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Beyond REDD

The Role of Forests in Climate Change

The Forests Dialogue's consensus-based *Statement on Forests and Climate Change*, produced after 4 international multi-stakeholder dialoges involving more than 250 leaders from around the world. Includes Recommended Actions and issue-specific Briefing Notes.

The Forests Dialogue (TFD)

The Forests Dialogue

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Executive Summary

Consensus on forests is rare. When it is achieved, the world should listen. When it offers a solution to climate change, the world ***must*** *listen*. Over a 10-month period in 2007 and 2008, The Forests Dialogue's (TFD) Initiative on Forests and Climate Change (FCC) brought together over 250 leaders of environmental and social groups, businesses, Indigenous Peoples' and forest-community groups, trade unions, forest owners, governments, and international organizations to discuss/debate the opportunities and challenges for forests when considering the its role in addressing climate change. For more background on TFD and this Initiative, see page 13.

This publication represents a key result of TFD's FCC Initiative: a consensus statement and related papers produced by a very diverse group of stakeholders through a facilitated process . Throughout the Initiative, participants agreed on a number of key messages. They include:

- Forests have a unique ability to simultaneously reduce greenhouse gas emissions, capture carbon, and reduce the vulnerability of people and ecosystems to climate change.
- Forests store a vast amount of carbon. Conserving this store by reducing deforestation and forest degradation and promoting sustainable forest management must be one the world's highest priorities.
- Restoring forests and planting new forests greatly increases the forest-based carbon store.
- Sustainably managed forests not only retain their carbon, they also support the livelihoods of millions of rural people and deliver many products and ecosystem services such as the clean water and wildlife habitat that societies need.
- Sustainably harvested forest products and wood-based bioenergy can reduce greenhouse gas emissions by substituting high emission materials such as petrol, steel or concrete for neutral or low emission, renewable ones.
- For forests to fully achieve their potential to address climate change their governance must be improved and processes established to empower disenfranchised people, including Indigenous Peoples.

To more effectively communicate the forest's climate change mitigation opportunities, the group established five principles that should guide all those concerned including climate negotiators:

1. Ensure that forest-related climate change options support sustainable development in both forest-rich and forest-poor countries.
2. Tackle the drivers of deforestation that lie outside the forests sector.
3. Support transparent, inclusive, and accountable forest governance.
4. Encourage local processes to clarify and strengthen tenure, property, and carbon rights.
5. Provide substantial additional funding to build the capacity to put the above principles into practice

TFD's Statement on Forests and Climate Change

The Forests Dialogue's Initiative on Forests and Climate Change agrees that:

Of all the options for responding to climate change, forest-related mitigation measures are, in the short to medium term, among the most practicable and cost-effective. They also have very low opportunity costs and can make an immediate and direct contribution to sustainable development and rural livelihoods.

Deforestation and forest degradation produce about 20% of the world's greenhouse gas emissions. Yet the forests sector also has a unique ability to simultaneously reduce emissions, capture and store carbon, and lessen the vulnerability of people and ecosystems to climate change. Measures such as sustainable forest management, forest conservation, reforestation, forest restoration, afforestation, wood-based bioenergy generation, and the use of sustainably produced wood products as substitutes for emissions-intensive materials, therefore, should all be considered as part of the global approach to climate change mitigation and adaptation.

However, forest-based climate change responses should be designed as a complement, rather than an alternative, to strategies for reducing fossil fuel emissions. A strong focus on forests should diminish neither the need for clear emissions limits nor the climate change mitigation responsibilities of the Kyoto Protocol's Annex 1 countries.

Experience within the forest community has shown that, in the long run, a narrow focus on a single commodity—such as carbon—at the expense of wider forest values is unlikely to succeed. Moreover, a piecemeal approach to forests would risk undermining the social, environmental, and economic resilience of rural communities and could directly reduce their ability to adapt to climate change. To be effective, forest-based mitigation and adaptation measures must deliver sustainable development, build resilience in rural communities, and fully involve forest-dependent people, civil society, the forest workforce, and the private sector.

The implementation of measures for forest-based climate change mitigation and adaptation provides both opportunities and risks for Indigenous Peoples and other marginalized groups. The United Nations Declaration on the Rights of Indigenous Peoples is therefore of particular relevance and should be comprehensively applied in negotiations with Indigenous Peoples under relevant treaties and in recognizing their rights and tenure. Consistency with the obligations of countries under international laws on human rights, the environment, and trade is also fundamental.

Guiding Principles

Five principles, described below, should guide future forest-related arrangements and actions on climate change. To support these principles, a set of possible actions, grouped by stakeholder group, has been proposed beginning on page 9.

1. ***Ensure that forest-related climate change options support sustainable development in both forest-rich and forest-poor countries.***

Forest-based strategies for climate change mitigation and adaptation must support sustainable development. This applies equally in forest-rich countries, where opportunities for climate change mitigation are high but the need for adaptation might be neglected, and in forest-poor countries, where attention might be paid to adaptation but not to the potential for mitigation. There will be no 'one size fits all' solution: countries should consider the full range of options and choose those that best complement their needs and sustainable development efforts.

If interpreted narrowly, measures to reduce emissions from deforestation and forest degradation in developing countries (REDD) are most likely to favor countries that have high deforestation rates and therefore the ability to achieve deep cuts in emissions by reducing such deforestation. Provision should be made, however, to also reward countries and communities that are already conserving, sustainably managing and expanding their forests, including high-forest, low-deforestation (HFLD) countries.

The most effective forest-based approaches will retain and enhance carbon stocks through such measures as sustainable forest management (SFM), REDD, afforestation, reforestation, the restoration of degraded forest lands, conservation, and the substitution of high-emissions materials and fuels with sustainably produced forest products. They will also increase the resilience of forests to the impacts of climate change and encourage communities to adapt to climate change.

In the past, many responses to climate change have been fragmented, uncoordinated, and contradictory and have led to perverse land-use outcomes. Forest-based approaches can and should be complementary and transparent. They should be fully integrated into poverty reduction strategies and macroeconomic development plans and promoted by uncomplicated financial mechanisms. Above all, they should support sustainable development; if they do not, they will be unable to deliver a significant or quantifiable reduction in deforestation. To boost investor confidence in the viability of forests as a mitigation and adaptation option, the successful experiences already gained in voluntary carbon markets should be fully utilized.

2. Tackle the drivers of deforestation that lie outside the forests sector.

Factors such as expanding agriculture and livestock production, infrastructure development, population growth, urbanization, market distortions, and global demand for agricultural products and biofuels underlie most deforestation and therefore most of the carbon emissions caused by deforestation.

The processes that promote these factors are often well understood but the inter-sectoral engagement mechanisms required to tackle them are lacking. Often, governmental policies, programs, and subsidies are sector-specific and directly and negatively impact the health, integrity, and sustainable management of forest resources.

Perverse incentives that encourage the clearing of land that would otherwise have remained as forest should be identified and removed and positive incentives for landowners and forest-dependent people to retain their forests provided.

3. Support transparent, inclusive, and accountable forest governance.

If forest-based activities are to help in climate change mitigation and adaptation, barriers to improved governance must be identified and processes established to empower the disenfranchised, including Indigenous Peoples. Such efforts should be supported with mitigation measures in consumer countries to promote the use of legally and sustainably produced forest products. Encouragingly, several countries have already initiated progressive forest governance reform processes. A systematic connection between such reforms and the establishment of credible programs for REDD and other forest-based approaches to climate change, however, still needs to be developed.

Future arrangements cannot directly prescribe measures for improved forest governance. They should, however, include provisions for tracking and reporting on progress in forest governance as it pertains to the effectiveness of forests in delivering emissions reductions. This would have the additional benefit of accelerating improvement in the overall governance of the forests sector.

4. Encourage local processes to clarify and strengthen tenure, property, and carbon rights.

The rights to and tenure of forests are often poorly defined and, in particular, the rights of customary owners are seldom given full recognition. Indigenous Peoples, forest owners, the forest workforce, and local communities are now additionally concerned that their rights to control and benefit from forest-based carbon will be nationally and internationally unacknowledged. This, in turn, will reduce their ability to manage and use their forest resources and to retain their cultures, traditional knowledge systems, and territories. Clarifying carbon rights when basic property rights are still unclear looms as a major challenge.

Poorly designed forest-based climate change mitigation measures could undervalue proven traditional and local knowledge systems and the experiences accumulated by customary owners in sustainably managing their resources over many generations. The importance of mapping and securing the tenure, property, and carbon rights of Indigenous Peoples, family forest owners, and local communities, and devising effective mechanisms for the distribution of benefits, cannot be overstated. In addition, future national climate change mitigation regimes must ensure the ability of those groups to conserve and enhance their carbon-related assets and guarantee them the freedom to choose whether and how they trade their carbon rights. Mechanisms to engage and build capacity among local stakeholders so they can participate effectively in decision-making are of fundamental importance.

