTIONS FOR THE FUTURE	27
6.1. Policy Interventions to Increase Profitability of SFM	28
6.2. Policies to Reduce Risks Associated With SFM	29
6.3. Policies and Actions to Reduce Unsustainable Forest Management	29
References	31

INVESTING IN THE FUTURE: THE PRIVATE SECTOR AND SUSTAINABLE FOREST MANAGEMENT*

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Executive Summary

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

Nature and Magnitude of Private Investment in Forestry

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

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

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

From the perspective of this paper, which deals specifically with SFM, it is the quality as much as quantity of investment in forest management that is of key interest. The quality issue has been influenced by globalization and privatization trends in the world, which have acquired great dynamism

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during the last two decades. Together with the proliferation of structural adjustment programmes they have drastically shifted the role of government, with the private sector becoming relatively much more important.

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

What Is SFM; And Where And Why Do We Need Expanded Private Investment In SFM?

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

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

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

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

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

In the case of market-based outputs, such as wood products, discussion tends to focus on corporate responsibility for practicing SFM and seldom on societal and consumer willingness to pay a premium through the market to cover the additional costs associated with SFM meeting the broad conditions outlined above. The question remains as to the extent to which the average consumer is willing to pay higher prices.

With regard to the amount of new private investment required to ensure global SFM, various estimates suggest that this amount is in the order of tens of billions of dollars per year. For the purposes of this discussion detailed aggregate estimates of investment needs should not be of much concern, since we know that the needs likely are orders of magnitude greater than will be forthcoming under even the most optimistic scenarios. Thus, the focus should be on the right path to take in promoting future

private investment. If the path is right and the investment environment is favorable in the eyes of private investors, then more private resources will flow into SFM. The most important consideration in moving ahead is that private investors will pick up all or part of the tab only if the additional commercial benefits of SFM surpass or are at least equal to those of unsustainable practices or if they are required by law to do so and they have no alternative better investments.

Why Is The Private Sector Not Investing Spontaneously? What Are The Constraints?

Under current market conditions in most developing countries, the profitability of SFM as defined above is not as high as that associated with unsustainable forest utilization options, or investing in other sectors¹. Simply put, “SFM does not pay” for the private investor. This finding is now recognized widely.

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

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

- (a) **Lack of markets or imperfect markets:** some of the goods and services associated with SFM are not traded in markets and thus provide no revenue to the private producer, unless payments are made by government; and
- (b) **Higher costs and lower risk adjusted profits associated with SFM:** often the costs associated with producing market-based outputs through SFM (including the transactions costs for certification) are higher than for the same outputs from unsustainable forest management, but compensation in the market place through consumer demand is not high enough yet to make the additional costs attractive on a voluntary basis to most producers. Adequate consumer willingness to pay (wtp) for “green” or certified forest products (CFP) has yet to show up in a widespread fashion in consumer markets. Furthermore, because of the generally longer time periods involved in SFM than in unsustainable extraction, risks can be considerably higher. Both can lead to lower risk adjusted profits.

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

Frequently, the distortions against SFM created by missing or imperfect markets are compounded by mistaken government policies. There are many ways in which they easily can result in a reduction in the effectiveness and efficiency of the underlying market mechanisms that determine investment in SFM. For example, governments may subsidize agricultural expansion, and this may result in

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

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

increased displacement of natural forest with higher value from a SFM perspective. In other cases, it is a simple lack of social infrastructure such as transportation, communication, information flows and backup support services that lead to higher costs and suboptimum operation of the private sector.

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

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

How Can The Constraints Be Overcome And Inducements For More Private Investment Be Created?

The United Nations agencies, as well as both the IFF and the earlier IPF processes, have been interested for some time in the question of how to overcome the constraints to increased private financing of SFM. Several major workshops were held on the subject of financing, and they all have included the specific topic of private financing. The IPF and IFF processes were concerned with the overall health of the forests of the world and how they could contribute to alleviation of poverty on a sustainable basis. In the process of those discussions, it became evident to the participants that they needed to be centrally concerned with private investment as a contributing factor in reaching the goals set forth.

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

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

Third, the distinctions between the large multinational corporations – truly global entities these days – and the small, local forest-based enterprises and investors have become more distinct. We also have seen a rise in large corporations based in the South investing in forest-based activities. Thus, almost all participants in the international trade of forest products -- and frequently in logging -- in major developing countries, are transnational corporations. By some estimates, more than 80 percent of international forest products trade is conducted by transnational corporations. They often operate under different sets of rules and norms than do the smaller forest-based investors.

Fourth, a whole host of international agreements and consultations has created a web of internationally recognized principles and guidelines to guide and influence forest activities at the national level. Criteria and indicators for SFM are being and have been derived in different geographic regions; international certification of SFM activities and outputs is growing; new multinational quasi-public

institutions are evolving and, in general, the world is becoming more interconnected. The role of international agreements and policing of such has not been studied to any extent. In theory, international actions, including by large NGOs should contribute to resolving some of the problems of misguided use of forest resources. In fact, much of the concern throughout the IPF and IFF processes was devoted to the question of the role of international institutions, including various forms of agreements.

