

To Johannesburg and Beyond: Strategic Options to Advance the Conservation of Natural Forests

Discussion Paper for the Global Environment Facility (GEF)
Forest Roundtable
March 11, 2002, New York

In conjunction with the 2nd United Nations Forum on Forests



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Executive Summary

Ten years after the World Summit on Environment and Development in Rio de Janeiro and the establishment of major international institutions and conventions to protect the global environment, deforestation and forest degradation continue in developing countries unabated. As global concern about these activities in developing countries grows in intensity, there is also disenchantment – even weariness – with global agreements and international initiatives to address these issues. While they are broadly appreciated for raising awareness – the energy and effort that go into global institutions has not been matched by effective action and impact on the ground.

It can also be said that during these ten years the global community has learned that dealing with issues of forest degradation can be much more complex than expected and that forest conversion and degradation is driven by much deeper institutional and market problems than were realized before. Finally, despite the bold rhetoric and ambitious goals ten years ago to alleviate poverty as a means and complement to conservation, most international, public investments in forestry since Rio have advanced traditional protection approaches and focused on establishing public protected areas. Much less effort and fewer dollars have been invested on poverty alleviation as a means to strengthen environmental outcomes or on improving the practice of forest management for forest products. More recently though, governments are increasingly recognizing the economic value of the multiple goods and services their forests currently provide, in terms of subsistence goods, food, energy and environmental services, and the tremendous social, economic and political costs to governments when forests disappear or are significantly degraded. Forests have been instrumental elements in rural livelihoods, and when they are lost, the cost and responsibility of caring for these people often shift to the government.

In the years following the Rio Summit, the three goals of socially, environmentally and economically sustainable development were often addressed independently. Similarly, separate program strategies were created for each of the three objectives of the Convention on Biological Diversity: biological protection; sustainable use, and a fair sharing of benefits. Although important gains have been made in establishing protected areas, conditions of the forest poor and the condition of the forest beyond the parks have deteriorated.

New transitions in the forest sector, including shifts in rights to indigenous and other communities, new sources of capital and new markets for environmental services, present new opportunities to achieve the goals of Rio. These shifts also mean that the forest conservation, indigenous peoples and social development, as well as economic development agendas are converging, allowing much greater scope for an integrated approach to forest conservation and poverty alleviation. Options such as reforming forest policies to benefit low-income producers, strengthening tenure, and ensuring community access to the Kyoto Protocol's Clean Development Mechanism (CDM) all yield benefits in social, environmental and economic terms. Similarly, shifting the predominant conservation strategy from the almost exclusive focus on protected areas to the broader forestry matrix is not only the right thing to do to mitigate climate change and alien invasive threats, but also the right thing to do for low-income forest producers.

Making progress will require ambitious, but realistic action. New international payment mechanisms need to be established. The CDM needs to be transformed into an instrument for poverty reduction and natural forest regeneration. International agreements must be rationalized. And ODA, GEF and private philanthropy must be much more strategic, leveraging private capital flows to improve forest management and increase forestry's contribution to poverty alleviation. Otherwise, degradation and deforestation are likely to continue and this potential source of financing will miss its mark, with great costs for national development, local people, and global forests.

Introduction

Ten years after the World Summit on Environment and Development in Rio de Janeiro and the establishment of major international institutions and conventions to protect the global environment, deforestation and forest degradation continues in developing countries unabated. Forest cover is growing in some developed countries, but this is due more to urbanization and broader economic development than to particular initiatives to regenerate and protect forests.¹

As global concern for continuing deforestation and forest degradation in developing countries grows in intensity, there is also disenchantment – even weariness – with global agreements and international initiatives to address these issues. While they are broadly appreciated for raising awareness – the energy and effort that go into global institutions has not been matched by effective action and impact on the ground.

It can also be said that during these ten years the global community has learned that dealing with issues of forest degradation can be much more complex than expected and that forest conversion and degradation is driven by much deeper institutional and market problems than were realized before. Where leaders once saw a relatively simple ‘win-win’ agenda of establishing protected areas and halting shifting agriculture of poor farmers, they now recognize that in most countries deforestation and degradation is led not by shifting agriculture, but state-sponsored developments in other sectors such as transportation and mining, clearing for agriculture and concessions to industrial logging.

Rather than easy decisions, governments face difficult tradeoffs between development and conservation goals, and entrenched and competing political constituencies. And these decisions are made even more challenging since governments continue to legally own approximately 70% of all forests in developing countries – making public forests the object and result of political and bureaucratic processes. In truth, given competing domestic agendas and limited financing, forest conservation is not, and has not been, a priority of many developing country governments. The same can be said of developed countries. For example, the Global Environment Facility (GEF) launched in 1991 as an experimental facility, and restructured after the Earth Summit in Rio, was established to forge international co-cooperation and finance actions to address four critical threats to the global environment: biodiversity loss, climate change, degradation of international waters, and ozone depletion² (see Box 1, Annex 1). The GEF has expended \$ 3.2 billion in grant financing in ten years across these four program areas. Although important, the limited amount of funding made available to finance protection of the global values of developing country forests demonstrates that forest conservation has not been a priority of the industrialized world.

Perhaps most importantly, there is a widespread recognition that establishing public protected areas is necessary but far from sufficient to adequately protect critical biodiversity and ecosystem function. Protected areas risk becoming large scale zoos unless biological processes are conserved on a substantial portion of the nearly 90% of the world’s forest that lies outside of government protected areas. Since governments cannot afford either the financial costs or the foregone revenues of strict protection on all of their natural forests they face the challenge of utilizing that land base to also provide income and employment as well as environmental services. And for governments and other forest owners to support managed conservation on their own lands, sustainable forest management must be competitive with unsustainable forest ‘mining’ and many other alternative uses of the land.

But constructing a situation where forest owners have the desire and the incentives to invest in maintaining their natural forests and adopting sound forest management practices has proven very difficult for at least three reasons:

- official government authority in the forest sector often exceeds institutional capacity, leading to poor decisions regarding how to best use those assets, the persistence of corruption and limited compliance with established regulations;
- many governments have policies and regulations – often in the name of conservation – that make sustainable forestry a more costly option than alternatives – such as illegal logging and agriculture; and
- financing for the ‘public services’ of forests such as biodiversity conservation, watershed protection, and carbon sequestration has, by and large, yet to be realized.

Finally, despite the bold rhetoric and ambitious goals ten years ago to alleviate poverty as a means and complement to conservation, most international, public investments in forestry since Rio have focused on establishing public protected areas and on traditional protection. Much less effort and money have been invested in poverty alleviation as a means to strengthen environmental outcomes or improve forest management for sustained production of goods and services. Governments recently have begun to recognize the economy of multiple goods and services their forests currently provide local people, in terms of subsistence goods, food, energy and environmental services, and the tremendous social, economic and political costs to governments when forests disappear or are significantly degraded. When forests are lost, the cost and responsibility of caring for these same people often shift to the government.

In addition to these lessons learned, some additional threats have become more visible and more widely recognized since the 1992 Summit - such as the problems of invasive alien species and the effects of global climate change. And, of course, the political context for dealing with forests has changed in the last decade, both at the domestic and international levels. These new issues must be taken into account when crafting new initiatives. While the global forestry community has learned a great deal regarding the issues and the problems over the last ten years, it has also learned that new approaches and much stronger efforts will be required to turn the tide against deforestation and forest degradation.

This report aims to clarify key issues facing conservation¹ today and present options for governments, industry, NGOs and communities as well as the risks. It builds on a set of four background papers describing four key themes: environmental services, alien invasive species, the Clean Development Mechanism of the Kyoto Protocol, and independent certification.³ The paper starts with a review of what has changed since the Rio Summit and what issues characterize the global forest sector today. These trends and issues put the political options faced by governments and donors into context. The paper next reviews the overarching challenge of raising the domestic interest in forest conservation, focusing particularly on the potential sources of financial additional financial incentives for sustained conservation. The paper concludes with a set of options for the consideration of governments, NGOs, private industry and forest dependent communities.

Forests and the Forest Sector in Transition: What has Changed Since Rio?

The lessons described above do not translate directly into new actions. The forest sector has changed tremendously since Rio – posing both threats and opportunities for forest conservation. The most important shifts influencing the potential for forest conservation can be organized into seven points: (1) major threats not clearly perceived in 1992; (2) a dramatic increase in indigenous and other community forest ownership and management; (3) market changes, including the increased role of plantations to meet world wood supply, increased domestic demand, and global industrial restructuring; (4) increased influence of global markets on forest

¹ We use the term conservation to include both protection and sustainable use and management.

management; (5) emerging demand for environmental services of forests; (6) greater attention to governance and the growing role of independent certification; and (7) increased assertiveness of the 'South' and reduced official development assistance from the 'North', with a proliferation of global issues fostering disjointed and confused responses.

More clearly perceived threats: alien invasive species and the impacts of climate change.