5. ***Provide substantial additional funding to build the capacity to put the above principles into practice.***

Whatever financial mechanisms within the future arrangements on climate change are ultimately agreed, it is essential that governments, multilateral institutions, and donors, in close partnership with stakeholders in recipient countries, invest in capacity building, at all levels, for forest-related climate change mitigation and adaptation. Recipient countries should take the lead in defining the kinds of support that are needed and donors should improve their coordination to ensure that the support they provide is complementary.

For capacity building to be useful, governments must implement policies that encourage forest-related climate change mitigation and adaptation measures. While immediate investment is urgently required, capacity building is a long-term process and requires consistent support over many years. Investments that assist the development of forest rights and livelihoods are likely to be efficient and effective in promoting climate change mitigation and adaptation.

Conclusion

Those who met under the auspices of The Forests Dialogue's Initiative on Forests and Climate Change understand that although individuals, communities, and nations have made widely divergent contributions to the increasing concentration of greenhouse gases in the atmosphere, solving the problem will require a unified global response. Equally, while solutions to climate change must respect national sovereignty and contribute to national development, they must also respect human rights.

The Forests Dialogue's Initiative on Forests and Climate Change recognizes that REDD and other climate change mitigation and adaptation measures will only achieve lasting results if they are adapted to conditions on the ground and help meet the needs of local people. By providing adaptability and supporting livelihoods, sustainable forest management offers an efficient win-win solution. It can ensure healthy and productive forests, underpin robust rural livelihoods, and deliver a wide range of products and ecosystem services that societies demand. It can also be an economically, environmentally, and socially effective way of addressing climate change globally.

Possible Actions

For negotiators within the United Nations Framework Convention on Climate Change

- Ensure that future arrangements on climate change optimize the full climate change mitigation and adaptation potential of forests by providing effective incentives for SFM, REDD and the conservation of forest carbon stocks, and that all elements that might involve forest-based activities are mutually supportive.
- In future arrangements on climate change, provide large, stable, predictable, and long-term financial flows to maximize the role of forests in climate change mitigation and adaptation, particularly through their sustainable management and conservation.
- In future arrangements on climate change, include the carbon storage and mitigation functions of harvested forest products and wood-based bioenergy obtained from sustainably managed forests.
- Since some of the main drivers of deforestation lie outside the forests sector, make provisions in future arrangements on climate change for reporting on inter-sectoral engagement to tackle such drivers.
- Address forest governance processes for the effective implementation of climate change mitigation and adaptation measures and make provisions for the voluntary reporting of progress towards addressing nationally identified forest governance constraints.
- In forest-related future arrangements on climate change, ensure that carbon credits represent real, permanent, and verifiable emissions reductions and that reliable systems for measuring, monitoring, and accounting are in place to guard against leakage.
- In forest-related elements of future arrangements on climate change, ensure consistency with obligations under all social and environmental international conventions and recognize the rights to decent work for the forest workforce.
- In accordance with the United Nations Declaration on the Rights of Indigenous Peoples and the views expressed by the Committee on the Elimination of Racial Discrimination, ensure consistency with provisions on the free, prior, and informed consent of Indigenous Peoples.
- Ensure that forest-based arrangements on climate change adhere to the principles articulated in the non-legally binding instrument on all types of forests adopted by the United Nations General Assembly in 2007.
- Ensure that future forest-related arrangements on climate change achieve a balance between measures for climate change mitigation and adaptation and between forest-rich and forest-poor countries.

For the donor community

- Build the capacities of countries, communities, Indigenous Peoples, forest workers, forest managers and forest owners to participate in forest-related climate change mitigation and adaptation measures and improve coordination with other donors to ensure that such support is complementary.
- Improve the consistency between and coherency of forest-related climate change mitigation and adaptation measures and other ongoing programs such as forests-sector reform, support for small and medium-sized forest enterprises, and forest certification.
- Ensure that funding to promote the role of forests in climate change mitigation and adaptation are disbursed and coordinated in ways that adhere to the spirit and intent of the Paris Declaration on Aid Effectiveness.
- Provide Indigenous Peoples, the forest workforce, and local communities with access to resources with which they can support their own processes for internal consultations, through which they can better define their positions and plans and participate in decision-making related to forests, rights and benefit-sharing.
- Ensure that credible measures exist to safeguard the livelihoods of those who might be adversely impacted, such as forest workers.
- Ensure that development aid policies and programs that target forest-related aspects of climate change achieve a balance between climate change mitigation and adaptation and between forest-rich and forest-poor countries.

For financial institutions and investors

- As part of an investment risk assessment process, evaluate the extent to which national frameworks for REDD and other forest-based climate change mitigation measures coordinate with and complement established country-level processes to strengthen and improve sustainable forest management.
- Ensure that financing for activities that might involve the conversion of forest to non-forest are consistent with climate change mitigation and adaptation policies and measures and national land-use planning.
- Exercise due diligence in determining that the rights of Indigenous Peoples, family forest owners, and local communities are respected and that forest financing schemes include access to benefits.

For national governments

- Ensure that forest-related climate change mitigation and adaptation measures build on and complement ongoing policies, activities, and land-use plans designed to promote the sustainable management and conservation of forests.
- In those circumstances in which REDD programs might limit existing options for the management and use of forests, develop schemes that adequately re-train or otherwise offer forest workers alternative and comparable livelihood options.

- Harness and strengthen existing multi-stakeholder governance-related processes (such as those that have been created through Forest Law Enforcement and Governance initiatives) to help: tackle the drivers of deforestation and forest degradation; define how forest resources might best be deployed in both climate change mitigation and adaptation; and design and implement long-term forest-related climate change strategies.
- In the preparation of national REDD plans, commission and disseminate fully independent assessments of the impacts of land use-related policies, programs, subsidies, and incentives.
- Support the substitution of sustainably produced forest products for emissions-intensive materials to increase carbon stocks and reduce carbon emissions.
- Use such assessments and other solid bases of evidence to make context-specific provisions for accountable governance, including: removal of subsidies that result in the conversion of forests; encouraging the pricing of forest products and services that reflect their true value to society; and strengthening strategic land-use planning and landscape-based planning.
- Clarify and formalize the rights of Indigenous Peoples, family forest owners, community forest owners, and other user groups to land, forests, and carbon.
- In accordance with the United Nations Declaration on the Rights of Indigenous Peoples, promote processes for the recognition of the rights of Indigenous Peoples to their lands, territories, and resources (including carbon assets).
- In accordance with the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, promote processes for the recognition of the rights of the forest workforce.
- As a basis for ongoing risk assessment, ensure that systems designed for monitoring deforestation and changes in carbon stocks include a participatory component that allows local communities, forest owners, and other key forest actors to report on positive and negative changes in forest governance.
- Anticipate that interested parties will require that future REDD carbon credits are credible and secure. Establish a demand for ancillary support from donors for effective REDD-related capacity building.
- Take measures to remove both production-based and consumption-based subsidies that drive significant deforestation and permanent land use change.
- Particularly in OECD countries and those with emerging economies, commission transparent, authoritative, and independent reviews of the impacts of domestic energy, agricultural, and trade policies on tropical deforestation in order to complement existing specific safeguards that, for instance, seek to prevent the import of illegal timber.

For forestry and forest products companies

- Promote sustainable forest management, including afforestation and reforestation, and the increased use of forest products as important climate change mitigation strategies.
- Promote efficiency and innovation in the use of key resources (raw materials, water, energy and chemicals) and foster continuous improvement based on setting and reporting on appropriate emissions reductions targets.
- Seek to conserve important biodiversity and cultural values and to optimize the social, environmental, and economic benefits of sustainably managed forests.
- Recognize forest certification systems that are based on third-party verification, independent accreditation, good governance, and transparency, and support efforts to expand their use.
- Seek out and respond to local sustainability expectations and concerns.
- Respect the lawful access and tenure rights of Indigenous Peoples and other forest-dependent people directly affected by forestry operations and proactively seek to resolve potential land disputes through dialogue, independent arbitration, or the legal system.
- Cooperate with organizations, governments, and other stakeholders to promote and develop sustainability in the forest products industry, including by sharing best practices and lessons learned and by adhering to international laws and conventions.

For the non-forestry, private sector

- Especially in the agricultural, livestock, and energy sectors, develop procurement policies to identify and avoid product purchases that encourage the clearing of natural forests.
- Adopt certification systems for agricultural products based on third-party verification, independent accreditation, good governance, and transparency, and support efforts to expand their use.