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

Within the context of these new investment environments, overcoming the constraints on private investment in SFM will require that the public sector and civil society intervene with new or reinforced laws, more effective regulations, and with changes in the levels and types of incentives provided to private investors. However, one needs to caution that too much intervention in markets, or the wrong interventions can lead to worse problems than no intervention. Some of the dangers of the intervention failures can be avoided by using a comprehensive approach, one that includes a variety of changes in policies, institutions and public management and control over resources, and based on the input of various stakeholders. The comprehensive approach includes consideration of changes in policies or mechanisms used for other sectors that have perverse effects on the forest-based sector, e.g., the use of agricultural subsidies that encourage deforestation and conversion of land to agriculture.

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

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

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

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

While in theory, a body of laws and regulations dealing with the above should create the desirable environment of investment, we know that in fact of equal or greater importance is the ways in which

existing policies are governed and implemented (or not implemented). While the private sector can be as much to blame as governments for illegal acts and corruption that lead to unsustainable forest management and exploitation, the fact remains that productive, socially responsible investors – and thus those who would practice SFM - stay away from environments in which weak law enforcement is prevalent.

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

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

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

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

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

Policy Interventions to Increase Risk Adjusted Profitability of SFM.

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

- Establish clear “rules of the game” and stable policies over time that help to create a positive investment environment.
- Establish clear provisions and conditions regarding changes in the rules of the game.
- Establish clear property rights or usufruct rights and enforce them uniformly.
- Involve local communities and NGOs in SFM and thus reduce conflict with large investors.
- Encourage, possibly through national or state forest laws, adoption of a “macroscopic” concept of sustainability where specialization, e.g., in terms of timber production exists along side of

protection forests, recreation forests, etc., i.e., a landscape rather than stand level, or “microscopic” perspective on sustainability; this can help to increase efficiency and profits associated with SFM.

- Increase efficiency of government regulatory functions and activities related to private SFM, rather than making them more complex and costly, something which generally comes back to increase costs even further for the private investor.
- Reduce fiscal or monetary policies that: i) increase costs of SFM, ii) reduce profits.
- Promote payments and transfers for externalities associated with private SFM for which the private investor cannot get remunerated. Examples include promotion of carbon trades and payments for watershed protection associated with good forest management.
- Help develop and encourage national and international markets for traditional and non-traditional products from sustainably managed forests; ultimately, if widespread investment is to take place, the consumer must be willing to pay for the additional benefits in the market place or through taxes that support directly the non-market outputs associated with SFM.
- If social or environmental considerations are very important, i.e., if the private investor also produces social benefits, consider “payments for services,” rather than subsidies in the traditional sense of the term (or consider these payments and public investment in the future). They are not welfare payments because of need, but rather legitimate payments for outputs (generally forest environmental services) that are deemed best paid for by society as a whole rather than through forced markets.
- Provide technical assistance, knowledge, promotion of opportunities, particularly for smaller forest landowners and users who may not understand the intricacies of practicing SFM.
- Facilitate financing of private operations (perhaps through preferential credit and credit that takes the oftentimes long time lags into account, insurance programs, tax breaks for good SFM, etc., or provide investment guarantees)
- Promote vertical as well as horizontal integration of operations (not necessarily ownership). For example, downstream operations may be very profitable. This may justify greater private financial support and involvement in SFM upstream. As another example, integration may make possible the use of wider range of species, thus making sustainable natural forest management more appealing. Consortia or other forms of joint operations can help to take advantage of economies of scale.
- Encourage investments in plantations that take pressures off natural forests, and discourage through various means development of plantations on lands that currently are in natural forests with environmental values.

Policies and Actions to Reduce Unsustainable Forest Management.

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

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

We emphasize that all these policy interventions are not needed in all cases. Each country or region requires separate strategic, tactical and operational analyses that lead to the most effective and efficient mix of interventions to encourage expanded productive private SFM. There are no general needs that

apply everywhere, except perhaps, as also pointed out in the regional papers, the need to create a stable, positive investment environment with policies that create a level playing field for all potential investors. In such an environment, the door is open for specific policy interventions, as outlined above, that can result in significant increases in private investment in SFM.

1. INTRODUCTION

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

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

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

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

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

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

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

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

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

2.1. The Magnitude of Private Investment in the Forest-based Sector

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

While relatively good numbers exist on the overall foreign private investment in developing countries, particularly from OECD countries, the sectoral breakdown to the level of forest-based investment does not exist in published form, as pointed out in earlier workshops organized in support of the IPF/IFF process (cf. Croydon and Pretoria workshops, and as supported by the regional papers for this meeting (Chan 2000, Raga 2000, Tomaselli 2000, Landrot 2000, and Kufakwandi 2000). Similarly, numbers on domestic direct private investment in forestry and related forest-based activities are unavailable on an aggregate basis. Grieg-Gran *et al.* (1998) indicate the same point related to portfolio investment in forest-based activities. Crossley *et al.* (1996), as cited by Greig-Gran, suggest that overall capital flows to the forest-based sector in developing countries is in the billions of dollars. Beyond the above numbers, we have a few reliable case studies from countries, but few numbers available on aggregate private investment in SFM.

2.2. Quantity vs. Quality of Investment

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

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

3. WHAT IS SFM AND WHERE AND WHY DO WE NEED EXPANDED PRIVATE INVESTMENT IN SFM?

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

3.1. What is SFM?

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

In the words of the President of Finland (Ahtisaari 2000):

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

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

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

An important philosophical distinction exists between sustainability at the micro (forest stand) and macro (watershed or landscape) levels, as introduced in this discussion by the regional paper by Raga (2000). At the extreme micro level, every forest stand has to be managed for sustainable production of all forest good and services. At the extreme macro level, the concept refers to sustainability of the overall public and private forest estate of a state or country, where management and use of any given stand of forest could be for sustained yield of an array of forest outputs, and where one output might dominate in one area and others in other areas. Raga favors the more practical and efficient macro approach to SFM.³

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

³ The contrast between them parallels the older debate in the US between “sustained yield multiple use” management of forests.