While habitat destruction remains the primary threat, global climate change and alien invasive species are now understood to be the second or third most important threats respectively of extinction to species worldwide.⁴ The problem of alien invasions has increased dramatically with the rise in global trade. Between 1965 and 1998, the import of agricultural products and industrial raw materials increased nine-fold. Many unintentional introductions occur as contaminants in the movement of such material. Given the lag period between contamination and the point at which these species become 'unmanageable pests' on ecosystems, timely prevention and control are critical. In the USA alone, millions of acres of hardwood trees throughout forests and suburban landscapes are at risk, and industries such as lumber, fruit, nursery, and tourism could suffer an estimated \$41 billion in losses from the Asian longhorned beetle alone. Alien invasive species in forests can create unstable ecosystems at a landscape level, increasing the negative impacts of fire, impeding or stopping vital species interactions and promoting the extinction of species symbiotic with native forest species, and thus altering key ecosystem functions. Responding to these challenges will require much greater understanding of the problem on the part of governments, the private sector and citizens, and the adoption of new controls and conservation strategies.

Similarly, climate change issues have evolved rapidly since the Rio Summit, with clearer understanding of the dangerous implications of the change for forests. Studies show that the greater frequency of extreme climatic events resulting from global warming affects forests significantly. High-intensity windstorms and floods become 'gap forming' processes which favor introduced plant species, which tend to be more rapidly producing than native ones. Riparian forests destroyed by floods are being continually replaced with alien plant species. Climate change also modifies local climatic regimes leading to species and ecosystem extinction where conditions become unfavorable for locally-occurring native species. As in dealing with alien invasive species, responding to climate change will require a willingness to reconsider predominant conservation strategies and strong leadership on the part of governments and private sector leaders in promoting new models and new packages of financing.⁵

Increased community control of forests.

An historic transition in global forest tenure is currently underway. After a long colonial period in which most governments centralized control over many forest resources, creating vast public forest estates, there is now a trend of recognizing indigenous and other community rights in diverse parts of the globe. Nearly one-fourth of the forest estate in the most forested developing countries is now legally owned (14 percent) or officially administered (8 percent) by indigenous and rural communities. Communities now legally own or administer at least 380 million hectares of forest, the vast majority of which is in developing countries. This is more than 3 times as much forest as is owned by individuals and private firms in developing countries. This percentage of forest under community control has doubled in the last 10 years and, given recent and ongoing legal reforms in many developing countries, the portion of the global forest estate owned or officially administered by communities could double again by 2020.⁶ The transition is driven by greater political participation by indigenous and other communities at national and international levels, and supported by parallel trends in many countries to reform land tenure and enhance the security of private property rights.

Given the magnitude of this shift in tenure, there is now, if there wasn't before, an inextricable link between the futures of the world's forests and millions of the world's poorest people. It will be difficult to achieve conservation goals without engaging communities. And given their increasing political voice and capacity, it is increasingly likely that 'engaging' these communities

will entail either allowing these communities greater rights to use their forests or compensation for their foregone income. This transition spells great progress in rationalizing and securing forest ownership and thus establishing more conducive conditions for sustainable forest management, as well as a historic opportunity to dramatically improve the livelihoods of millions of forest inhabitants. But seizing this opportunity and preventing further forest degradation will require ambitious and concerted action by the global forest community.

Increasing domestic demand, and new tensions between plantations and natural forests.

Some 90% of all commercial roundwood is traded domestically and demand in developing countries is growing faster than demand in developed countries.⁷ In most countries this demand will be met mainly by domestic production and in the vast majority of domestic demand in most countries is served by natural forests. Deforestation, over-harvesting, establishment of protected areas, civil wars and environmental advocacy to ban natural forest harvesting have all reduced the area of potential supply. High transportation costs and the limited portion of species that are of commercial value further reduce competitiveness. Despite the fact that higher quality woods from natural forests are one of the only market segments that show increasing prices it is increasingly apparent that currently less than half of all remaining natural forests are economically viable for sustained production.⁸

This growing demand, coupled with increasing costs of natural forest management and increased prices of timber relative to grain commodities, is driving establishment of large-scale industrial plantations, as well as tree domestication and out-grower arrangements on small farms. The expansion of plantations affects natural forest conservation in two countervailing ways. Plantations decrease the pressure on natural forests for wood by generating alternative supply. However, their much higher productivity per hectare supplies the wood market with cheaper wood, indirectly diminishing the value of natural forests as wood producers and reducing the competitiveness of natural forest relative to alternative land uses. Some researchers have looked at plantations too simplistically, advocating subsidized plantations as the primary strategy for protecting natural forests.⁹ Since private capital investments in forestry already flow almost exclusively to private plantations - where property rights are secure and governance more stable than in natural forest areas - subsidies, if and when available would be more important as incentives for natural forest conservation where the public benefits are far greater.

The collapse of production from natural forests would be unwelcome, particularly for the indigenous and other communities who are only recently regaining the authority to use their forest assets. Balancing the tradeoffs between plantation versus natural forest-based supply, and optimizing the role of communities and smallholders in both of these activities will be an increasingly important issue.

Increasing influence of global markets and industrial restructuring.

Globalization has changed private sector participation in the forest sector in recent decades. While timber was always traded over long distances and, during colonial periods, strong pressures led to forest degradation and forest clearing, the current global trade includes a more diverse set of actors with more diverse sources of capital. International private sector corporations have a greater reach due to mobility and size of capital markets, and offer market expansion along with the dangers of irreversible biodiversity and species loss for tropical forests. Global trends increasingly affect domestic markets and domestic production choices, for both good and bad. The large amounts of money to be made and the impersonal nature of global transactions combine with weak governance to allow capture of government officials by private and political interests, fostering corruption in resource allocation and widespread illegal activities.

Globalization creates opportunities as well. While favoring highly efficient, lower-cost producers for generating large quantities of undifferentiated products, it also opens non-traditional suppliers and the non-traditional forest industry to new consumers, as new niche markets arise and buyers

become more proactive in seeking and securing reliable sources of supply. Investor and consumer demands for socially and environmentally responsible forestry are beginning to drive improved management. Timber lands as an investment class is becoming more interesting to investors, partly because it has shown long-term returns of over 7 percent, and partly because it is counter-cyclical, providing an important buffer in investment portfolios.¹⁰ The rapidly growing Socially Responsible Investors (SRIs), which now have a total of more than \$1.4 trillion in assets under management, and industry leaders, such as Sustainable Asset Management are beginning to develop positive screens for sustainable forestry investments. Certification has become the benchmark verifying sound practices in the global market.

This demand for sound forestry is also giving rise to a new generation of forest companies, such as Global Forest Products (GFP) in South Africa and Renewable Resources, LLC, an affiliate of Grantham, Mayo, Van Otterloo & Co., Inc. (GMO) in the Brazilian Amazon, that are based on business models that seek to marry profitability with cutting-edge social and environmental management.¹¹ Due to the increasing role of communities in forest ownership and greater concern with social stability, forest products firms are increasingly forming partnerships with indigenous and other community suppliers. For example, in South Africa small scale farmers are producing industrial pulpwood, and in British Columbia, Canada, Weyerhaeuser and other firms are forming partnerships with indigenous, First Nations to manage natural forests and supply mills.¹² There are now community-company partnerships in at least 57 countries.¹³

Emerging demand for environmental services and new payment mechanisms.

The many valuable ecosystem services provided by forests—including watershed protection, biodiversity conservation and carbon storage – are gaining increasing attention from industry and government, as well as private citizens. These individuals are becoming aware of the dangers and costs of allowing forest services to be degraded or lost. This degradation can have local impacts, such as floods and landslides, or broader impacts, like global climate change. Forest fires in Indonesia and Brazil, hurricane Mitch in Honduras and floods in El Salvador and China are a few of the many natural disasters that have occurred in the last decade; each causing some several billion dollars in social, environmental and economic damage. These costs could have been diminished given proper forest protection. Those who bear the costs of degradation – such as downstream water utilities, local governments, private insurers and society as a whole – are exploring opportunities to reduce costs by financing forest conservation. At the same time, some forest owners are seeking compensations for the costs of maintaining healthy forests.

Domestic, public payment schemes for environmental services are already rapidly developing in the U.S. and Europe. The U.S. Conservation Reserve Program alone, for example, expends some \$2 billion a year in payments to farmers.¹⁴ Private investments and public payment schemes are incipient and limited in most developing countries, yet there are a number of innovative fiscal mechanisms underway, such as the taxes on carbon fuel to fund conservation in Colombia and Costa Rica which generate millions per year.¹⁵ Other innovations include the ‘ecological’ value added tax that has been adopted in about six states in Brazil and finances payments to landowners who maintain natural forests. This mechanism generates approximately \$ 22 million a year in the state of Parana and \$ 6 million a year in Minas Gerais. The area of natural forest under protection grew over 1 million hectares in the 9 years since the program began in Parana, and over 1 million hectares in the 5 years since the program began in Minas Gerais.¹⁶

There are also international mechanisms emerging to finance the global benefits of forest services. It is estimated, for example, that the Clean Development Mechanism of the Kyoto Protocol will generate somewhere between \$.63 and \$3.6 billion dollars over the next ten years in investment. This mechanism is now limited to financing carbon sequestration, thus favoring plantations and restoration over natural forest protection.¹⁷ Given the lower cost of plantation projects, these funds will go to the industrial plantation owners—rather than advancing the restoration of degraded lands and community properties – unless there is a concerted effort to reduce transaction costs to communities and other small producers. There are successful

examples, including payments to forest communities by the Bolivian Noel Kempff project, and the carbon project in Mexico of Scolel Te¹⁸. The experience of the GEF in supporting carbon sequestration projects which have yielded benefits to the communities by improving livelihood options and biodiversity conservation in Iran, Benin, Mongolia represent practical examples which can be critical in developing good practice¹⁹. Given the increasing costs of clean water, the hydrological services of forests are a growing source of payments, particularly in growing urban areas where upland communities are an important source of clean water supplies.²⁰

Greater attention to governance, international standards and transparency.