For civil-society organizations in partnership with other stakeholders

- Align with national processes to support, invest in, and facilitate capacity building among Indigenous Peoples, local communities, forest owners, and other forest actors so that they can actively engage in REDD preparatory activities as well as in the implementation of the full range of climate change mitigation and adaptation measures.
- Seek and respect the consent of Indigenous Peoples, small forest owners, and forest communities on the terms and conditions by which they wish to engage in forest-related climate change mitigation and adaptation measures. Do not presume to speak or act on their behalf.

- Develop and support capacity-building programs so that Indigenous Peoples, small forest owners, and forest communities can engage more effectively in dialogues and negotiations on forest-related climate change mitigation and adaptation measures.
- Ensure that adequate funding is available to support capacity building among forest stakeholders for effective participation in climate change mitigation and adaptation measures.
- Pilot-test arrangements to efficiently, effectively, and equitably reward forest managers for the provision of ecosystem services, including climate change mitigation.

TFD Background

The *statement* and *possible actions* on the preceding 8 pages is the product of a multi-stakeholder dialogue process developed and convened by The Forests Dialogue (TFD). It expresses the consensus view of more than 250 people from diverse backgrounds, who came together in 4 dialogues to debate, over a ten-month period, the role of forests in climate change and the policies being developed to foster that role. The process culminated in the Global Forest Leaders Forum in Washington, DC, United States on 17–18 September 2008. The dialogues was attended by a very diverse group forest leaders from around the world.

The Forests Dialogue is an autonomous, international collaborative platform and process. It forms a network of leaders, governed and driven by a Steering Committee comprising representatives of environmental and social groups, businesses, Indigenous Peoples' and forest community groups, trade unions, forest owners, and international organizations. Its mission is to promote sustainable forest management through a constructive dialogue among all key stakeholders. TFD's approach is based on establishing mutual trust, improving understanding on issues, and a commitment to change. This Initiative on Forests and Climate Change is the seventh and largest initiative convened by TFD since its inception in 1999. All materials related to the Initiative on Forests and Climate can be found at *www.theforestsdialogue.org/climate.html*.

The work of The Forests Dialogue is implemented by a Secretariat hosted at the School of Forestry and Environmental Studies at Yale University in the United States (F&ES). The statements, reports, and findings of TFD do not necessarily represent the views of the F&ES Faculty or Yale University.

Briefing Notes

Introduction

Over the course of the 3 dialogues that led up to the Global Forest Leaders Forum in Washington, DC (September 2008), dialogue participants identified five guiding principles on forests and climate change that they wanted to convey to climate negotiators, governments, parliamentarians, investors and donors. As was outlined in the previous 9 pages, those principles included the following:

1. Ensure that forest-related climate change options support sustainable development in both forest-rich and forest-poor countries.
2. Tackle the drivers of deforestation that lie outside the forests sector.
3. Support transparent, inclusive, and accountable forest governance.
4. Encourage local processes to clarify and strengthen tenure, property, and carbon rights.
5. Provide substantial additional funding to build the capacity to put the above principles

In an effort to provide sufficient background information on the guiding principles to the Global Forest Leaders Forum participants, TFD and its partners developed a series of briefing notes. The objectives of the briefing notes were to summarize the discussions that took place during the dialogues on a specific theme and to provide background information on the concepts that underpin the related guiding principles. The briefing notes are not intended to and do not necessarily reflect the views of any individual or organization.

A Coherent Approach to Forests and Land Use in Arrangements to Address Climate Change

This paper has been prepared in conjunction with a process undertaken by the Collaborative Partnership on Forests (CPF) to compile, analyze, and present information on the role of forests in climate change mitigation and adaptation.[1] The CPF plans to present this information in its *CPF Strategic Framework for a Coordinated Forest Sector Response to the Climate Change Agenda*. The *Strategic Framework* is designed to inform negotiators and other stakeholders in relevant climate change-related fora. It is also intended to assist donors committing funds for climate change mitigation and adaptation. The *Framework* is expected to be launched prior to the Fourteenth Conference of the Parties to the United Nations Framework Convention on Climate Change.

This paper summarizes elements of the CPF's *Strategic Framework* for the Global Forest Leaders Forum and puts forward a set of actions for that Forum's consideration.

Forests, Land Use Change and Climate Change

Forestry, land use and land use change contribute about 1.6 gigatons (Gt) of carbon to the atmosphere each year, which is 17.4 percent of global greenhouse gas (GHG) emissions.[2] Most of these emissions are caused by deforestation and forest degradation: globally, an estimated 13 million hectares of forests are cleared annually, mostly in the tropics. Deforestation and forest degradation contribute as much to global carbon emissions, and thus to climate change, as the entire global transportation sector.

The major cause of deforestation is the conversion of forests to agricultural croplands and pastures. In Latin America and Southeast Asia, the largest proportion of such deforestation is for large-scale permanent agriculture and cattle pastures, although the expansion of shifting agriculture is also a factor. In Africa, most deforestation is for permanent small-scale agriculture. Forests are also often cleared to make way for mining, infrastructure development, and urbanization.

Historically, cleared forest land has been used predominantly for the production of food crops and livestock. As oil prices rise and countries increasingly seek energy security, growing demand for liquid biofuels could stimulate further deforestation. This already appears to be occurring in Southeast Asia.

In many countries, especially in Sub-Saharan Africa, most rural households depend on wood to satisfy their energy needs.[3] In coming years, rising energy prices and rapidly growing populations are likely to keep absolute fuelwood consumption high in those countries.

Climate Change Mitigation

Forestry contributes to climate change mitigation through carbon conservation, carbon sequestration, and carbon substitution.

Carbon conservation. The most expeditious way to mitigate climate change in forests is to reduce deforestation and forest degradation, thereby reducing GHG emissions. In climate change negotiations, this strategy is usually referred to as "reducing emissions from deforestation and degradation" (REDD).

Carbon sequestration. As they grow, trees absorb carbon dioxide and, through photosynthesis, 'sequester' carbon to produce wood. Newly established forests (on reforested or afforested sites), and forest regrowth, can sequester carbon quickly and will store it for the life of the forest. When trees are harvested efficiently, a large part of the sequestered carbon can be used to produce wood products such as house frames and thus stored over the medium to long term.

Carbon substitution. Forest products can substitute for products from other sectors that have relatively high GHG emissions. Wood-based fuels such as fuelwood, charcoal, gas, black liquor, and ethanol can be used as substitutes for fossil fuels in heating, energy generation, and transport.[4] When wood is produced in forests under a sustainable forest management (SFM) regime (see below), it is effectively carbon-neutral. By substituting for fossil fuels can help reduce GHG emissions.

The production of goods made of steel, aluminum, concrete, and plastics consumes large amounts of energy and therefore causes significant GHG emissions. The substitution of these products with sustainably produced wood products can therefore help reduce GHG emissions.

Climate Change Adaptation

Forests play an important role in agriculture. They help ensure a continuous supply of clean water, protect agricultural soils against erosion and other forms of degradation, and provide shelter for crops and livestock. Coastal forests such as mangroves, beach forests, and peat swamps act as buffers against tsunamis and storm surges. In mountainous areas, forests help reduce the risk of avalanches and landslides.

Climate change is expected to cause shifts in forest ecosystems, both in latitude and elevation. In some regions, forests might be threatened by changes in rainfall patterns, maximum and minimum temperatures, and by inundation. Climate change could increase the incidence and severity of fire, pests and diseases. These changes to forests will have huge ramifications for rural people, particularly those who depend directly on forests for their livelihoods but also those farmers whose agricultural systems benefit from the presence of forests.

In some cases, natural forest ecosystems might spontaneously (albeit slowly) adapt to climate change. In others, however, human intervention might be required to avert catastrophic forest loss or degradation. Adaptive silvicultural techniques—such as judicious species selection and tree improvement (in artificially established forests), thinning, and improved fire management—applied as part of an sustainable forest management regime can potentially mitigate at least some of the negative effects of climate change.

Sustainable Forest Management

Sustainable forest management (SFM) comprises a set of objectives, activities, and outcomes designed to ensure that the goods and services derived from the forest meet present-day needs while concomitantly securing their continued availability and contribution to long-term development. In its broadest sense, SFM encompasses the administrative, legal, technical, economic, social, and environmental aspects of the conservation and use of forests. It comprises the following seven elements:

1. Extent of forest. Maintain forest cover and stocking, including trees outside forests, to support the social, economic and environmental dimensions of forestry.
2. Biological diversity. Conserve and manage biological diversity at the ecosystem, species and genetic levels.
3. Forest health and vitality. Manage forests for their heath and vitality.
4. Productive functions of forest resources. Maintain a high and valuable supply of primary forest products, while at the same time ensuring that production and harvesting are sustainable and do not compromise the management options of future generations.
5. Protective functions of forest resources. Protect the ecosystem functions of forest resources.
6. Socioeconomic functions. Maintain or enhance the contributions of forest resources to the overall economy through, for example, employment, the values generated by the processing and marketing of forest products and energy, trade, and investments in the forest sector.
7. Governance framework. Enable the legal, policy, and institutional arrangements necessary to support the above six elements, including participatory decision-making, governance and law enforcement, and the monitoring and assessment of progress.