3.2. What is the Likely Magnitude of the Effort Needed to Ensure SFM?

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

How much money is needed to ensure global SFM? . We have refrained from producing yet another set of estimates of the amount that would be needed to secure global SFM. Such estimates would be open to controversy since underlying assumptions are highly debatable. For example, investment requirements should be estimated after correcting for market and policy failures, which is an elaborate exercise that is seldom carried out in practice (Pearce and Steele, undated). It is sufficient to say that global investment required to achieve even minimum standards of SFM will run into tens of billions of dollars per year,⁵ and that the current area of forest that is being utilized in unsustainable ways is very large, probably in the order of some 200 million hectares.

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

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

4. WHY IS THE PRIVATE SECTOR NOT INVESTING SPONTANEOUSLY? WHAT ARE THE CONSTRAINTS?

Given present economic relationships and government policies in many countries, private investment in sustainable forest management generally is not attractive to the private sector. The use of forests by private investors is determined by the search for low risk commercial profits and market shares, within the context of a policy framework set by government. After years of examining the feasibility of SFM in various developing country situations, analysts have produced ample evidence that the profitability of SFM normally is not as high as that associated with unsustainable options, or investing in other sectors⁶. (FAO 1999; Pearce, Putz and Vanclay, 2000).

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

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

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

⁶ Commercial profitability of SFM may be positive, but even in these cases, if it is lower than the profitability of unsustainable forest management, then SFM will not be practiced voluntarily by the private producer unless there is some other incentive to do so.

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

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

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

4.1. Lack of markets or imperfect markets

Given a stable and attractive enabling environment, then the basic constraints on private investment can be traced back to market failures of various kinds. Imperfect markets or lack of markets can lead to socially “sub-optimum” levels of private investment, or to investment in unsustainable forest management and timber mining as opposed to SFM.⁷ The market’s inability to generate socially desirable outcomes in private forest management happens mainly because of⁸:

- Some of the goods and services associated with SFM are not traded in markets and thus provide no revenue to the private producer; and
- the costs associated with producing market based goods through SFM (including the transactions costs for certification) often are higher than for non-SFM, and compensation in the market place through consumer demand is not high enough yet to make the additional costs attractive on a voluntary basis to most producers. This latter situation is particularly the case where forests are abundant and quite freely available for use (cf. Southgate 1998).

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

⁷ “Sub-optimum” investment occurs (a) when private benefits from SFM are below social benefits for a variety of reasons discussed below and, thus, less investment occurs than is socially desirable (or optimum), or (b) when private costs are below social costs and more private investment occurs than is socially desirable (optimum) i.e., in the case of unsustainable forest management where investors are not forced to consider the loss of socially desirable outputs.

⁸ Two other general conditions also can be associated with imperfect markets for forest outputs. These are: (1) Monopoly and monopsony - If a firm can set its own price and its own conditions of production, or if a large buyer can influence the price it pays, then production likely will be sub optimal from a social perspective; and (2) Existence of a situation where the market is too small for an individual producer to take advantage of the available technology fully under free competition, and higher costs per unit output result. While relevant, these are likely to be less important factors across a wide variety of country situations than the two featured in the text.

Lack of markets

Forests produce a number of benefits – biodiversity protection, carbon storage, scenic beauty, watershed protection -- that are of interest to society at large, but that are not traded in markets and thus hardly can become of interest in commercial operations. In short, markets fail to account for these benefits that can derive from SFM, even though the benefits are very real. Since these services of forests have no markets in the traditional sense of the term, private investment – fundamentally guided and motivated by market signals and the prospects of commercial profits – does not deliberately produce them. Private production becomes sub optimal from the point of view of society.⁹

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

Higher costs and lower risk adjusted profits associated with SFM

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

The private sector in most cases will be happy to adjust to the newly emerging and recognized needs of society, so long as the returns to them equal or exceed the additional costs to them. As mentioned above, producing additional social benefits through SFM in most cases leads to higher costs, and to lower profits, unless the additional benefits can be captured in the market place. One notable way to help capture such benefits of SFM is certification supported by market differentiation. However, Chan (2000) points out that: “By and large, major international markets of timber and timber products have yet to respond to SFM initiatives. There is no affirmative support by the markets for actions towards SFM.” Others agree that consumer willingness to pay (wtp) for “green” or certified forest products (CFP) has yet to show up in a widespread fashion in consumer markets. However, consumer willingness to pay (wtp) for “green” or certified forest products (CFP) has yet to show up in a widespread fashion in consumer markets. For example, Rametsteiner (1999) summarizes the European situation as follows:

The majority of the demand (for CFPs) comes from companies (resellers) that have committed themselves to buying certified timber products. End consumers have not, up to now, created any significant market pressure on their own. Most of the companies are located at the consumer end of supply chains. The total market demand of these companies, loosely organized in cooperation with the World Wide Fund for Nature (WWF) in WWF buyers' groups, was estimated to be around 9 million m³ in 1997...This is only a fraction of the apparent consumption of sawnwood and wood-based panels in Europe, which amounted to 131.8 million m³ and the consumption of paper and paperboard, at 73.1 million tonnes in 1995 (UN/ECE-FAO 1996)¹⁰

⁹ It is worth noting that even if the private entrepreneur could somehow “capture” the value of all these non-timber goods and services, this still does not guarantee that SFM would take place because the combined profitability of market and non-market captured benefits may still be below that of unsustainable forms of management. However, capturing these non-market benefits would certainly increase investments in more sustainable forest management as it would create commercial revenues that now the market is unable to produce.