Democratization has spread since the Rio Summit and is fostering reforms in forest governance that give greater voice to local people. This has opened up the forestry sector to greater scrutiny and public evaluation. Decentralization of governance has increased interests of local governments to address regional issues and localized political constituencies. Civil societies can more easily lobby governments driven by local concerns to address issues, and can sustain political pressure. The greater scrutiny has made governments, NGOs and communities more aware of the limited capacity of governments to monitor and control public forestlands, and fosters movements for devolving rights and controls to local people.

The majority of forest rich countries have adopted the “concession” model of public forest management and allocated harvest rights to industry and political pressures have often led to misallocation and corruption. The cost of illegal logging is currently estimated to be \$10-15 billion annually--an amount greater than forest country investments in public education and health and total annual World Bank lending to all client countries.²¹ These problems have driven a host of new initiatives, including new diplomatic efforts to address illegal logging, government purchasing policies to restrict the import of illegal wood, ‘proof of legal sourcing’ and even international conventions on legal compliance. Ironically, these initiatives to control illegal trade directly contradict, at least in spirit, the existing direction of global and regional trade agreements – which is bent on liberalizing markets. How efforts to deal with illegal logging intersect with world trade agreements is an important and growing issue, particularly to major exporters such as Malaysia, Indonesia and Brazil.

Another major change in the forest sector since the Rio Summit is the creation and establishment of independent certification as a tool to encourage sustainable forest management. This tool is akin to the independent auditing of financial records now common practice in the business world. It has been driven by the widespread recognition of poor natural forest management in developing countries and made possible by the rising influence of non-governmental organizations. While increasing, the area certified is still minor in regional or global terms: there are some 140 million hectares of certified forests in the world but this is only about 2.3 percent of the world’s forest area.²² Of considerable significance is that the great majority of certified forest area is in temperate countries, almost exclusively in Europe and North America, with most land certified to large, sophisticated company-owners. Such companies can develop a market economy of scale in which certification makes good business sense while being practical to implement. In general, smaller-scale operations often find certification complicated and too costly.

A broader analysis of certification suggests that its greatest contribution to date, especially in developing countries, has been to stimulate new debate on forest practice, and the development of new standards in an inclusive, participatory manner. Certification is increasingly used by investors and insurers to indicate reduced risk and uncertainty over the forest operation. Communities sometimes use certification as a way of legitimating their tenure and cultural management practices. Beyond these obvious benefits, the greatest potential of certification, particularly in developing countries and in tropical natural forests, will most likely be in the area of forest services.²³ Independent certification, along with standard assessment methodologies, criteria and registries, is an essential element of the institutional framework required for markets for forest services. Since this framework does not yet exist in most countries, building this institutional framework in developing countries will be a major challenge in the coming decades.

Increased assertiveness of the ‘South’ and Reduced ODA from the ‘North’.

The Rio Summit elevated concerns over tropical forests to the level of global action. The South called for a greater role by the North in financing the protection of global values of tropical forests. Out of this process, there are now a number of important international conventions: the Convention on Biological Diversity, the UN Climate Change Forum, the UN Convention to Combat Desertification, and the UN inter-governmental process on forests (IPF, IFF, and UNFF), some with treaty status and others more global movements based on principles agreed at Rio. Local actors and national governments are just now beginning to define what actions they will take consistent with these conventions and processes and how these fit together, and how they can support national actions.

The proliferation of initiatives has created a complex set of priorities and rules that are seemingly confusing, if not conflicting and demand a great amount of attention by developing country professionals and officials just to monitor. Despite these new rules and assurances, post Rio, the South became resentful of environmental movements perceived as ignoring the sovereignty of nation states or imposing behavior contradictory to national development goals and interests. And the South has increasingly called for the industrialized countries of the North to pay for the protection of global resources which are found in the South through international compensation for the services that their forests provide to the world.

In parallel, the industrialized countries have become disillusioned by the limited effectiveness of Overseas Development Assistance (ODA), particularly forest investments. The proportion of national wealth that industrialized countries have been prepared to transfer to developing countries has also shrunk dramatically over the last few decades. Widely publicized research documenting the prevalence of corruption and illegal logging in many forest rich countries further tarnished the reputation of forestry and governments, limiting assistance flows and increasing confrontations of whether or not to assist activities and for which goals. These tensions and this new reality have driven governments, both North and South to search for new mechanisms that show promise to increase the impact of aid, and new sources of funding for natural forest conservation.

Summary analysis, reasons for hope.

In sum, ten years after the Rio Summit there are new conditions that provide increased opportunity to advance the Rio goals of achieving socially, environmentally and economically sustainable development in the forest sector. New community access, greater demand for accountability, and new market options provide an opportunity to conserve important forest ecosystems and biodiversity values, support economic activity and trade in domestic and global markets, and which provide options to poor people for sustainable livelihoods and a higher quality of life. At the same time, some of the same daunting challenges of limited governance capacity and interest and dealing with the dramatic threats of alien invasives and climate change, remain.

Realizing the opportunities requires finding ways to increase the financial value of forests and the contributions of forestry to local livelihoods, dealing with governance issues, addressing policy constraints on natural forest management and engaging communities in forest enterprises – allowing them to use their forest assets for their own economic development. All of these efforts will require greater domestic commitment in conservation and additional sources of finance and incentives.

The next section of the paper outlines some key opportunities and options required to make this vision possible. Clearly many forests will not be conserved, climate change and natural and civil disasters will undermine efforts in specific cases, and numerous communities will fail to manage their lands wisely. But there is a clear opportunity to create positive incentives for action and to simultaneously advance on the social, environmental and economic goals of Rio.

Looking Forward: Devising a New Agenda for Forest Conservation

Opportunities to Increase Commitment and Incentives for Forest Conservation

Developing countries have already established some 700 million hectares of protected areas²⁴ and expend approximately \$1 per hectare per year to protect them. Although by most accounts this level of investment is far from sufficient, this effort reminds us that protection can be achieved even without direct financial incentives where there is an understanding of the social benefits of protection and domestic constituencies argue effectively for conservation. In most countries, strong domestic constituencies for conservation eventually result in political will. Developing domestic stronger constituencies and capacity for conservation is thus a key strategy to promote stronger forest conservation.

Unfortunately though, domestic constituencies are often not sufficient. Developing countries face legitimate and competing options for the use of their natural forests just as they face competing options over the use of their public finances. Underfunded conservation and limited budgets are realities while increasing fiscal revenues, earning foreign exchange, creating employment, and settling landless people are common, and very real, priorities. Conversion of forests to agriculture and encouraging industrial exploitation are uses aimed at achieving some of those goals. Financing for strict protection must compete, for example, with investments in education and health.

Governments need to raise additional finance, either to fund their own protection efforts, improve the management of their own forests and raise the incentives for private owners to sustainably manage their forests. Many institutions, including the UNFF, have begun to focus on this issue of finance and financial incentives (See Annex 2 for a summary of different sources of finance).²⁵

Official Development Assistance.

In rough figures, the total Official Development Assistance (ODA) in the forest sector, is somewhere between \$1.2 and 2 billion annually, of which some 50 percent is absorbed in overhead and remain in developed countries and the bulk of the remainder is spent on building capacity and other indirect means of promoting forest conservation.²⁶ There is a new Critical Ecosystems Protection Fund (CEPF) housed at the World Bank, for example, which plans to spend another some \$20 million a year. This 150 million fund which focuses primarily on biodiversity “hotspots” – highly threatened regions where some 60 percent of all terrestrial species diversity are found on only 1.4% of the planet’s land surface – was launched as a joint initiative of Conservation International, the World Bank, and the Global Environment Facility. New donors, including the MacArthur Foundation, have joined the partnership.

The Global Environment Facility.

The GEF, for example has spent approximately \$1 billion over the last ten years for 350 projects in 123 countries for biodiversity conservation and sustainable use, more than 500 million for forest ecosystems, at about \$50 million a year. The GEF support for forest ecosystems constitutes about 40% of its pipeline. Opportunities exist through new instruments, new guidance from the Conference of the Parties of the CBD, and increased synergies with its climate program based on new guidance and funding mechanisms agreed to by the Parties to the UNFCCC at their last session. About 70 percent of all forest projects have focused on public protected areas.²⁷

Private Philanthropic Assistance.