SFM should be the foundation of forest sector interventions involving climate change mitigation and adaptation, serving to incorporate the expertise which has been accumulated through experience in sustainable forestry. Adherence to its principles will ensure that interventions do not cause unintended harm. The focus on mitigation and adaptation moreover offers new opportunities to finance to advance the SFM agenda, further developing its potential as an instrument for sustainable development and its ability to deliver co-benefits.

International Arrangements and Market Reaction

UNFCCC. In 1992 the signatory states which are Parties to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to undertake common actions to combat climate change. At the Third Conference of Parties (COP 3), held in Kyoto in 1997, Parties adopted the Kyoto Protocol. Under the Protocol, industrialized Parties or "Annex I countries" committed themselves to reducing their GHG emissions by an average of 5.2 percent below 1990 levels by 2012. The Protocol came into force in February 2005.

Under the Kyoto Protocol, three flexible mechanisms were created: the Clean Development Mechanism (CDM), joint implementation, and emissions trading. Under the CDM, Annex 1 countries may offset a certain part of their emissions through investment in carbon sequestration or substitution projects in non-Annex 1 (developing) countries and thus acquire tradable certified emissions reductions (CERs). Under joint implementation, Annex 1 countries may jointly execute carbon sequestration or substitution projects.

At present the CDM allows just two forest-related measures, reforestation and afforestation. Reduced emissions from deforestation and forest degradation are therefore excluded. Owing in particular to the stringent and complicated provisions of the CDM, only one CDM forestry project, a watershed afforestation project in China, has so far been registered.

The issue of if and how to consider REDD and harvested wood products in any post-2012 climate change arrangement remains under discussion by the Parties.[5] At UNFCCC COP 11 in Montreal in 2005 the Coalition for Rainforest Nations—a group of Parties spearheaded by Papua New Guinea and Costa Rica—tabled a motion to include the reduction of emissions from deforestation and forest degradation in the provisions of the UNFCCC. At UNFCCC COP 13, held in Bali in December 2007, the Parties agreed on the Bali Action Plan, which provides a 'roadmap' for negotiations towards a post-2012 climate arrangement. Among other things, the Parties agreed to the establishment of a climate change adaptation fund and a simplification of CDM rules for afforestation and reforestation projects. They also passed a resolution on reducing emissions from deforestation and forest degradation. The Bali Action Plan proposes that sustainable forest management and reducing emissions from deforestation and forest degradation be considered in the negotiation process for a post-2012 climate arrangement.

Voluntary carbon market. Reacting to climate change concerns and provisions, the international finance sector has established carbon as a traded commodity. In addition to the compliance carbon market that operates under the provisions of the Kyoto Protocol, a voluntary carbon market has emerged. In this voluntary market, a rapidly increasing number of players is targeting project-based offsets from forestry, including through SFM and reduced deforestation and forest degradation.

Five trading centers in Europe and one (the Chicago Climate Exchange) in the United States currently trade in CERs, temporary CERs, and derivatives (futures and options). In addition, many smaller carbon project developers and consultancies buy and sell emissions reductions. The total size of the carbon market has grown very rapidly, from US$500 million in 2004 to over US$60 billion in 2007.

Many forestry projects have opted to participate in the voluntary market rather than the compliance market, and many consider this to be the better of the two options. At present, 36 percent of the carbon traded on the voluntary market stems from forestry projects.

Challenges for Policies, Programs, Institutions, and Governance

Global partnerships. To prepare for possible future provisions under the UNFCCC, the World Bank has established the Forest Carbon Partnership Facility, which aims to assist developing countries in their efforts to reduce emissions from deforestation and forest degradation and to obtain payments for doing so. In addition, a number of countries including Australia, Japan, and Norway have pledged funds to assist countries to reduce deforestation and forest degradation. Ideally, measures to this end would be implemented in close collaboration with existing forest-related initiatives, such as the National Forest Program Facility, PROFOR, the Forest Law Enforcement and Governance process, and the 14 members of the CPF. Together these initiatives represent a broad array of experience, knowledge, and skills.

Feeding the growing population. The world population is predicted to reach 9 billion by 2050. Most of the increase will be in urban centers of developing countries, including those cities in regions that will be greatly affected by climate change. This increasing population will need food and energy. The Highlevel Conference on World Food Security that convened in Rome in June 2006 concluded that world food production would need to double by 2050 to meet these needs.

At both that conference and a subsequent meeting of the G8 in Japan, the governments of industrialized countries committed to reinvesting in agriculture. The goal of boosting agricultural (and bioenergy) production might be partly achieved through an increase in productivity on existing agricultural land. However, increasing production is also likely to increase pressures to deforest, particularly in the tropics. An increase in food and energy production may therefore run counter to the goal of reducing deforestation and forest degradation. To be effective, policies aimed at reducing deforestation and forest degradation must therefore be closely linked to other land-use policies and fully integrated into national development programs.

The Way Forward

The challenges of climate change, food security, and energy will affect the forests sector in many ways. While forests will play an increasingly important role in negotiations on climate change, they are also likely to be directly affected by climate change itself, and by the search for land to support agricultural and energy production. It is therefore timely for forest leaders to act.

Forest leaders should:

- Play an active and concerted role in climate change negotiations, both through country delegations and as observers, to ensure that all the potential contributions of forests to climate change mitigation are properly addressed and considered in future global climate arrangements;
- Work synergistically with and complement other initiatives aimed at implementing SFM and addressing forests and climate change;
- Assist countries in addressing the direct and indirect causes of deforestation and forest degradation and in developing national climate change mitigation programs linking SFM, afforestation and reforestation, forest conservation, and the reduction of deforestation and degradation;
- Ensure that national programs make best use of existing measures, concepts, tools, and initiatives developed as part of wider efforts to achieve sustainable forest management;
- Work with partners to ensure that the livelihoods of indigenous and other forest-dependent people are safeguarded in national programs;
- Promote carbon substitution through the use of sustainably produced wood-based fuels as an alternative to fossil fuels, and the use of wood in place of higher-emissions materials;
- Work closely with representatives of other sectors at the international, national, and sub-national levels to ensure that the costs, benefits, and trade-offs of different land-use options are fully considered in land-use planning, allocation, and management;
- Promote the embedding of climate change-related forest policies into international and national development agendas;
- Support the implementation of the Paris Declaration of Aid Effectiveness, which stresses the harmonization of efforts, alignment with national programs, ownership by countries, capacity building, and accountability.

Notes

[1] Members of the CPF are: the Convention on Biological Diversity Secretariat, the Center for International Forestry Research, the Food and Agriculture Organization of the United Nations, the Global Environment Facility Secretariat, The World Agroforestry Center, the International Tropical Timber Organization, the International Union for the Conservation of Nature, the International Union of Forestry Research Organizations, the United Nations (UN) Convention to Combat Desertification Secretariat, the UN Development Programme, the UN Environment Programme, the UNFCCC Secretariat, the UN Forum on Forests Secretariat, and the World Bank.

[2] The main GHGs are carbon dioxide, nitrous oxides, sulphurous oxides, methane, and fluorocarbons.

[3] In most Sub-Saharan African countries, about 80 percent of the total energy consumed comes from forests.

[4] Bamboos can also be used in carbon substitution.

[5] The Kyoto Protocol terminates at the end of its 'first commitment period', which spans 2008–2012.

The Main Drivers of Deforestation Outside the Forests Sector

In any country, large-scale economic change—whether induced by specific reform programs or by causes beyond the country's borders—has the potential to bring about major changes in the condition of the country's natural resources and the environment. This is especially so in developing countries, where the exploitation of natural capital plays a significant role in economic growth, even if, often, such growth does not contribute to development, especially in those regions subject to deforestation.

Widely cited causes of deforestation include, in no particular order: poverty; economic changes brought about by export booms (such as those associated with oil and minerals); agricultural subsidies; demand for agricultural and livestock products; market distortions such as those caused by log export bans; and poor land or forest governance.[1] It is increasingly clear, however, that, with some notable exceptions, deforestation is the result of a complex process of frontier expansion, in which different drivers act synergistically. Logging or mining activities often increase access to forest areas and expose them to an increased risk of fire. Rice-growing and cattle-raising are often the first uses of cleared land, and they might be followed by mechanized agriculture. While in the initial phases of conversion smallholders tend to play a key role, larger farmers usually take over as the conversion process nears completion.