¹⁰ UN/ECE-FAO. 1996. Forest products markets in 1996 and prospects for 1997. E. TIM/BULL/49/6 Vol. XLIX (1996) No. 6. New York.

The bottom line is that the “private sector” by definition is in the business of producing commercial outputs and profits within the context of given societal norms and wtp for those outputs. Those who do not compete for profits and market share fall by the wayside. Such is the way of a functioning market economy. Profits depend on costs, but also on market prices reflecting consumers’ willingness to pay for what the private sector produces. Thus, ultimately, the consumers’ wtp for the additional outputs from SFM and society’s willingness to pay for non-market benefits, particularly environmental services of forests, have to be high enough to result in levels of commercial profitability that exceed or at least equal those of competing investments. Presently, certification seems to have more relevance as a way to get market access or secure or expand market share, rather than as a way to increase the profitability of SFM (Bourke and Leitch 1998). Finally, because of the generally longer time periods involved in SFM than in unsustainable timber extraction, risks can be considerably higher. This combined with uncompensated costs can lead to lower risk adjusted profits.

4.2. Importance of Government Policies

The importance of government policies, or the lack thereof as a factor in creating imperfect markets and a constraint on private investment cannot be stressed too much. There are many ways in which policies and government action can result in a reduction in the effectiveness and efficiency of the underlying market mechanisms that determine investment. For example, Tomaselli indicates that governments in South America tend to support forest plantations by using a variety of incentives, while no such inducements are available for promoting the management of natural forests in either private forests or public forests managed under the system of timber concessions (Tomaselli, 2000) . Since plantations may have a large ratio of market values to non-market values as compared with natural forests, the latter may be displaced to make room for the government supported plantations. The net result frequently is a further erosion of the availability of those services of natural forests that are valuable to society but not to private investors. Chan (2000) points out that most of the timber industry of Asia supports the International Tropical Timber Organisation (ITTO) “Criteria and Indicators for sustainable Management of natural tropical forests,”¹¹ and at least four of the seven criteria support the importance of good government policies.

Social infrastructure provided by government in the form of clear property rights, publicly funded communications, transportation, research, education, civil law, and fair court systems for settling property rights and other legal disputes often is lacking, inadequate or unstable. For example, Landrot indicates that insecurity about ownership rights, the uncertainty of being able to hold to agreed timber concessions and deficient transportation infrastructures are main constraints to private sector investment in SFM in Africa (Landrot 2000). Similar obstacles are reported by Raga in Latin America (Raga 2000). Moreover, in many cases, governments instead of facilitating private investment, overburden the operations of the private sector with a number of unnecessary or obsolete regulations when market forces could do the job in a better way (Tomaselli 2000, Raga 2000) Thus, the existence of an adequate social infrastructure plays a vital part in creating a favorable private investment environment. Without them, private resources go elsewhere. Further, in the case of global environmental services from forests, and related to the first category of constraint mentioned above, the international mechanisms for compensation are in their infancy and so far have not created much incentive for private investment to be forthcoming. Again, a weak legal system and lack of adequate backup infrastructure can increase risks and transactions costs for the investor.

4.3. The importance of law enforcement

Good policies and laws to promote investment in SFM mean little if the state is unable to control forest crime. SFM carries financial and managerial costs that yield financial results in the long run. Unsustainable illegal activities are much more profitable and therefore legitimate investors are at a great financial disadvantage when forest crime proliferates. Unfortunately, this is the case in many

¹¹ *Criteria and Indicators for Sustainable Management of natural Tropical Forests*. ITTO, July 1998.

countries. Studies carried out in various countries that have perfectly sound laws prescribing sustainable forest management practices show that illegal logging can exceed, sometimes by a large margin, legal harvests. Illegal activities that work against SFM investments happen in public as well as private forestlands. They include unauthorized occupation of forestlands, timber theft, woodland arson, logging in protected or environmentally sensitive areas and so on. In some extreme cases, unfortunately frequent, illegal acts are perpetrated in collusion with corrupt public officials. When the government is corrupt, there is little hope that other actors, including communities, private corporations or the public will adhere to the legal framework. Sustainable forest management laws become largely meaningless and the profitability gap between SFM and unsustainable activities increases.

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

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

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

Both the Pretoria and the Croydon workshops (see UNDP1999 Anonymous 1996), organized in support of the IPF/IFF process dealt with the subject of private sector involvement in SFM. The Croydon workshop report (UNDP 1999) concludes that *...while generation of attractive returns remains essential, a new type of investor now combines it with forest resource conservation and development, and the social and economic development of the local population. The stated goal constitutes a significant shift in the investment attitude of some segments of private capital.* Hard evidence of the magnitude of this shift is not cited in the report.