Total private philanthropic assistance in forestry, the vast majority of which comes from the United States is difficult to estimate –and is probably in the range of \$ 70 million a year. While this assistance is important, for example, the recent grant of \$262 million to Conservation International over the next ten years by the Gordon Moore Foundation, a sizable amount is

allocated to overheads and there is no indication that these contributions will increase in the near future.

Private Capital Flows.

International private capital flows to the forest sector are probably between \$8 billion and \$10 billion per year in plantation establishment, logging and downstream processing facilities.²⁸ In their majority, these flows originate in industrialized countries but the flow between developing countries is also growing.²⁹ In general the west has preferred plantations and timberland investment rather than natural forests which are seen as much riskier and yielding lower returns than plantations. South-South capital flows on the other hand have tended to move into natural forests and non-sustainable logging and trade operations.

It is likely that private investment in developing countries will continue to dominate the scene. The potential for investments in the international market is illustrated by the value of traded forest products, which dwarfs the amount of official and philanthropic funding. Primary forest products exported from developing countries alone are worth close to \$28 billion a year, and exports constitute less than 10 percent of all primary wood products traded in most countries.³⁰ While the value of domestic trade, non-timber forest products, and fuel are not well documented, incorporating these sources would greatly increase the total value of forest trade. For example, the international trade of bamboo and rattan is estimated at \$1.5 billion per year³¹ and non-timber forest products traded in Mexico alone are estimated to be worth between \$1.5 and 10 billion annually.³²

There are new sources of finance and incentives in addition to these conventional financial flows. Global funds under SRI management have now reached \$1.4 trillion and they are increasingly active in developing country markets and have proven to outperform most of the other mainstream funds.³³ Trade under fair trade labels totaled \$400 million in the year 2000, and growth in the fair trade sector has been 10 percent annually since the 1970s.³⁴ Investments by the private sector have considerable potential, illustrated by the fact that in the US alone institutional investors manage some \$19 trillion. Even a small proportion of this amount invested in forest conservation would have a considerable impact worldwide. However, so far corporate and institutional investment decision makers have shown limited interest in investments in tropical forest conservation, which are perceived as highly risky, preferring to concentrate on high yield forest plantations and processing ventures instead. The decision of international investors to avoid investments in natural forests leaves the playing field for self-financed corporate interests who may not be as vulnerable to the same level of scrutiny or so exposed to social demands as multinational actors.

In-Kind Contributions of Communities and Small-holders.

The in-kind contribution of the some 65- 500 million indigenous and other communities and the millions of small-holders to forest conservation, as well as their incentive to manage their private property of some 200 million hectares, is often overlooked. Even if valued at \$1 dollar a day and assuming only 100 million forest owners, their active presence would be worth some \$36.5 billion dollars a year.

International and Domestic Payments for Forest Services.

The CDM and domestic payment schemes for environmental services are other sources of significant flows of funding. The CDM alone is estimated to be worth somewhere between \$.63 billion and \$3.67 billion total over the next 10 years. While under current rules the CDM would apply only to forest restoration, extension to natural forest protection will be revisited in 2003.³⁵ The growing domestic mechanisms for paying for forest services – either the direct payment schemes like the CRP in the U.S. and the payment schemes in Costa Rica, the tax mechanisms and tradable property rights mechanisms being implemented in Brazil are already worth billions of dollars a year.

Summary Analysis.

Even under the best case scenario, assuming the high end of the above estimates, total ODA, GEF and private philanthropic contributions to forestry would not exceed some \$2.5 billion a year in total. Assuming 50 percent cost of overhead and delivery, this would work out to about \$1.8 dollars per hectare per year when spread across the some 700 million hectares of forests in public protected areas in developing countries.³⁶ If concentrated on the some 210 million hectares of biodiversity “hotspots”, this would work out to approximately \$6.0 dollars per hectare per year. If extended to the entire developing country forest estate of about 1.7 billion hectares, this would work out to about \$0.7 dollars a hectare per year. While important contributions, these sums are not sufficient to significantly enhance the incentive for protection of protected areas, much less the forest outside of protected areas.

Even if government, private philanthropic and GEF funds double, they alone will still be insufficient to substantially advance conservation in developing countries. This suggests that schemes under which use rights are purchased from forest holders—such as conservation easements and concessions—will be unable muster sufficient resources to compete with government needs for revenue and employment in many situations. For example, while government concession royalties vary tremendously, they range from \$1 per hectare per year in Bolivia, to some \$3 - \$40 per hectare per year in Sabah, and have recently been set to approximately \$64 per hectare per year in Cambodia.²⁷ But most countries underestimate the value of forest resources given in concessions. Timber values alone range around \$1000 - \$4000 per hectare in tropical countries, roughly averaging about \$100-200 per hectare per year.³⁸ Because of these high opportunity costs, proponents of conservation concessions often seek to purchase already high-graded stands, where costs are half or less. Nonetheless, competing with government options will be difficult. Conservation concessions contend with another, ethical, dilemma, namely the fact that their removal from production denies income opportunities from local people.

As we look into the next ten years it is clear that ODA and other concessionary sources of support will remain inadequate to the challenge of the global forest estate. The sources with greatest potential to provide financial incentives for forest conservation are private forest markets, the CDM and other, yet to be designed, international, market-based compensation mechanisms, and domestic markets for environmental services. It will also be critical to build on the in-kind contributions of indigenous and other communities and smallholders who own forest resources. Rather than competing, or working in parallel with these private markets, a more strategic use of ODA funds would be to leverage these private flows and incentives – transforming these markets and these instruments into more positive contributors to forest conservation and poverty alleviation.

Elements of a New Conservation Agenda

Addressing Governance Issues.

The many opportunities mentioned previously may never lead to increased forest conservation and better forest management unless developing country governments somehow gather the needed conviction and political commitment to undertake drastic reforms to improve the levels of governance. Improved governance would create significant incentives to better align private sector motivations and objectives with those of conservation and to foster those models of community forest management that are effective in securing more sustainable practices. Better governance would also likely generate international support, improve the contribution of the private sector to conservation and generate additional financial resources for the public forest administration. Finally it would facilitate forest management by small communities, thus fulfilling not only an environmental objective but also improving the condition of the poor.

Political support to reforming government institutions and to conservation programs will have to be a great deal more decisive than in the past. The international community – financial and technical

assistance agencies – needs to do a much better job in supporting governance reforms in tropical countries. Several steps could be considered.

- **Assess the performance of public timber concessions and adopt necessary reforms.** Inappropriate concessions negatively impact conservation and development goals, as well as reduce government revenues. As has been initiated in Cambodia, governments could review the extent to which companies holding concessions are conforming with legally agreed obligations, followed by cancellations or re-issue of those in default. Many governments would also benefit from an objective analysis of the economic, social and environmental logic of their concession programs and reconsider this approach.
- **Control illegal logging and corruption.** Given the great amount of attention to these problems, a number of countries have begun to invest more energy and funds in monitoring compliance and these investments have shown positive results. Reducing the incidence of forest crime would hinder the financially competitive illegal and unsustainable activities that today make forest conservation and sustainable management financially unattractive. New approaches and technologies are being discussed in the context of the new diplomatic efforts on illegal logging, following the important accord signed by East Asian Ministers in Bali in late 2001.
- **Develop and strengthen national-level independent certification standards and auditing capacity.** Certification has proven to assist in dealing with governance issues, yet national-level capacity is often limited, thereby increasing costs of adoption.
- **Adopt systematic, regular, independent audits of government performance in public forest management.** Several countries, perhaps most notably Malaysia, have adopted a process of independent audits. This is carried out in accordance with the Montreal Process indicators and is evolving toward the Forest Stewardship Council principles and criteria. These assessments help governments check their own performance and provide assurance to their citizens and buyers of their efforts towards sound management.

Shifting public forest ownership and access to communities and small holders.

Currently, uncertainties about forest tenure and restricted forest access are the most binding constraints to sound forest conservation and expansion of local forest businesses. Many countries are making progress on recognizing the property rights of indigenous and other communities, but many countries have just started down that path, and property rights remain ‘insecure’ even where the appropriate legal reforms have taken place. The challenge of forest conservation remains, in many places, the challenge of converting forests from ‘frontiers’ where land rights are overlapping and contested and insecure, to more controlled situations where property rights are clear and secure.

Clear tenure rights authorize local people to protect forests against outside encroachment, as well as to enter into business contracts. Transferring or returning forest assets to the ownership or long-term use of local people is a politically and financially feasible first step for poverty reduction. In Indonesia and the Philippines, some local groups have successfully negotiated new rights by demonstrating sustainable forest management. More secure forest access and ownership rights for local people must be pursued aggressively, including the establishment of property rights for ecosystem services. Designing and managing these land reforms is a daunting task, and there are several priority steps.

- **Increase investments to facilitate this transition and enhance the likelihood of positive outcomes.** Assessing community claims, mapping tenure, delimiting property, reforming legal frameworks, devising regulations and establishing new enforcement mechanisms are not inexpensive. Developed countries and multilateral and bilateral

organizations need to dedicate their technology and financial resources to the monumental task of reforming forest tenure. Resources are also essential to developing organizational and conflict management skills so that communities are able to monitor and sanction behavior and develop management capacity.