Chronic and extreme climate change can either directly or indirectly compound or mitigate deforestation. Conversely, reducing deforestation and forest degradation could mitigate climate change by reducing carbon dioxide emissions – a potential strategy known as "reducing emissions from deforestation and degradation (REDD). In the context of climate change, there is therefore a need to capitalize on opportunities to reverse deforestation, to mitigate negative drivers, and to examine trade-offs.[2]

This note presents an overview of some of the possible drivers of deforestation, assesses their importance, briefly discusses the challenges and opportunities they present, and suggests some actions for addressing them in the context of climate change. While the focus is on deforestation, several of the drivers also play a role in forest degradation and addressing them will be essential to REDD initiatives.

Factors influencing deforestation

The view has often been expressed that *poverty* causes deforestation. However, since wealthier households such as ranchers and plantation owners also deforest, higher income does not necessarily lead to lower rates of deforestation In the Brazilian Amazon, poor households are

responsible for less than one-fifth of deforestation. There, 39 percent of deforestation occurs in increments that are larger than 200 hectares. Since subsistence farmers are generally unable to clear more than 20 hectares per year, these large increments are most likely attributable to relatively wealthy interests.[3]

Studies that have quantitatively modeled the impacts of *oil and mineral export booms* on deforestation have found significant variation across countries, with the final outcomes depending on the patterns of government and consumer spending, the status of the labor market, and other factors. Increases in oil-generated revenue in resource-rich countries can reduce pressure on forests if labor and other resources are drawn away from the forests and agricultural sectors and into the exporting sectors. The oil boom in Gabon led to appreciation of the exchange rate and the growth of non-trade sectors, but it did not lead to an increase in deforestation. In contrast, while the oil boom unleashed the same forces in Ecuador, deforestation accelerated.[4]

Agricultural subsidies have long contributed to deforestation by providing farmers with price support, thereby providing incentives to increase production, often by clearing land. Recently established bioethanol and biodiesel *production and consumption targets* and related subsidies being offered in more than 35 counties worldwide will likely have a similar effect.[5]

Log export bans have been found to promote only a modest expansion of domestic processing capacity, while encouraging the overexploitation of forest resources by depressing the domestic price of logs.[6] Logging and other forms of forest exploitation are however unlikely to lead to permanent forest loss unless land prices are sufficiently low or agricultural subsidies or other incentives provide incentives to clear land, encouraging farming or grazing to move into logged areas.[7]

A study of the BR-163 road corridor in Brazil's Central Amazonia found that improved governance could reduce forest loss by about half what can be expected with business-as-usual over a 30 year projection.[8] Improvements in institutional arrangements and governance could also moderate the increased deforestation that is often linked to increased incomes.[9]

Opportunities and Challenges Created by Climate Change

Forests differ in the deforestation pressures they face, the extent and depth of local poverty, and the environmental consequences of their conversion. Policy measures must take these differences into account. Following the approach used by Chomitz et al. (2007), three forest categories, forests can be divided into three categories based on different combinations of economic pressure, forest tenure security, and environmental circumstances. The three categories can be used to identify opportunities and challenges resulting from climate change, and to determine how climate change is likely to affect the drivers of deforestation:

1. *Forest-agriculture mosaics*: forest is sparse but deforestation rates are high and unique biodiversity is threatened.

2. *Frontiers and disputed areas*: pressures for deforestation and degradation are high or increasing and control is often insecure and characterized by conflict.

3. *Areas beyond the agricultural frontier*: forest is plentiful, there are few, largely indigenous inhabitants, and there is some pressure on timber resources.

Climate change is most likely to compound the drivers of deforestation in the first two of these categories. A decline in agricultural productivity resulting from a chronic decrease in rainfall, for example, could induce farmers to seek more agricultural land and consequently to clear more forests. An increase in food prices due to decreased productivity could further augment the pressure to expand agricultural areas.

Policy measures such as the subsidization of agricultural inputs, the lowering of import tariffs for inputs and agricultural commodities, and/or improved access to credit, are often used to increase agricultural productivity ('intensification') and reduce agricultural commodity prices. Perversely, however, they can actually result in *extensification*—the introduction of agricultural production into areas that were previously unused or used for less-intensive purposes. This is particularly likely where the enforcement of land ownership and forest management is weak. Improved access to credit will lead to deforestation if the funds are used to expand the area of land devoted to agriculture at the expense of forests.

Bioenergy production can substitute for fossil fuel use with few net carbon dioxide emissions (except for the fossil fuels used during biomass production, harvesting, transport, and conversion). In the case of liquid biofuels, most production systems result in lower greenhouse gas emissions compared to fossil fuel alternatives, but only when feedstock production does not result in major changes to carbon stocks in soils and vegetative cover. If forests or peatlands are converted for bioenergy production, however, the resulting emissions from the loss of the carbon stock can far outweigh any reductions obtained by substituting liquid biofuels for fossil fuels.[10] Most impacts by biofuel expansion on forests are indirect, usually the result of displacing cattle ranching.

The traditional collection of biomass for rural energy can lead to significant net greenhouse gas emissions compared to alternatives such as kerosene if the biomass is not replaced, for example through forest regrowth. Due to conversion losses, this impact is magnified greatly if the bioenergy is used as charcoal. The impact can be mitigated, however, by establishing woodlots and other biomass production systems or by introducing sustainable forest management to natural forest areas.

Climate change can also create opportunities to mitigate the drivers of deforestation. With improved awareness of climate impacts among policy makers and the public, there is also more appreciation of the ecological services provided by forests. Growing awareness of the role of forests in improving soil productivity, sequestering carbon, and improving water availability raises the prospect that the chronic undervaluation of forests is likely to reverse itself.

Markets for ecological services are also growing or emerging. Individuals and corporations are investing in voluntary carbon markets, committing financial resources to mitigate and offset the negative impacts of climate change. Payments to landowners who maintain forest cover have been tested in many countries and have been particularly successful in Central America[11], providing an opportunity for scaling up such schemes to the global level.

At the rural household level, the diversification of income and subsistence portfolios is one of several mechanisms for adapting to climate change. Households could include tree-growing or forest management in their portfolios as both a source of additional income (for the timber and other products they produce, and also for carbon credits) and insurance against climate-related damage to their agricultural production.

Further Considerations

As the preceding discussion makes clear, many of the drivers of deforestation lie outside the forests sector—expanding agriculture and livestock production, infrastructure development, population growth, urbanization, and energy growth (including growth in the biofuels sector). Powerful agricultural and energy lobbies in both developed and developing countries can often undo progress in the forests sector by securing political support for policies, programs, and subsidies that negatively affect the health and integrity of forest resources. Sustainable forest management and other forest-based land use options, particularly those that can directly contribute to supporting rural livelihoods, are often put at a major disadvantage.

If developing and developed countries and donors are serious about reducing greenhouse gas emissions through reductions in deforestation and forest degradation, a fruitful starting point would be to identify and remove perverse incentives that permit land which would have otherwise remained as forest to be converted to other land uses. Country-specific analytical work is needed on systems for monitoring forest conditions and the welfare of forest dwellers. This will make land and forest allocations and regulations more transparent, and support civil-society organizations that monitor regulatory compliance by government, landholders, and forest concessionaires. Such analysis should focus on ways to improve the efficiency of forest and land-use regulations to address issues related to monitoring, enforcement, and compliance.[12]

Recommended Actions

For national governments (particularly those in REDD candidate countries)

- In the preparation of national REDD plans, commission and disseminate fully independent assessments of the impacts of land use-related policies, programs, subsidies, and incentives.
- Use such assessments to identify and remove those subsidies that result to the conversion of forests to sub-optimal land-uses (e.g. low-productivity pasture).

For national governments of OECD countries and those with emerging economies

- Commission transparent, authoritative, and independent reviews of the impacts of domestic energy, agricultural, and trade policies on tropical deforestation in order to complement existing specific safeguards that, for instance, seek to prevent the import of illegal timber.

Notes

[1] In most cases, deforestation describes the complete, long-term removal of tree cover.

[2] An examination of trade-offs helps identify where, in a particular context, deforestation might be socially, environmentally, financially, and/or politically justified.

[3] Chomitz et al. (2007).

[4] Wunder (2003), Wunder and Sunderlin (2004).

[5] For example, the cost of the average subsidy in the United States to replace petroleum with biofuels translates to roughly $1.40–1.70 per gallon of gasoline equivalent and $2.00–2.35 per gallon of diesel equivalent (Koplow 2007).

[6] Capistrano (1990), Barbier et al. (1994), Vincent (1994).