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

- *The roles of public and private capital are distinct but complementary and they should be considered jointly in financing strategies for SFM. Public funding should be used to leverage private investment in SFM by addressing fundamental issues that inhibit private investment in SFM.*
- *It is important to ...explore the concept and modalities of public-private partnerships.*
- *establishment of a “global or international forest fund” (GFF) and/or an “investment promotion entity/agency” (IPA) are complementary and mutually enforcing options for the global community....While there was no consensus on the relative merit of an IPA and a GFF, it was clear that the conceptual basis for the former is far better articulated and well understood.*
- *Policy reforms and measures at the national and international levels are needed to create more conducive market conditions and allow the different financing sources to contribute more effectively and efficiently to SFM...It is the responsibility of the public sector to provide effective ground rules for private capital to be used in a socially and environmentally responsible manner if the private sector does not take on this responsibility.*
- *Enabling conditions are essential for investment in SFM. These require the elimination of various structural and operational barriers. Both policy guidelines and regulation, as well as*

incentives are required. Incentives are generally more cost-effective than legislation, although they need to be supported by an adequate level of regulation.

These points are considered later.

5.1. Evolving Financing Environments

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

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

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

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

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

5.1.1. Emerging markets for environmental services and NTFPs.

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

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

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

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

	Mexico	Costa Rica	Indonesia	Malaysia	Peninsular Malaysia
Timber (market value)	-	1240	1000-2000	4075	1024
Non-timber products (market and non-market values)	775	-	38-125	325-1238	96-487
Carbon storage (non-market value)	650-3400	3046	1827-3654	1015-2709	2449
Pharmaceutical (non-market value)	1-90	2	-	-	1-103
Ecotourism/recreation (market and non-market values)	8	209	-	-	13-35
Watershed protection (non-market values)	<1	-	-	-	-
Non-use value (non-market value)	15	-	-	-	-
Option value (non-market value)	80	-	-	-	-
Note: Option values relate to the non-market value of preserving forests for future use. Existence values are those attached to forests by people even if they will not use these forest resources. Source: Adapted from Pearce, 1995.					

There is a great deal of controversy surrounding the use of non-timber forest values in policy decisions. For example, in the case of carbon sequestration, the question of whether and how to deal with forests as a “clean development mechanism” was a key item on the agenda of the 6th Conference of the Parties on the United Nations Framework Convention on Climate Change in the Hague recently; and it was part of the reason why the talks were suspended. A number of questions surround the ability to actually monitor and verify how forestry projects affect carbon stocks. Chomitz (2000) discusses some of the difficulties. He suggests that it is hard to develop the counterfactual, i.e., what would have happened in the absence of such forestry projects. Also, the question of duration or permanence of the mitigating effect is an issue. There is potential for using the value associated carbon sequestration by forests as a justification for SFM projects, but there are sizeable obstacles that need to be overcome before this option can lead to widely used market based mechanisms that will influence the expansion of private investment in CO² sequestration through SFM projects.

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

The role of plantations in SFM

The relatively rapid increase in plantations in many countries can contribute to overall improvements in the management of forests by producing substantially larger amounts of raw materials per hectare and diverting pressures away from natural forests (although there are some who contend that just the opposite could happen). Projections show that increasingly, future industrial supplies of wood will

come from plantations, reaching up to 40 or even 50 percent of total supplies by the middle of the century as compared with some 22 percent today. Because of the substantially higher yields of intensive plantations, this supply – about half of the world’s industrial wood raw materials -- could come from only 3 percent of the world’s forest area, 100 million hectares (Spears 2000, Brown, 2000). Plantation yields are higher in tropical and subtropical countries and thus, and it is expected that a larger proportion of such investments will take place in developing countries (Brown 2000).

As highlighted by Tomaselli (Tomaselli 2000, Box 1) and Raga (Raga 2000), plantation development by the private sector requires stable government policies and may require government incentives. This has been the case in South America: Brazil, Chile, Argentina, and Uruguay are countries that developed successful plantation programmes starting in the sixties and seventies, all based on public incentives, policy changes and private action (see Box 1). However, the speed and nature of the transition from dependency on natural forests to plantations depend on the quality of plantation investments. If these replace natural forests, SFM would suffer, as many natural forest attributes would be lost. In addition, there are questions related to the environmental and social impacts of large forest plantations. Many of these can be avoided with proper design of these investments (cf. Kanowski and Savill 1992). These potential effects must also be considered in the “macro” context of what the SFM situation may be in absence of plantations and having a good grasp of the many trade-offs involved.

Finally, it should be pointed out that a number of major previous buyers of Southeast Asian naturally grown hardwoods are switching to plantation grown wood, e.g., radiata pine from New Zealand or from Chile. Thus, Chan (2000) indicates that in the case of Japan, in the 1993-1999 period, plywood from Southsea logs dropped by considerably more than half, while softwood plywood (temperate) more than quadrupled. Chan argues that cost was the main factor and the uneven application of SFM certification standards was a contributing factor. Also, Chan argues for the need for better financing mechanisms for sustainable plantation investments, since traditional banking windows generally are not appropriate.

Evolution of multinational corporations and investors

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

While many international investors adhere to strict codes of conduct and will continue to make serious efforts to improve SFM in their transnational operations, recent years have brought concern about practices of some unscrupulous and powerful transnational corporations that have a poor record of environmental or social management. Their operations are growing extremely fast. The impetus or “push” for fast expansion is coming from the expansion of markets in some of the Asian economies and the fact that the majority of the forests remaining in Southeast Asia are already covered by forest concessions. The lure of a rich resources and apparent high profitability of operations together with weak governance is an irresistible pull for many transnational corporations. While there no global or even regional assessment exists, evidence is mounting that at least several transnational corporations engage in illegal acts (Contreras-Hermosilla 1997, Glastra 1999, Sizer and Plouvier 2000). This type of private investor would not help the cause of increased investment in SFM. Thus, the main challenge governments in many forest resource rich countries face is how to provide incentives for investors that practice SFM management and create barriers to those that are more interested in “cut and run” operations.