- **Identify and clarify property rights to forests' ecosystem services, considering equity dimensions of conservation.** In most countries further legal development is needed to fill the void in property rights to environmental services. These are thorny and complex issues, but necessary to tackle to facilitate the development of markets for environmental services, and even more important to ensure that the rights and economic interests of the poor are protected.
- **Generate and share transition strategies, lessons and best practices.** Many governments and supporting actors are reforming tenure systems, but the knowledge generated from these experiences is often difficult for innovators in other countries to find, understand and consider. There would be great value in disseminating information on when and how these strategies are most effectively used.

Reforming policies to provide incentives for conservation.

Creating policy conditions that encourage investments and enhance the ability of forestry to compete with alternate land uses, and allows for forestry to contribute more to the economic development of the poor requires a number of steps.

- **Remove regulatory barriers.** Reducing the regulatory burden on local forest producers is essential for them to enter markets to utilize their own forests or public forests for economic development. In some regions of India, for example, ten separate permits are required for community forest producers to complete a single timber sale. In other countries, indigenous communities have long-term rights to extensive tracts of natural forest, but they are denied the right to commercially exploit them. Complex, poorly understood and contradictory regulations from various agencies make compliance difficult, encouraging selective enforcement. This drives millions of people to operate illegally. In many cases regulations can be replaced by strong technical assistance programs that promote and monitor “best practices,” or by adopting certification as an alternative. The requirements of forest management plans and certification need to be radically simplified for small-scale producers to comply.
- **“Level the playing field” for small-scale producers.** In many countries government policies, subsidies and regulations privilege large-scale producers. Smaller-scale producers benefit few limitations on market entry or operation, flexible quality and volume requirements. In most countries, the reforms necessary to benefit the poor would benefit the business sector and the forests as well. In Bolivia, for example, far-reaching forest policy reforms have included not only formal recognition of indigenous groups' forest rights; they also have exempted small-scale forest producers from some requirements. Their concession fees have been lowered, the process for accessing municipal forests has been simplified and assistance with marketing and forest certification has been provided.
- **Involve local producers in policy negotiations.** Local producers' active involvement in forest policy negotiations will result in more practical, realistic and lower-cost laws, market regulations and development plans. Forest rights and regulatory reforms have been achieved through political alliances involving local producer networks, private industry, government agencies and/or environmental groups that stand to benefit from forest market development.

Promoting Community Forest Enterprises and Joint Ventures.

Like industry and governments, communities have a mixed record on forest management. There are examples of poor community management, and Papua New Guinea is frequently cited as a testament to the failures of community ownership. On the other hand, there are many examples of sound community management where harvest levels appear sustainable and benefits are distributed to community members. In Mexico, for example, community-owned forests contribute substantially to community livelihoods and domestic wood supply. As with private individually-owned property, effective management requires that communities have clear rights and mechanisms in place to monitor users and exclude outsiders.

Both the reduced supply of tropical hardwoods and the increased environmental conscience of investors and forest product companies are global transitions that create new market opportunities for small holders and communities managing natural forests. Community forest owners of natural forests with high quality, accessible timber, strong community organization and good marketing and management skills can profitably sell tropical hardwoods. In forest-scarce areas with high-income growth and good market access, small-scale farmers can profitably sell high-value timber from agroforestry. Capturing these opportunities will require a number of steps.

- **Initiate a proactive campaign to characterize and establish markets for low-income producers.** Preliminary work on the market potentials for low-income producers indicates a great potential for substantially improving the incomes of millions of the forest poor.⁴⁰ New, more focused work is needed to better characterize the potentials in each market segment, where those potentials are located and what steps are required to enable community participation.
- **Improve Market Position.** To raise incomes significantly, producers need to analyze the value chain of their markets – be they in timber, NTFPs or services – and establish a competitive position. This may mean improving production and marketing technology, product quality or reliability of supply. Local sales of low-value wood products and NTFPs with stagnant demand can play an important role in the livelihoods of forest dwellers. But long-term income growth requires building supply networks that link producers to domestic markets with increased production efficiency. Small-scale producers’ potential for successfully supplying commodity markets is illustrated by the pulpwood outgrower schemes in South Africa.
- **Strengthen Producer Organizations.** Engaging in markets usually requires assessing and negotiating options, making capital investments, undertaking processing activities or establishing and maintaining quality controls. All require sound organizations. Where market institutions are underdeveloped, producer groups can address the ‘gaps’ in the value chain, for example, by setting up transport services, scaling up supply, leveraging credit, etc. The payoff for strengthening producer organizations as well as the local private sector service providers is demonstrated by the World Bank/Government of Mexico Proyecto de Conservacion y Manejo Sustentable de Recursos Forestales (PROCYMAF) project in Mexico.
- **Promote Strategic Business Partnerships.** Strategic business partnerships are growing that benefit both private industry and local producers. Through these arrangements, industrial firms can access wood fiber and non-wood products at a competitive cost, along with forest asset protection, local ecosystem expertise and social branding opportunities. Business partners can provide local producers with high-quality planting materials, technical assistance, quality control, and investment resources for expansion and marketing and business expertise. The potential for successful business partnerships between indigenous communities and industrial companies is illustrated by Iisaak Forest Resources in Canada, where this company is jointly owned by the First Nations groups of

Clayoquot Sound and Weyerhaeuser as a way of conserving and managing valuable coastal old growth forests that are not formally protected. Third parties, such as conservation organizations, NGOs, and public forest agencies, have also successfully brokered partnerships between large firms and small-scale producers.

- **Promote Essential Business Services.** Local business success also depends on access to quality business services. These include management services; organizational support; technical assistance for production, conservation and processing; market information; insurance; marketing assistance and financing. These critical private sector roles are frequently missing in forest settings, and if present, are not usually tailored to meet the requirements of low-income producers. Some private sector firms are beginning to fill this gap, such as A2R in Brazil, and some public projects, such as PROCYMAF are making concerted efforts to build this private sector capacity.

Establishing Domestic Markets for Environmental Services.

While there are many innovative deals and programs in the world, markets and market-based mechanisms to finance forest ecosystem services remains a nascent and marginal affair. The players are just beginning to grasp the potential ways in which markets can help protect forest services and improve well-being. Three steps, in particular, should be considered:

- **Build knowledge and capacity.** A better understanding of some key dimensions of forest services will facilitate the development of new mechanism. In particular, there is a great need for new knowledge on the biophysical relationships between forest management activities and the flow of services; the interactions between markets for services, property rights and regulations; how to ensure that the poor benefit fairly, and participate to the fullest extent; and finally, how the different mechanisms perform, and what general lessons and ‘best practice’ can be derived from these early innovations.
- **Build institutions.** To function efficiently, effectively and fairly, all markets require enabling institutions. In the case of markets for services, this new set of institutions is now under construction, albeit in most cases on an ad hoc basis. Key institutions to be constructed are common assessment methodologies, property rights and registries auditing and certification systems, and contracts. Stakeholders may adapt some of these institutions from models established in other areas, but it may often be necessary to construct particular institutions for particular countries. In the carbon market, particular challenges include devising approaches to deal with leakage, permanence, and accessibility issues.
- **Support pilot deals.** There is no substitute for experience, and learning by doing is one of the best ways to gain that experience. The existing stock of knowledge comes from innovators who have forged ahead despite the uncertainty and lack of precedent. Business leaders, governments, and NGOs could encourage innovation within their own organizations and in collaboration with other sectors.

Promoting International Market-Based Payment Mechanisms.

As mentioned earlier, the lack of substantial investment from the North in the global benefits of developing country forests has been an issue that can be addressed by the following actions:

- **Strengthen and encourage existing innovative funding mechanisms.** Innovative funds, such as the Prototype Carbon Fund led by the World Bank, have been instrumental in building experience and capacity in the international markets area. The new Prototype Sequestration Fund will similarly set precedents in the forest carbon markets. These

funds, and funds like them could be encouraged, and the lessons they generate widely disseminated for the general education of all concerned stakeholders.

- **Transform the CDM into a more effective tool for conservation and development.** Current international arrangements preclude global payments for carbon sequestration services of natural forests. Not unlike many domestic policies, the CDM as currently constructed privileges plantation over natural forests. Tropical hardwoods promise to withhold more carbon from the atmosphere than pulp and paper plantations because of the high value of the wood and the long term uses of the wood. Thus, the percentage of carbon sequestered is much higher and the period of sequestration is much longer than in the case of plantations. Similarly, conversion of degraded pasturelands to native forest ecosystems as in the case of biological corridor and watershed restoration is by definition a permanent conversion.⁴¹ Transforming the CDM into an instrument that encourages natural forests and community benefits requires a proactive effort on the part of donors, governments and new investors to devise rules and funding mechanisms that privilege natural regeneration and reduce the transaction costs of community participation. This should be a major focus of global leaders.
- **Develop the CER purchase agreement as a model for practical implementation of the CDM.** As described in detail by Thomas Black-Arbeláez of Columbia, this system minimizes the transaction costs and risks for both buyers and sellers, and investor risks enough to make CDM attractive for both buyers of carbon and restoration project developers alike. These national programs must be able to incorporate Certificates of Emission Reduction (CERs) for compliance. To the extent that investors perceive this future opportunity, they will enter the market sooner than later, since the current prices will be lower than those once the mechanism is well established. Developing countries which analyze the pricing of their CERs will have the greatest potential benefits. Projects must demonstrate additionality and permanence or duration of the carbon sequestered, with optimal returns for restoration projects for their permanence. With an adequate set of rules in place, institutional finance will be much easier to obtain as the contract for CERs will provide a guarantee to support and obtain financing for the implementation and operation of projects.
- **Consider new, performance-based biodiversity protection funds.** With the right rules, carbon finance will make an important contribution to forest conservation. Nonetheless, these funds will not be sufficient for the challenge. New, biodiversity-oriented funding mechanisms should be explored to address some of the limitations of existing international mechanisms. A global fund could be performance-based, financed by governments as well as private donations. Tax deductions for contributing industry could be considered.