[7] Cropper et al. (1999), Schneider et al. (2002).

[8] Soares-Filho et al. (2004).

[9] Bhattarai and Hammig (2004).

[10] Fargione et al. (2008).

[11] Costa Rica and Mexico have the largest programs: over the last decade Costa Rica has invested over $200 million in PES; in Mexico, payments have increased from $3.6 million to more than $100 million (Kaimowitz 2008).

[12] Chomitz (2006).

Addressing the Demand for Good Forest Governance for REDD

This note sets out the major challenges and opportunities for governance that are likely to arise in programs to promote reduced deforestation and degradation as measures for climate change mitigation.

Background

Deforestation and forest degradation are leading causes of global warming, together accounting for 17.4 percent of global greenhouse gas (GHG) emissions and over one-third of emissions from developing countries. Proposals have recently been made to include reduced emissions from deforestation and forest degradation (commonly known as REDD) in the potential scope of the post- 2012 climate change regime. At the 13th Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Bali, Indonesia in December 2007, the Subsidiary Body for Scientific and Technical Advice made suggestions for reducing emissions from deforestation in developing countries. An eventual post-2012 mechanism for REDD would most likely involve compensation for countries that reduce deforestation rates below historical national baselines. This would imply measuring and rewarding emissions reductions at the national level rather than in separate projects (as is currently the case under the Clean Development Mechanism). The COP decision calls on host countries to implement REDD pilot projects prior to 2012.[1]

Deforestation is most often driven by factors outside the forests sector. These include: market failures such as the undervaluing of ecosystem services; perverse incentives such as agriculture subsidies; population pressures and the need to secure livelihoods; and corruption, greed, and the open-access nature of the resource. Controlling such factors clearly requires a realignment of economic incentives to favor forests, the development of attractive alternative livelihoods, and measures to combat corruption.

Addressing the fundamental drivers of deforestation and ensuring the sustainability of approaches to reducing deforestation and degradation requires attention to forest governance.[2] In this general context, the following are arguably at the top of the list of governance issues: providing clarity on land tenure and use; reducing legislative conflicts; improving laws and regulations that govern and deliver incentives; contracts on the length of time for which landowners agree to protect their forests; the equitable sharing of benefits; controlling illegal logging and corruption; and encouraging participatory decision-making.

Key Aspects of Forest Governance for REDD

The basic idea underpinning REDD is that a reduction in deforestation and forest degradation leads to a reduction in greenhouse gas emissions. Under a national-level approach to REDD, a country that demonstrates such a reduction would be able to claim carbon credits, which could then be sold on the market. Countries participating in REDD would need to compute a national baseline of emissions against which changes in the rate of deforestation and forest degradation could be measured and carbon credits issued. Compared to project-level REDD, crediting emissions reductions at the national level would have the major advantage of addressing the problem of in-country carbon leakage through displacement. Several potential host countries and a range of other stakeholders, however, have stated a preference for project-based approaches, partly because of complex governance issues that are likely to make the control of deforestation drivers difficult at the country level.

Given this broad understanding of REDD, the governance challenges to its implementation fall into three groups:

1. Those related to projects to slow deforestation and degradation (learned through experiences in technical assistance, policy dialogue, and project implementation in the sector);
2. Those arising in the context of a national-level approach (such as establishing baselines, monitoring, and crediting, etc.);
3. Those related to the marketing of carbon (emissions reduction credits) in national and international markets.

1. Governance issues emerging from experiences related to project implementation for REDD

- *Clarity over tenure and resource use rights*. In many tropical forest countries, tenure and usufruct rights are unclear, with competing claims for land between different tiers of governments and between governments, the private sector and local communities and indigenous peoples. In many places, clarifying rights to land and carbon assets and introducing better control over the resources will be critical priorities for REDD governance reform.
- The ways in which tenure disputes are resolved will have a significant impact on the extent to which REDD benefits the poor.
- *Land-use planning*. A critical element of any REDD strategy will be to assess land use, taking into consideration biophysical, economic, and social aspects. This would contribute to good governance at the local level by facilitating the identification, selection, and adoption of landuse alternatives that best meet the needs of local stakeholders and that conserve and sustainably manage forest ecosystems. In addition, a land-use zoning program might need to be formulated or existing one need to be revised.

- *Perverse incentives*. The efficient implementation of REDD will require both the removal of financial incentives for forest conversion, and the reform of tax and subsidy regimes to create incentives for forest protection. Some tax-related laws and regulations that were developed historically for specific purposes may no longer be relevant. Some may undermine efforts to reduce deforestation. An independent analysis of the existing situation and potential reforms might be needed to determine the potential roles that vested interests will be likely to play.
- *Broader institutional reform.* Governments will need to ensure that different agencies have clear responsibilities and are working in concert to reduce deforestation and forest degradation. This will be particularly important for agencies set up to distribute compensation to those who must forgo income from activities that were previously linked to deforestation or forest degradation.
- *Forest law enforcement.* The effective implementation of REDD-related laws will require both that they are considered legitimate by those who must abide by them and that an adequate level of enforcement capacity is available to discourage violations. Controlling illegal logging, encroachment, and corruption will be important focus areas.

2. Governance issues arising from a national carbon accounting approach to REDD

Under a national approach to REDD, a government would pursue policies aimed at reducing the rate of deforestation compared to a national baseline. This would require:

- *A national REDD strategy*. Governments would need to develop a national strategy for addressing the many interrelated social, political, and economic drivers of deforestation at the national level. For the best chance of success, planning for such a strategy would be undertaken in consultation with a wide range of stakeholders, including forest owners and managers, indigenous peoples and local communities, and all levels of government. The strategy would include pilot programs for some of the activities identified as necessary for reversing deforestation trends – activities such as those relating to the promotion of alternative livelihoods.
- *Equitable distribution of benefits*. Transparent and accountable financial processes will be needed to ensure that payments for carbon credits create sufficient incentives for REDD and are shared equitably among forest owners, and that potential conflicts over such payments can be justly resolved.
- *Set up national REDD accounting and credit-handling infrastructure*. Making REDD operational is likely to require the development of a complex infrastructure.[3] National governments will need to allocate sufficient resources to ensure that the required infrastructure is established in a way that ensures it will be operated efficiently.
- *Baselines, monitoring, and inventory verification*. National governments would also need to establish the necessary infrastructure and capacity to develop and agree on national baselines, and the capacity to measure and verify achievements against these.

3. International governance considerations

REDD would aim to create internationally tradable and bankable carbon credits and thereby encourage private-sector investment. There is a need, therefore, to develop rules related to the trading and exchange of forest carbon credits in international commodity and financial markets. These rules would include criteria (based on the quality of sector governance in a country) that could be used by investors to assess the quality of the credits.

Indicative Actions

In many countries, improving forest governance is a massive task, but it can be made easier by identifying the most critical elements for the successful implementation of REDD (and other forest-based climate change mitigation and adaptation options) and prioritizing those.

Based on our analysis of the drivers of deforestation, our assumptions on how REDD will work, and our understanding of the institutional requirements for private-sector investment, we have identified a range of governance-related interventions that would facilitate the participation of tropical forest nations in REDD and ensure that REDD initiatives are credible and sustainable.

Key Governance Interventions Relevant to REDD Initiatives

Develop and implement a national REDD strategy

- Establish an action plan for addressing the many interrelated social, political, and economic drivers of deforestation at the national level;
- Organize stakeholder consultations;
- Design robust and transparent financial structures for an equitable distribution of benefits among relevant stakeholders;
- Establish REDD infrastructure (for accounting and credit handling, implementation of strategy, etc.);
- Initiate pilot testing.

Establish an emissions baseline and a system for monitoring the baseline

- Assess historical emissions levels and develop and review options for a credible reference scenario;
- Ensure an open and participatory emissions monitoring system, including provisions for independent monitors and certifiers;
- Provide in-country capacity building and training for improved monitoring of forest cover and carbon stocks.

Clarify land use, tenure and access issues

- Reform land tenure and clarify access and use rights;
- Conduct land-use planning and zoning;
- Establish capacity to provide support services for sustainable forest management, reduced impact logging, forest certification, community forestry, payments for ecosystem services, agricultural intensification, etc.

Improve the legislative framework

- Reform legislation to encourage sustainable forest management, encourage community forestry, payments for ecosystem services, etc., and to reconcile conflicting laws and legislative overreach;
- Strengthen the role of social and environmental safeguards;
- Remove financial incentives that encourage forest land conversion and settlement schemes;
- Reform taxes (e.g. to remove perverse subsidies/tax incentives).

Reform institutions within forestry, agricultural, and other sectors

- Clarify roles and responsibilities (including, in decentralized set-ups, at different levels of government);
- Build capacity, strengthen institutions, and improve incentives for civil servants;
- Improve transparency, control corruption, and promote ethical approaches.