5.2. Developing a Framework for Action.

In order to overcome the constraints on private investment in SFM, within the context of the new investment environments that exist, governments need to intervene with new or reinforced laws and

regulations and/or with changes in the levels and types of incentives provided to private investors. However, as Wibe (1992) cautions, too much intervention in markets, or the wrong interventions can lead to worse problems than no intervention. More broadly, public servants (decision makers) can make the wrong decisions regarding public intervention because:

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

Box 2. Argentina: forest plantations development program

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

In addition, the government carefully put in place policies that ensured stability for the investments in plantations. Fiscal obligations affecting plantation establishment and also their management, harvesting and trade of forest products from plantations were “stabilized” for a period of 33 years. This policy was, according to investors, a determining factor in their decision to invest and engage in forest plantation development.

The government has disbursed some \$60 million to support plantation development during the period 1997-2000 and indications are that the total area under plantations by 2003, only 8 years after the policy was adopted, will reach some 1.5 million hectares, a 50 percent increase over the pre-program years. This is an impressive accomplishment.

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

Source: based on Tomaselli 2000

There also are the cases, of course, in which the government has already made a decision that leads to adverse effects (from a social welfare perspective) and either (i) does not have proper monitoring at hand to know that the effects are taking place, or (ii) cannot correct the mistake even if it knows that it is a mistake, e.g., because it does not have enforcement power. Of course, these various intervention failures may co-exist and overlap in a single decision.

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

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

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

- **Clarify the type of change being sought.** Thus, one can be seeking increased total investment in SFM; or trying to make existing investment more responsive to sustainability issues. If SFM is the primary objective, then focusing on some combination of actions to generate new investment and to create incentives for existing forest-based investors to practice more sustainable forest management may pay off more in the long run than merely focusing on more investment. The actual conditions and results sought by countries in encouraging investment in SFM can be highly variable by country.
- **Distinguish between types of private investors;** thus, both large, multinational commercial investors and smaller local private investors are important in the overall scheme of expanding SFM globally, as well as in most countries. Different investors require different approaches – different regulatory and incentive mechanisms.
- **Consider investments in SFM in relation to those in post harvest activities.** Most private investors in the forest-based sector, except for the independent logging firms, are in the business of forestry because they have an end purpose in mind, and that purpose quite often involves primary and/or secondary processing of forest outputs. Appropriate instruments will recognize these linkages and the fact that the effectiveness of incentives for SFM depends on having the total incentive package in order.
- **Develop policy mechanisms that recognize that private commercial companies respond to both “push” and “pull” incentives.** The main pull is demand, or market signals from consumers and intermediate buyers of forest products that they want products that are the result of SFM (and that they are willing to pay a premium for them). A second set of “pull” factors (leading investors toward specific countries and forest areas) are incentives created by countries to attract investment in SFM. The main “push” factors are laws and regulations that guide investors to avoid or internalize negative externalities associated with their investments. Both are important and both need to be considered in an overall policy framework and in designing appropriate policy mechanisms.
- **Ensure an institutional set up that will adequately enforce the law and regulations.** It is now abundantly clear that responsible private investors shy away from countries where forest crime and corruption is prevalent. Fighting illegal activities and thus generating a more favourable climate for private investment in sustainable forest management involves more than simply strengthening the public forest administration or the police force. It also involves actions such as identifying the core functions of government and sharing other functions with the private sector and the civil society, streamlining the policy framework to make bureaucratic procedures simpler, with less room for interpretation, more transparent and less discretionary, establishing clear property rights, and increasing penalties for illegal acts.

Figure 1 provides an overview of the elements that need to come together in a comprehensive framework for an action program to gain expanded productive and socially responsible private investment in SFM. As indicated on the left side of the figure, there is a role for consumers in this process, namely through their market “votes,” or willingness to pay for outputs from SFM. The consumer movement can be helped along by a set of international mechanisms, some of which already are in place (certification, international agreements related to forests, emerging international markets for carbon, trade agreements, etc.). The mechanisms are managed by a set of interwoven bi and multilateral entities. These entities also provide critical funding, both as loans and as legitimate

payments to the private investors for environmental services. Some of the international entities – including many environmental NGOs – provide critical information that can help in establishing better functioning markets for environmental services as well as in reducing transactions costs and making private investors better aware of options. Finally, some provide help to countries in overcoming problems of corruption, which can destroy the market environments within which the private sector can operate legitimately and in a more sustainable manner.

The right hand side of Figure 1 indicates the role that national and local level policy makers and civil society groups play in providing an appropriate and attractive investment environment for SFM. Governments have undertaken and can undertake many actions and policy changes to correct policy imperfections and support stronger social infrastructure in ways that will stimulate markets and remove or make up for market imperfections. This, in turn, should attract additional legitimate and productive private investment into SFM. ¹²

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

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

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

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

Establishing appropriate laws and regulatory mechanisms.

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

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

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

¹² Chan (2000) suggests from the Southeast Asian timber producers perspective that there are four main needs: (1) activities that stimulate positive market response to SFM; (2) a new fund for tree plantations in the tropics; (3) more training; and (4) research and development of appropriate technologies.