Adapting Conservation Strategies to New Threats.

Traditional protection approaches will need to be reconsidered to adapt to climate change and alien invasive threats. Current conservation in isolated public protected areas is unlikely to maintain ecosystem function across broader landscapes. An integrated approach is essential to protect fragile biodiversity but will require creative models for transactions--addressing the lack of capital of smaller producers and higher transaction costs when many small communities and ecosystems are involved.⁴² Adaptation and mitigation efforts should focus on establishing mosaics of inter-connected terrestrial and marine reserves – designed in a manner to take into account the projected climate changes.²⁴

International and domestic markets for services present a major opportunity to advance new conservation strategies. Rather than favoring whatever most economically sequesters carbon—

commercial plantations—future CDM should create a blend of natural ecological restoration and new plantation to meet the end goals of generating multiple values.

Dealing with the threat of alien invasive species will require new strategies and approaches far beyond the conservation community. Three steps in particular are recommended:

- **Develop coordinated national policies.** Well-thought out and comprehensive strategies to guide the management of invasive alien species will be required. This will entail establishing a vision, goals and objectives for the strategy; involving all critical stakeholders; assigning responsibilities to government entities for the prevention, early detection and control of alien invasive species; setting priorities and initiating public awareness campaigns.
- **Adopt prevention, early detection, and rapid response strategies.** Best practice for these strategies is only now being developed. In dealing with the Asian longhorned beetle the U.S. Animal and Plant Health Inspection Service quickly amended its quarantine rules for solid wood packing materials; issued pest alerts, conducted outreach programs and targeted high-risk importers; and Plant Protection and Quarantine officers have increased visual inspections of high-risk cargoes.
- **Manage current invasions.** Here too, best practice is only now being developed. A highly successful model is a program in South Africa “Working for Water” that has effectively cleared invasive eucalyptus and wattle trees from 700,000 hectares of land and initiated follow-up on 500,000 hectares to recharge the water catchments negatively affected by inadvertent spread of these trees in the region. The program has generated 23,000 jobs including 7000 of previously unemployed people, the costs of which are covered by the increased water generation.⁴³ The sooner such operations are initiated the better, as the rapid spread of invasive species can result in exponential increase in costs.

Potential Roles: Opportunities for Key Players

This section summarizes recommendations on the comparative advantage of the different actors and the roles that each can play to achieve environmentally, socially and economically sustainable forest conservation.

National governments.

Governments have the opportunity to establish new, more conducive environments to encourage sound private investment in forestry and new mechanisms to finance forest services and could prioritize:

- (a) Recognizing and ensuring tenure rights of communities, small holders, and firms, and safeguarding the “safety net” role of forests;
- (b) Decentralizing control over regulation and decision;
- (c) Eliminating barriers to market entry by simplifying regulations and taxation, and enabling national standards for environmental services and certified forest products;
- (d) Encouraging the emerging domestic constituencies for reform that make that reform politically saleable; and
- (e) Channeling resources to strengthen producer associations and community structures and encouraging business support services.
- (f) fostering organizational and technical capacity, promoting mechanisms for conflict mediation among diverse stakeholders, analyzing livelihood strategies, and setting the stage for wider participation of producers in markets and ventures between companies and local people.

Multilateral financial institutions and bilateral donors.

These institutions have the opportunity to refocus on assisting governments to reform policies and create an enabling environment for private sector investment in natural forests and build the institutional framework for new markets for environmental services. This would include:

- (a) Reforming policy and regulatory frameworks to “level the playing field” for forests and communities;
- (b) Supporting the development and adoption of independent forest certification systems;
- (c) Developing due diligence procedures for private-sector investors;
- (d) Establishing guarantee funds to buy down the political risk of investing in natural forests;
- (e) Building capacity for local actors—communities, indigenous leaders and professionals, smallholder associations, local government structures—to assume the roles of decentralized forest conservation and management;
- (f) Disseminating knowledge among countries and within countries about successful experiences and opportunities for partnership between forest producers and private sector companies and investors;
- (g) Financing innovative new funds and mechanisms such as the Prototype Carbon Fund of the World Bank, and financing innovative pilots—preferably those linked to NGOs and other smaller scale actors; and
- (h) Brokering policy dialogue with diverse stakeholders at country level with financing as needed for buy-in and leveraging private investment.

Private businesses including forestry industry, community organizations, and private financial and business service providers.

The private and civil sectors will necessarily play central roles:

- (a) Identifying businesses that can identify the competitive advantages of forming partnerships and working with local producers will strengthen their long-term supply and cost position.
- (b) Investing in innovative financing strategies can be pursued with socially and environmentally responsible investors.
- (c) Adopting independent certification and playing an active role in governments’ policy reform.

Development and conservation organizations.

These organizations can:

- (a) Help raise awareness of business opportunities, promote policy changes, facilitating viable business partnerships and establishing business support services targeted to low-income producers and community forests;
- (b) Work with private businesses to assist in developing guidelines and standards for forest management plans, certification processes and transparency, as well as other global industry norms that enable full participation by local producers.
- (c) Provide low-cost information services through the internet and other media can provide broad access to available data, market information and resources
- (d) Help develop conceptual frameworks and conservation strategies that integrate biodiversity conservation and equity issues, and contribute to the economic development of indigenous and other poor communities.

Research organizations.

Research organizations can contribute by:

- (a) Working with community forest owners and farmers to develop and field-test production and processing systems that are more efficient, profitable and accessible;
- (b) Analyzing the financial and organizational viability of different business models for local enterprises and producer-industry partnerships;
- (c) Mentoring and train in-country professionals and leaders;

- (d) Partnering with private sector and exchange knowledge.

Indigenous groups, communities and smallholder associations.

These groups can participate by:

- (a) Lobbying for full recognition of traditional rights and full rights to use their forest resources;
- (b) Investing in local enterprises and organizational capacity that captures other investment and diversifies livelihood strategies;
- (c) Investing in future leaders and local professionals to manage their enterprises;
- (d) Exchanging information with a network of other like actors, to build a larger supply of products and services, set culturally appropriate standards, lobby for policy reforms, etc.;
- (e) Investing in indigenous knowledge and applied research based on local interests and opportunities.

Conclusion: to Johannesburg and Beyond

In the years following the Rio Summit, the three goals of socially, environmentally and economically sustainable development were often addressed independently. Similarly, separate program strategies were created for each of the three objectives of the Convention on Biological Diversity: biological protection; sustainable use, and a fair sharing of benefits. Although important gains have been made in establishing protected areas, conditions of the forest poor and the condition of the forest beyond the parks have deteriorated. This approach has not delivered the intended results.

New transitions in the forest sector, including shifts in rights to indigenous and other communities, new sources of capital and new markets for environmental services, present new opportunities to achieve the goals of Rio. These shifts also mean that the forest conservation, indigenous peoples and social development, as well as economic development agendas are converging, allowing new scope for an integrated approach to forest conservation and poverty alleviation. Options such as reforming forest policies to benefit low-income producers, strengthening tenure, and ensuring community access to the CDM all yield benefits in social, environmental and economic terms. Similarly, shifting the predominant conservation strategy from the almost exclusive focus on protected areas to the broader forestry matrix is not only the right thing to do to mitigate climate change and alien invasive threats, but also the right thing to do for low-income forest producers.

Making progress will require ambitious, but realistic action. New international payment mechanisms need to be established. The CDM needs to be transformed into an instrument for poverty reduction and natural forest regeneration. International agreements must be rationalized. And ODA, GEF and private philanthropy must be much more strategic, leveraging private capital flows to improve forest management and increase forestry's contribution to poverty alleviation. Otherwise, degradation and deforestation are likely to continue and this potential source of financing will miss its mark, with great costs for national development, local people, and global forests.