Improve national and international financial markets

- Develop simple and clear rules to make forest carbon credits easily tradable and bankable nationally and internationally.

Enhance enforcement

- Increase capability for the enforcement of forest laws and the control of illegal logging, and institute planning and environmental requirements such as safeguards;
- Build capacity in non-governmental organizations;
- Strengthen the judicial system to ensure its effectiveness and independence.

Notes

[1] In addition to REDD, afforestation, reforestation, and other forest-related measures provide huge opportunities for mitigating climate change and contributing associated benefits. This note, however, focuses on REDD.

[2] Forests-sector governance refers to the modus operandi by which officials and institutions (both formal and informal) acquire and exercise authority in the management of the resources of the sector to sustain and improve the welfare and quality of life for those whose livelihoods depend on the sector. Good forest governance is characterized by predictable, open, and informed policymaking based on transparent processes, a bureaucracy imbued with a professional ethos, an executive arm of government accountable for its actions, and a strong civil society participating in decisions related to sector management and in other public affairs, and all behaving under the rule of law. Good governance is fundamental for achieving positive and sustained development outcomes in the sector, including efficiency of resource management, increased contribution to economic growth and environmental services, and the equitable distribution of benefits.

[3] Such an infrastructure is likely to be based on the requirements by which Annex 1 countries may enter the trading mechanism, as set out in Article 17 of the Kyoto Protocol.

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Tenure, Property and Carbon Rights

Indigenous peoples have strong and deeply rooted historic relationships with their ancestral lands and natural resources. These relationships have cultural, socioeconomic, and spiritual dimensions and have influenced the development of customary institutions and practices for managing forests and other resources. Natural resources underpin their livelihoods, social organization, identities, and the survival of their cultures.

The community management of forests and other lands is larger in scale and more intensely linked to other sectors than is commonly acknowledged. Community ownership over forests nearly doubled in the 15 years to 2002, from 143 million hectares to 246 million hectares. In the same period, the estimated area under public ownership but collective administration increased from 18.5 million to 131 million hectares. The area of community-owned and administered forest in 2002 therefore totaled at least 377 million hectares, which was 22 percent of all forests in developing countries and three times as much as the area of forest owned by industry and individuals.[1] A recent study found that this trend towards greater community ownership continued between 2002 and 2008.[2]

Background

Tenure and policy frameworks can create both incentives and disincentives for forest management and can facilitate or hinder access by low-income producers to forests and forest markets. To minimize their harmful consequences on the forest-dependent poor, including indigenous peoples, interventions should avoid:

- Regulatory frameworks that place high burdens on the poor;
- Tax and tariff policies that discourage participation in the market;
- Environmental regulations that increase costs for low-income producers to the extent that they cannot afford to comply (thereby encouraging 'criminal' behavior);
- Barriers to low-income producers external to the forests sector, such as small-business regulations and a lack of access to technical training or financial support.

Existing and proposed protected-area regimes can support local rights and livelihoods by zoning for co-management and protecting local residents from incursions by outsiders and extractive activities. They can also hamper rights, however, if they are overly restrictive or if they cause overlapping claims.

Studies have shown that deforestation rates are lower where forest tenure is secure. Community resource management mechanisms under customary tenure systems have great potential for mitigating the negative social and environmental impacts of development. The customary tenure model is supported by a growing recognition of the legitimacy of the rights of indigenous peoples and other forest-dependent communities to land and natural resources.

While international law recognizes the rights of indigenous peoples to ancestral lands and natural resources, and some countries have begun to recognize these rights in national laws, the situation is far from uniform. In Australia, Bolivia, Brazil, Canada, Chile, Ecuador, Guatemala, Honduras, India, Indonesia, Malaysia, Nicaragua, Peru, and the Philippines, for example, the recognition of indigenous and community rights has been the subject of major national debate and conflict. Yet each of these countries also has examples of notable progress in dealing with these issues. In many of them, significant forest areas have been recognized as indigenous territories or reserves, and increasing areas of public forest are being considered for community concessions. In Africa, the designation of public forests as community forest is expanding – notably in Burkina Faso, Cameroon, the Gambia, Mozambique, Rwanda, Senegal, Tanzania, Uganda, and Zimbabwe. However, effective handover has been extremely limited and has mostly happened either in severely degraded forests or under institutional arrangements that are impractical or which bring about conflict with local organizations. Even in countries with the most extensive forest areas in public concessions—Canada, Cambodia, Democratic Republic of Congo, Republic of Congo, Lao PDR, and the Russian Federation—tenure shifts are under discussion. China allocated more than 100 million hectares of collective forests. The success of plantations in these forests supports a deepening of collective rights and encourages the extension of favorable policies to local communities.

Most other countries do not legally recognize indigenous land and resource use rights, and those that do might not protect such rights in practice. In most indigenous areas, the difficulties are compounded by a lack of demarcation or titling, or a lack of documentation thereof. Thus, ancestral lands and areas of current occupation and resource use (if these differ) often lack legal recognition or protection. Some countries regulate forest use based on the attitudes and values of the mainstream culture in ways that do not accommodate traditional uses by indigenous peoples. Typically contentious issues include communal ownership, the (lack of) recognition of sacred sites, the regulation or prohibition of hunting, and the prohibition of shifting cultivation.

Forests-sector activities provide opportunities as well as risks for indigenous peoples and other forest-dependent people. A variety of issues typically require informed consultation with indigenous peoples. These include rights to and conflicts over forest resources. Issues relating to local livelihoods and natural resource management practices often arise, as do matters of social organization, social and cultural diversity, indigenous knowledge, and gender and

intergenerational relations. Consultations regarding social and political risks may improve our understanding of the vulnerabilities of local communities. Collaborative arrangements (which are gaining ground quickly) and the increased participation of forest-dependent communities require capacity building as well as arrangements that institutionalize the participation and representation of those communities in decision-making processes and bodies.

Opportunities and Challenges created by Climate Change

The interrelated crises of climate change and energy are driving financial flows, land-use allocations, and a new international architecture of markets, institutions, and regulations. Emerging payment schemes and markets for carbon and other ecosystem services, such as water flows and biodiversity conservation, raise issues that are similar to those associated with forest tenure and property rights.

Carbon forestry, for instance poses a number of risks including the following:[3]

- Renewed and even increased state and 'expert' control over forests;
- Support for anti-people and exclusionary models of forest conservation;
- Violations of customary land and territorial rights;
- Unequal and abusive community contracts;
- Land speculation, land grabbing, and land conflicts (such as those caused by competing claims for compensation for avoiding deforestation).

Unless such issues are handled properly, forest-dependent peoples are unlikely to participate in carbon markets because of their inability to assume risk, the lack of organization to create economies of scale, limited land and investment capital, and often unclear property and use rights.

The emerging markets for ecosystem services, including carbon, can be a means by which governments and local communities enhance forest rights. A pilot REDD or carbon credits scheme, for example, could be a mechanism for obtaining complementary technical support and providing additional returns to poor producers who are managing forests on the margin. If done insensitively, however, they could also set dangerous precedents by introducing new uncertainties—such as those created if shifting cultivation or other traditional practices are deemed unacceptable, or by establishing long-term contracts in regions where forest tenure is contested, extinguishing traditional use and access, or raising the price of forests beyond the reach of local people.

The potential for new carbon schemes to promote approaches that extend public regulatory authority beyond protected areas in order to control land use and deforestation is also a matter for concern. This would be counter-productive because it would reverse the pattern of devolving forest management authority and increase the potential for conflict.

The question of who owns the carbon—whether emitted, conserved, or sequestered—has been little debated at the national and international levels. Moreover, few countries have begun to address the property rights issues surrounding carbon sequestration, emissions, and trade. Mired as they are in issues of national sovereignty, most proposed schemes for emissions reductions from forest areas overlook questions of equity, ownership, benefit-sharing, and development outcomes. Even the simplified modalities for small-scale afforestation and reforestation projects under the Kyoto Protocol's Clean Development Mechanism (CDM), which were developed to allow communities to participate in the CDM more fully, have failed to reduce the high installation and transaction costs associated with project preparation. These high costs, and the requirements for clear property rights for investment, have made it very difficult for poor communities to initiate afforestation and reforestation CDM projects.[4]

Considerations and Indicative Actions

Climate change-related projects and programs in forest areas should be planned with the opportunities, difficulties, and risks for indigenous peoples and other forest-dependent people in mind. Specific activities, developed in consultation with the affected communities, might be required to support and protect the rights and well-being of those communities.