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

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

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

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

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

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

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

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

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

The main points to emphasize here are that:

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

In most cases, combinations of government policies and programs can create incentives that contribute to improving investment in SFM without creating distortions and without, in the longer run, resulting in a net cost to society. In fact, quite the opposite can happen, such as in the case of Chile, where a package of incentives and policy reforms was introduced (Raga 2000). Santa-Cruz and others have analyzed the early evolution of the now thriving and quite sustainable plantation-based forest products industry in Chile, focusing on the impacts of the key law DL701 that provided the initial incentives for the growth (see box 2).

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

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

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

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

Thus, in 1975 the government introduced measures to eliminate previous restrictions to the export of unprocessed logs and wood raw materials (Decree 259, Ministry of Agriculture). At that time this was a radical change in Latin America, a region where nearly all countries had strict log export prohibitions in place. With the liberalization policy, the previously restricted large log export market was now open to Chilean entrepreneurs. Shortly after, in 1979 the government also abolished prohibitions to the export of logs of small dimension (Supreme Decree 350). This policy reform offered possibilities for improving the cash flow situation for many investors that could not wait extended periods to get the returns on their plantation investments.

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

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

While the economic effects of the policy reform package are generally recognized even by detractors to have been positive, its environmental and social effects are somewhat less clear. Private investment has concentrated almost exclusively on monocultures, and this is generally undesirable from the environmental point of view. Some of the natural forests were lost because of the private plantations drive. However, only one percent of the natural forests were displaced by plantations (Raga, 2000). Against this, arguably some natural forests were saved because of the plantations program. The net effect is not obvious. Most plantations were established in wastelands (Unda and Ravera, 1994). This translated into the greening of several degraded areas of the country, particularly 500-1000 kilometers south of Santiago and in the coastal zones where plantations are effective in controlling erosion, sedimentation, and fertility loss (Crovetto, 1994). It is estimated that by 2001 some 60% of private investments in plantations will be certified (Raga, 2000)

Social impacts also were mixed. The forest policy reforms outlined above probably provided economic opportunities mainly for the powerful and relatively wealthy. There is evidence that the Chilean pattern of forest-based development initially resulted in 3 large enterprises controlling more than 70 % of all plantations. Some critics indicate that plantation establishment resulted in the expulsion of local rural people from their lands and that many of displaced workers migrated to cities compounding unemployment problems there (Lara and Veblen, 1993) However, more recent studies suggest that the proportion of plantation investments controlled by small or medium size entrepreneurs may now be between 40% (pines) and 50% (eucalypts) (Raga, 2000).

There is evidence that a large share - as much as 96% - of the financial resources dedicated to the incentives programme embodied in Decree 701 went to large corporations. On the other hand, examining the possible trade-offs involved in the Chilean strategy, it is possible to imagine that the export-led Chilean forest development probably generated income for workers that would have not been created without such development. Some 120,000 jobs, enough to provide income for as many families or more than half a million Chileans are linked to the government incentives. In fact, employment creation in forest plantations exceeds that created in traditional crops, on a per hectare basis. (Tienken 1992, Varela 1995).

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

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

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

6. SUMMING UP ACTIONS FOR THE FUTURE

Synthesizing the foregoing discussion, the policy conclusions from the regional papers by Raga (2000), Tomaselli (2000), Landrot (2000) and Kufakwandi (2000), other assessments of what has happened in the past and what is attractive for the future, including the discussion and papers for the Pretoria and Croydon meetings, a set of suggestions emerge regarding the road ahead from a policy perspective in terms of providing incentive for more private investment in SFM.

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

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

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

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

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

6.1. Policy Interventions to Increase Profitability of SFM

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

- Encourage, possibly through national or state forest laws, adoption of a “macroscopic” concept of sustainability (cf. Raga 2000), where specialization, e.g., in terms of efficient timber production exists along side protection forests, recreation forests, etc., i.e., a landscape rather a stand or “microscopic” perspective on sustainability; this can help to increase efficiency and profits associated with SFM.
- Increase efficiency of government regulatory functions and activities related to private SFM, rather than making them more complex and costly, something which generally results in increased costs for the private investor (cf. Tomaselli 2000)
- Reform fiscal or monetary policies that: i) increase costs of SFM, ii) reduce profits.
- Promote payments and transfers for externalities associated with private SFM for which the private investor currently cannot get remunerated through the market. Examples include promotion of carbon trades and downstream payments to upstream land users for watershed protection that results in improved downstream conditions (e.g., as in Japan).
- Help develop and encourage national and international markets for traditional and non-traditional products from sustainably managed forests. Ultimately, if widespread investment is to take place, a broad array of consumers must be willing to pay for the additional benefits in the market place or through taxes that support directly the non-market outputs associated with SFM.
- If the private investor produces important and significant social benefits, consider programs that involve public “payments for services,” through taxing the beneficiaries. These payments should not be considered subsidies, but rather legitimate payments for outputs (forest environmental services) that are deemed best paid for by society as a whole rather than through forced markets.
- Provide technical assistance, knowledge, promotion of opportunities, particularly for smaller forest landowners and investors who may not understand the intricacies of practicing SFM, nor the costs and benefits associated with it.