Annex 1. Overview of the Global Environment Facility and Its Role in Forest Conservation

The Earth Summit directly led to the establishment of the Global Environmental Facility (GEF) and its strengthening over the last 10 years (see Box 1). First initiated as a pilot program in the World Bank in 1991, the GEF was formalized by international agreement in 1994 and given a mandate to finance the incremental costs of global environmental measures in developing countries.²

Box 1: The Global Environment Facility: A Unique Institutional Partnership

The GEF is structured as a unique partnership of the World Bank and the UN system. As set forth in the GEF Instrument, governance is provided by a Council of 32 countries which meets twice a year organized into representative constituencies. The largest donors and China have individual seats. Contested votes require 60 percent of both countries by number (the UN system of one country one vote) and contribution (the World Bank principle of one dollar one vote). Operational oversight is provided by a Chief Executive Officer and small Secretariat, which was housed administratively in the World Bank to avoid the creation of a new institution. GEF is the designated financial mechanism for international agreements on biodiversity, climate change, and persistent organic pollutants. GEF also supports the work of global agreements to combat desertification and protect international waters and ozone layer.

Financial resources are obtained by pledges from donor governments on roughly a four year cycle, starting with \$1 billion in the pilot phase and increasing to \$2 billion in 1994 and \$2.6 billion in the most recent replenishment in 1998.

GEF projects are country-driven and must be approved by the recipient countries and funding can only be provided through one of three Implementing Agencies, the World Bank, UN Development Programme (UNDP), and UN Environment Programme (UNEP). The Instrument reflects an expectation that these agencies offer substantially different strengths – investment project management from the World Bank, technical assistance and capacity building from UNDP, and environmental science and convention linkages from UNEP. The International Finance Corporation (IFC), the private sector arm of the World Bank, also provides a means for directly financing private sector initiatives. In the past year, access to GEF support has been extended through a wider range of cooperating agencies including four regional development banks (African, Asian, and Inter-American development banks and the European Bank for Reconstruction and Development), the UN Industrial Development Organization (UNIDO), the UN Food and Agricultural Organization (FAO) and the International Fund for Agricultural Development (IFAD).

During its first decade, GEF allocated \$3.2 billion, supplemented by more than \$8 billion in additional financing, for 800 projects in 160 developing countries.³

- Since 1991, GEF has provided over \$1 billion in funding for biodiversity conservation and sustainable use to more than 350 projects in 123 countries, and raised an additional \$1.7 billion in co-financing. GEF is the principal partner of 123 governments and over 600 non-governmental groups working on the ground to stem the loss of our natural

² “The Difference GEF Makes” Global Environment Facility 2000 Annual Report. GEF Secretariat, Washington D.C

³ Introduction to the GEF”. GEF Secretariat, Jan. 2002, Washington D.C

resources. The partnership as a whole represents the largest single source of biodiversity funding in the world.

- Since 1991, about \$1 billion in grants have been a catalyst for about 240 climate change projects, matched by more than \$5 billion. with a total value of more than \$6 billion,
- Since 1991, GEF has allocated \$354 million to over 100 international water initiatives that help address shared problems in a co-coordinated, cost-effective manner. More than \$476 million has been generated in co-finance.
- More than 60 projects cutting across GEF's focal areas, and collectively valued at more than \$350 million, address land degradation, primarily forests and desertification.

Some Achievements in Biodiversity

- The GEF's Small Grants Program (GEF \$70 million), administered by UNDP, through decentralized arrangements to provide funds to support to local communities and indigenous people. More than 2300 projects (significant number related to biodiversity) in 60 countries have addressed adverse environmental changes and enriched the lives of tens of thousands of people, in Africa, Arab States, Asia and the Pacific, Europe and Latin America and the Caribbean.
- Created more than a dozen GEF-supported conservation trust funds (in Bhutan, Brazil, Peru, Uganda and elsewhere) to protect biodiversity rich areas over longer time periods by covering the recurrent costs associated with conservation.
- A new \$150 million fund which focuses primarily on biodiversity "hotspots" – highly threatened regions where some 60% of all terrestrial species diversity are found on only 1.4% of the planet's land surface – was launched as a joint initiative of Conservation International, the World Bank, and the Global Environment Facility. New donors, including the MacArthur Foundation, have joined the partnership. . Each donor contributes \$25 million towards the fund.
- Terra Capital Fund (\$ 5 million) invests private equity in for-profit enterprises engaged in commercially promising and environmentally sustainable uses of biodiversity in Latin America. A similar program called the "Kijani Initiative" is under preparation for Africa.
- A small and medium size enterprise (SME GEF \$ 5 million) supports conservation related micro enterprises across the developing world. In Bangladesh, for example, three businesses are funded through local non-government organizations (NGOs) like Grameen Shakti, as well as WWF.
- About 70% of all external funds for World Heritage sites designated by the UNESCO are supplied through GEF.
- In 2000, GEF's governing council approved a project to help protect a minimum of 10% of Brazil's Amazon ecosystem – more than 37 million ha – over the next 10 years.
- South Africa is creating jobs while combating invasive alien species and protecting an entire plant kingdom, the Cape Floral Kingdom on Cape Peninsula. GEF provided \$12 million towards this project.
- In the LAO People's Democratic Republic, GEF is funding four new protected areas containing important watersheds and more than 10,000 species of plants and animals (\$ 5 million).
- The GEF has funded a number of projects which seek to integrate biodiversity into coffee production (shade coffee) worldwide, including Mexico, Nicaragua, El Salvador, Uganda, Costa Rica, and Viet Nam, among others. The projects have been implemented by the World Bank, UNDP, and the IFC, and executed by leading NGOs, cooperatives of small farmers, and local communities. The GEF recognizes the value of coffee since it is

often grown in environmentally sensitive areas, and more than 20 million families depend on it as a vital source of income

GEF and Forests

- Of the total funding for biodiversity portfolio, the forest operational program has the largest number of projects and GEF allocation, accounting for almost 40% of the overall portfolio. As of June 2001, there are 87 forest projects with a GEF allocation of about \$540 million and co-financing of over \$1.18 billion. This is clearly a conservative estimate for forest support, as the other operational programs also cover various types of forest ecosystems, for example mangrove forests are addressed through the coastal program, montane forests through the mountain program, and dryland forests through the arid lands program. In terms of types of forests, more than two-thirds of projects are found in tropical moist forests, with the rest in temperate and boreal forests. Of the GEF's Implementing Agencies, projects implemented by the World Bank have the largest GEF allocation for forests.
- The GEF support to the forest program is likely to remain strong as almost 40% of the pipeline projects under development in the biodiversity focal area address the forest landscape. The challenge here is to ensure that these projects are designed from the outset, on the basis of lessons learnt and more strategic and innovative considerations, to achieve sustained biodiversity conservation.
- The Integrated Ecosystem Management operational program of the GEF explicitly provides for support of projects that link multiple global environmental benefits, including carbon sequestration, with forestry and biodiversity protection. Since its introduction, six full projects have been approved with a total GEF contribution of nearly \$33 million, which leveraged an additional \$115.87 million in co-financing. The portfolio through this operational program is likely to grow significantly.
- The GEF climate change focal area can potentially contribute to forest management within the context of carbon sequestration and adaptation to climate change, both of which are areas in which the GEF has currently an emerging role. It is expected that, in the light of evolving UNFCCC decisions regarding both of these areas, and of the Kyoto Protocol, the GEF will potentially play a larger role in the future.

The following are some examples of carbon sequestration projects which have components that specifically focus on forests.

- Iran: Carbon Sequestration in the Desertified Rangelands of Hossien Abad, South Khorasan, through Community-based Management (GEF: \$0.7 million; Total Cost: \$1.7 million)(MSP - Council Approved) he project would be a model initiative for the dual objectives of offsetting biotic carbon and promotion of sustainable livelihood through participatory approach in combating desertification. It would sequester carbon, at a very high level, in the desertified lands of Hosseinabad through the establishment of a hand planted Haloxylon forest.
- Benin: Village-Based Management of Woody Savanna and the Establishment of Woodlots for Carbon Sequestration (GEF: \$2.5 million) (Full SRTM - council approved) . This project is aimed at demonstrating the possibility of using ligneous formations in the semi-arid areas in order to stabilize the carbon balance by means of forest management and agro-sylvopastoral measures adopted by the village communities and managed by the communities and the technical services.

- Global (Indonesia, Cameroon, Brazil, Thailand, Peru): Global Alternatives to Slash and Burn Agriculture Phase II (GEF: \$3 million; Total Cost: \$6.4 million) (Full STRM - council approved): The long term goal of this project is to reduce global warming, conserve biodiversity, and alleviate poverty in the tropical forest margins by promoting the development of alternatives to slash and burn agriculture that are ecologically sound, economically viable, and culturally acceptable.
- Mongolia: Dynamics of Biodiversity Loss and Permafrost Melt in Lake Hovsgol National Park (GEF: \$0.8 million; Total Cost: \$1.5 million) (MSP - CEO Approved). The goal of the proposed research is to support the OP12 on Integrated Ecosystem Management. Using Lake Hovsgol National Park as a case study, the targeted research will provide for the long-term protection of such forest/steppe areas by better understanding the scale and dynamics of natural and anthropogenic changes.

GEF and Climate Change

The GEF has provided support to a number of projects through its enabling activities window. One such project, Global: Assessments of Impacts and Adaptation to Climate Change in Multiple Regions and Sectors (GEF: \$7.5 million; Total Cost: \$12.5 million) targets assessment of climate change impacts and adaptation options for the most vulnerable regions and sectors, including forest eco-systems, in developing countries through an open process on scientific merit. Forty to fifty individual research activities will be supported through the project. The targeted regions and sectors represent gaps in the current assessments. This project will develop capacity to address these gaps through training, technology transfer, and interaction with international assessment teams. As the UNFCCC guidance to the GEF on adaptation continues to evolve, it is expected that the GEF will be asked to fund many more adaptation related projects and the focus of these projects will undoubtedly include various vulnerable forest ecosystems around the world.

Annex 2. Potential Sources of Financial Incentives for Forest Conservation				
<i>Source/mechanism</i>	<i>Approximate amount of this resource/mechanism</i>	<i>Current Range of Actions Finance</i>	<i>Comparative strengths</i>	<i>Limitations/ comparative weaknesses</i>
INDIRECT MECHANISMS				
<ul style="list-style-type: none"> ○ ODA <ul style="list-style-type: none"> A) bilateral donors B) multilateral development banks/financial institutions C) special funds (GEF, CEPF-CI) 	\$ 1.2 – 2 billion/year in sector overall; GEF=\$500 million over past 10 years with \$1 billion counterpart in 81 projects; CEPF-CI= \$20 million/year	Investment in PA management (70% of GEF portfolio); FM and community models including govt. recurrent costs; sector adjustment loans; support to policy dialogue and reforms; finance training and R&D, finance pilots; knowledge management; capitalize forestry/ conservation fund; broker in stakeholder dialogues.	Raise issues to international level; Legitimate policy trends; Capacity building skills multi-country; Could be catalyst to more domestic investment and foment conditions for more private investment. Macro dialogue possible.	Lack of political commitment to expand substantially. Overall efficiency of ODA has been seriously questioned. After a decade of constant fall (for all forest support, not only forest conservation) is not likely to increase substantially. MDBs can get hung up in own safeguard policies if not able to get a realistic consensus with civil society and private sector or governments.
<ul style="list-style-type: none"> ○ International Foundations and Non-governmental Institutions (via foundations and private donors) 	A rough estimate is probably about \$ 60-70 million per year globally, including some of the CEPF funds for the sector. Latin America estimates are \$ 20M /year. ⁴⁴	Finance: organizational capacity-building; innovative pilots; support local political movements in dialogue with governments; capitalize forest/ conservation funds; training / R&D; policy & program analysis & applied research; advise all on policy reform.	Likely to increase moderately. Multi-country perspective; Partner well with civil society and possible private sector; flexible to change strategies; Strengthen local leadership; Less international costs;	Can become isolated pilots that are not sustained in time or which are not easy to replicate or scale up. Priorities set by financing institutions can be trendy and inconsistent. Amounts may be too small to allow a comprehensive support. Many NGOs have poor links to private sector and wood trade investors.
<ul style="list-style-type: none"> ○ Debt swaps 	Approximately \$178 million in total to date.	Creation of specific reserves through private land purchase. Funds for recurrent financing of PA or critical forest habitat administration.	Will increase given initiatives such as those affecting heavily indebted countries. Where build on existing experience/ role of international and local NGOs, where there is a presence, can be timely use of additional resources.	Between 1987 and 1994 debt swaps reached an accumulated total of only some \$178 million Only a minor proportion has been invested in nature conservation projects. May not be local capacity to manage reserves. Involvement of local people may be missing.

<i>Source/mechanism</i>	<i>Approximate amount of this resource/mechanism</i>	<i>Current Range of Actions Finance</i>	<i>Comparative strengths</i>	<i>Limitations/ comparative weaknesses</i>
DIRECT MECHANISMS				
○ Payments for hydrological and land stabilization services	Costa Rica examples range in \$10-50 per hectare; Colombia agricultural Producers in Cauca Valley; farmers in watersheds marvested by Perrier-Vittel; Parana state in Brazil payments to municipalities.	Forest ecosystems maintenance; watershed catchment protection in rural and urban areas for energy power generation and water recharge, protected areas conservation, self-organized private deals are also found for products like mineral water or irrigation water.	Beginning to interest a range of urban and energy related actors—both government and private sector—with examples of payments per hectare though still on a small scale and with limited models for entry by numerous small actors.	Institutional agreements are difficult to establish. Impact is mainly at the local level. Political support tends to be medium intensity
○ Payment for carbon sequestration, CDM	CDM estimated to be between \$.63 and 3.67 billion to 2012.	Favors commercial plantation and transactions with larger landowners and companies. No model for natural forests yet.	Uncertain. CDM may provide a substantial source of financial resources but so far is restricted to afforestation and reforestation programs	Political difficulties in reaching a global agreement to include existing natural forests. Attempts to reach agreements are plagued by potentially important technical problems and possibly large administrative and transaction costs.
○ Payment for existence value and bioprospecting	There are few deals besides the Merck example that have established clear values, most have established payments as part of environmental services contract.	Still small number of examples. Examples of bioprospecting are experimental ones and not being replicated. Beginning to see community conservation as a model for indigenous peoples in LA.	It is likely to develop but total amounts are unlikely to reach substantial levels in the near future.	Difficult to establish values. Complex institutional arrangements. Small economic value. Moderate political feasibility A few experiences exist but payments are moderate and not significant at a global scale.
○ Tobin Tax-like schemes	\$1.8 trillion are traded daily in currency markets. \$145-150 billion are traded annually in international forest products markets.	Capturing even a minor portion of these could be huge source of funds. This is a longer-term mechanism and unlikely to be established in the next few years.	A low Tobin tax on spot transactions would raise large amounts on money, reaching hundreds of billions per year. Even a small fraction dedicated to forest conservation would be huge. A small tax on international forest products markets would also generate substantial financial resources.	Very difficult to obtain political commitment. There are a number of technical and administrative difficulties as well. Would communities, poor people and smallholders be taxed equally. How would the income be distributed without special interest/corruption?

<i>Source/mechanism</i>	<i>Approximate amount of this resource/mechanism</i>	<i>Current Range of Actions Finance</i>	<i>Comparative strengths</i>	<i>Limitations/ comparative weaknesses</i>
<ul style="list-style-type: none"> ○ Socially responsible investment (SFI) 	\$ 1.4 trillion per year at last estimate; includes \$400 million per year of fair trade goods transactions	Includes a wide range of products and services for which consumers are willing to pay a preferential price or seek in a differentiated market. Includes: certified wood products; community or small-holder produced non-timber forest products; environment friendly crops, like shade coffee or organic crops; sustainable or eco-friendly tourism; and cultural products.	Will continue to grow rapidly—there are 22 million SFI consumers in the U.S. alone—and can allow for creative partnerships between community and smallholder suppliers and private companies, investors, or traders. Until now, 90 to 110 million forest hectares have been certified and this is about 2.3% of the world’s forests. 97% of the certified area is in temperate zones, mainly Europe and North America.	Specific products still have uncertain futures. E.g., Certification of wood products has not translated into significant financial incentives to SFM. It has been useful in securing market share in industrialized countries but its impact is still very minor on a global scale. Limited standard setting for goods like tourism, etc. for producers to be ensured fair treatment by investors and governments promoting such industries.
<ul style="list-style-type: none"> ○ International and domestic private commercial investment in wood and non-wood forest products 	The global export trade in primary forest products is approximately \$140 billion annually, \$28 billion is associated with developing countries; Non-timber is much larger not well recorded or traded locally. Bamboo and rattan market is \$ 1.2 billion/yr. Herbal medicines are \$ 14 billion/yr. ⁴⁵	Timber, non-timber forest products, fuelwood for local consumption and rural energy supply; furniture, housing and housewares, inputs to paints and resins, medicinal inputs, locally traded or produced subsistence wood and non-wood forest products.	Perhaps the largest actors in mobilizing finance. Their importance will likely continue to grow steeply. Chain of custody creates opportunities. Several domestic companies are already adopting codes of conduct and strive to harmonize environmental and social with commercial demands. Some operate in partnership with transnationals, some of which are further down the road in adopting sustainable forest management practices.	Only a very small proportion of funds directly invests in forest conservation. Some operations are also directed to projects that lead to rapid depletion. The trends are diametrically opposed – greater corporate responsibility on one side and unscrupulous “cut and run” operations on the other. Government policies need reform to reduce discrepancies between private commercial interests and social goals. Incentives are needed for private operations that effectively integrate environmental objectives in their activities.
<ul style="list-style-type: none"> ○ Domestic smallholder and community investment 	Very significant but hard to estimate as much is in kind (labor, local materials), but in successful community management models capture migrant and urban remittances and local investment.	Not large in terms of actual funds but large in terms of in-kind investment.	Likely to accelerate as more governments realize that devolution and participation are more effective than sterile command and control measures. Once capacity is built strong incentive for continued long-term investment in own forest areas, particularly for culturally specific or indigenous peoples whose way of life reflects cultural values.	Governments are generally reluctant to recognize traditional rights to property and use but local communities de facto control around one-quarter of all forests in developing countries. These communities realistically cannot be excluded from forest conservation efforts.

Endnotes

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