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

6.2. Policies to Reduce Risks Associated With SFM

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

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

6.3. Policies and Actions to Reduce Unsustainable Forest Management

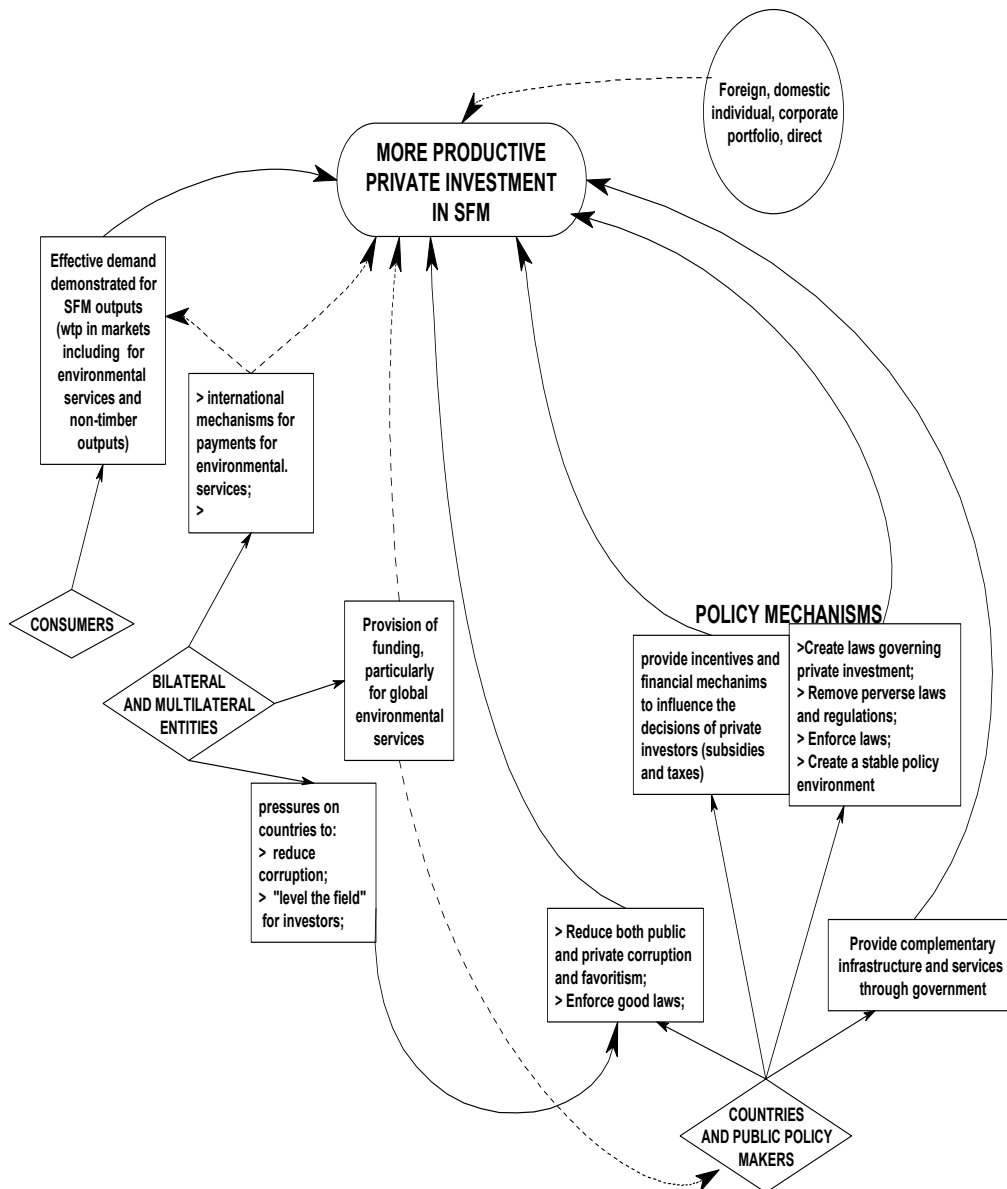
At the same time, in order to reduce the attractiveness of deforestation and unsustainable forest management, policy interventions may be introduced to:

- Eliminate subsidies and other preferential treatment to sectors that compete for land with the forest sector, particularly if there are no compelling social or environmental reasons to keep them.
- Establish firm monitoring and control of illegal operations. Increase the probability of being caught through better surveillance, and impose stiffer penalties for illegal acts.
- Foster third party monitoring and control (inspections, etc).
- Combat opportunities for corruption and illegal acts. Make transactions transparent and monitored by an independent party; introduce checks and balances where such are currently absent.
- Avoid infrastructure placed near high value forests that also have high environmental value. Particularly, reduce uncontrolled use of such infrastructure that could lead to deforestation and timber mining.
- Avoid political interference (including international interference) in the control of the Nation’s forests. (E.g., in Bolivia, the Congress proposes three names of persons for the position of “Superintendente Forestal,” the top authority in the forestry sector. The President chooses one. The Superintendente is appointed by a period of 6 years thus straddling the presidential period, which is 4 years. Financing for the Superintendencia comes from forest fees, directly, not the Central Treasury. All this to avoid political use of the Superintendente’s Office).

We emphasize that all these policy interventions are not needed in any given case to overcome the constraints to investment. Each country or region requires separate strategic, tactical and operational analyses and debate to develop and agree on the most effective and efficient specific mix of

interventions to encourage expanded productive private investment. There are no general prescriptions that apply everywhere, except perhaps, as also pointed out in the regional papers, the fundamental need to create a fair, stable, and positive investment environment, with a level playing field for all existing and potential investors. In such an environment, the door is open for introducing specific incentive mechanisms and market reforms that can result in significant increases in private investment in SFM.

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



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