The following action areas could be pursued:

- Tenure over land and resources is the most important element for the survival of indigenous peoples and other forest-dependent people and must be assessed and addressed in forest activities. The rights of indigenous peoples and other forest-dependent people to land and resources should be recognized and, if needed, appropriate legal frameworks should be developed to guarantee such rights;
- Effective forest management is best accomplished through local participation established by finding common ground. This generally entails allowing sufficient time for mutual understanding and the acceptance of goals and strategies; creating and maintaining transparency throughout the process; and recognizing that goals will change and that collaboration does not mean consensus;
- The role of local champions in effecting change can be critical. Thus, a useful intervention would be to assist the emergence of leaders and organizations that represent communities or indigenous peoples by fostering learning and facilitating opportunities to discuss issues directly with government;
- Too often, indigenous peoples and other forest-dependent people have been seen only as laborers, park guards, or gatherers or producers of raw materials. Support is needed for small businesses and joint ventures in which indigenous peoples and other forest-dependent people retain an equity share in products as they move through the market chain;
- Alternative development efforts need to match or complement local skills. They also need to place equal emphasis on income generation and sustainable resource use, and to address the steep learning curves of groups that might only now be entering the market economy.

Linking REDD to international carbon markets could increase the flow of funds to forested countries. The efficient channeling of carbon finance towards priority areas and countries for conservation and development will be improved by supplementary international funding for REDD initiatives that specifically aim to enhance non-carbon benefits. The purpose of supplemental funding should be to create conditions that will help markets work: i.e. to secure forest access and ownership; to reduce/remove regulatory barriers to allow the equal and full participation of small forest holders (including indigenous peoples); and to involve such smallholders in policy negotiations.[5]

In summary, clearly defined rights are essential if the forest-dependent poor are to improve their income and well-being. If individuals, communities, and businesses are to invest in forest resources, take responsibility for their conservation, and participate regularly and openly in the marketplace, they need to be confident of their property rights. Growing evidence from around the world demonstrates that recognizing local rights and improving local governance is politically feasible. It is also a cost-effective strategy for rural poverty alleviation.

Notes

[1] White A and Martin A (2002). *Who Owns the World's Forests? Forest Tenure and Public Forests in Transition*. Washington, DC, USA..

[2] Sunderlin W, Hatcher J and Liddle M (2008). *From Exclusion to Ownership? Challenges and Opportunities in Advancing Forest Tenure Reform*. Rights and Resources Initiative, Washington, DC, USA.

[3, 4, 5] RRI (2008). *Seeing People Through The Trees: Scaling Up Efforts to Advance Rights and Address Poverty, Conflict and Climate Change*. Rights and Resources Initiative, Washington, DC, USA.

Financing Capacity Building in Countries and Stakeholder Groups

The financing of sustainable forest management (SFM) continues to challenge governments, investors, and other stakeholders in developing countries, as well as the international community. This is partly due to the hybrid nature of SFM: it can generate both public goods and private profit, the former from forest-based services such as climate change mitigation and biodiversity, and the latter from timber and non-timber forest products. Capitalizing on SFM's various outputs is both a challenge and an opportunity. In the long term, these two sources of income could ensure that SFM is self-financing.

Payments for ecosystem services (PES) are a new potential source of additional revenue for forest owners and managers—either through markets for these services or arising from other forms of compensation by (public or private) national or international funding sources. PES can help internalize the costs and benefits of maintaining the global, national, and local public goods provided by forests and thereby help correct prevailing market and policy failures. In particular, high hopes are held for PES for the avoidance of deforestation and forest degradation and the enhancement of trees and forests as carbon sinks.

Funding for Forests

Despite a paucity of data, it is commonly held that the bulk of investment in forestry is (and will remain) from domestic sources—the organized private sector and communities, landowners and farmers. Foreign financing—through grants, direct and portfolio investments, loans, credits, etc. — is also important. Available information suggests that current annual bilateral and multilateral flows to forests amount to about US$1.9 billion and foreign direct investment for forest industries to about US$0.5 billion. Data on private forest investment by institutional investors, commercial banks, and export credit agencies, and on the extent to which the non-government organization/philanthropy sector contributes to the financing of forest conservation, are unavailable.

Both bilateral official development assistance (ODA) and multilateral financing have increased since 2000, but the future is uncertain due to changes in the priorities of recipient and donor countries. It has become apparent that any increases in forest-related ODA is likely to be linked to the broader climate change and conservation agenda. Several donor countries (e.g. Australia, Japan, Norway, and the United Kingdom) have recently made commitments or are exploring ways of increasing their contributions to the forest-related instruments of climate change initiatives. Multilateral development banks are also in the process of expanding their services, including by establishing climate investment funds. These are expected to provide

incentives to: maintain, restore, and enhance carbon-rich natural ecosystems; prevent forests from becoming emissions sources; and enhancing the services such forests provide, including climate resilience or adaptive capacity.

Current ODA flows to forests in developing countries are largely directed towards middle-income countries with large forest resources (e.g. countries in the Amazon and Congo basins, and Southeast Asia) or sizeable populations (e.g. China and India). The flow of private forest-related investment to developing countries is mostly going to plantations in a small number of countries in Latin America and Asia. In general, developing countries have difficulty in accessing sufficient external funding to support their efforts to achieve SFM. Of particular concern is the low level of external financing available to least-developed and low-forest-cover countries.

Funding flows through new (proposed) instruments such as reduced emissions from deforestation and degradation (REDD) are also likely to benefit middle-income countries more than low-income countries. If REDD schemes are to be concentrated in forest-rich countries, which are already benefiting in relative terms from substantial external support to forests, major equity concerns are likely to emerge. The participation of the least-developed countries in new forest financing mechanisms will therefore be a particular challenge, since many of them lack the necessary preconditions for both effective ODA delivery and private-sector investment.

Private investors (both domestic and foreign) can make a significant contribution to climate change mitigation by increasing the production of forest goods and services. They are also likely to have a positive impact on technology transfer and research, governance, and the development of human resources. The impact appears likely to be limited, however, to those relatively few countries which can offer attractive forestry conditions, suitable and available land, and an adequate investment climate. In addition to physical conditions and comparative advantages, a country's enabling conditions are the key to future private (especially foreign) financing. This is a particular constraint in the forestry sector, since investments are generally (and necessarily) longterm and all sources of risks (including political risk) must be assessed accordingly. Recent studies have shown significant differences between developing countries in sectoral investment climates. The lack of an adequate policy and legal framework and weak institutions are in many cases effective barriers to investment in sustainable forestry and therefore also to climate-related forest financing.

The key issue in private-sector financing is ensuring that investments avoid illegal or unsustainable operations and, rather, are directed towards sustainably managed forests—which can also enhance climate change mitigation and other public goods and services. In order to achieve this, both sticks and carrots are needed. Regulation and financial incentives can ensure that private-sector actors maximize forest benefits for their own objectives within national and local socioeconomic frameworks. Revenue from climate change mitigation can provide the 'missing link' in the incentive structure to make SFM economically viable.

Need for Climate-related Forest Financing and Capacity Building[1]

In 2007 the UNFCCC carried out the most comprehensive assessment to date of financing needs for climate-related forest investment[2] and derived indicative estimates for developing countries (see table).

Estimated costs associated with forest-related climate mitigation measures

Item	Cost (US$ billion/year)
Opportunity costs for REDD	12.2
SFM costs	8.2
Afforestation/reforestation costs	0.1–0.4
Total	~ 21.0

Given the needs for the restoration of degraded lands and their carbon sequestration potential, the costs given for afforestation and reforestation appear to be underestimates. Nevertheless, a comparison between existing financial flows and these estimates reveals a vast gap in all areas— current financing mechanisms cover only a tiny fraction of what is required. Moreover, the cost estimates do not include the cost of capacity building in governments and among smallholders, communities, and other stakeholders, nor the other upfront investments that would be needed to make carbon payments work in practice.

In view of the potential for avoided deforestation/degradation, the main beneficiaries of REDD mechanisms are likely be in the Asia-Pacific region (40% of the total) followed by Latin America and the Caribbean (31%) and Africa (21%). Small-scale subsistence farmers and shifting cultivators and communities are the primary drivers of an estimated 20% of total deforestation. If opportunity costs are used as a guide in the allocation of REDD payments, issues of equity related to the distribution of revenue among geographic regions (particularly Africa's share) and between income levels are likely to arise.

Opportunities and Constraints/Challenges

The avoidance of deforestation and forest degradation would be one of the lowest-cost options for avoiding CO2 emissions and possibly also for enhancing carbon sinks. At the same time, other co-benefits like biodiversity conservation, poverty reduction, and climate change adaptation could be generated. The revenue generated by payments for carbon-related services would substantially improve the economic viability of both SFM in natural tropical forests and the restoration of degraded forests.

Since REDD funding will not fully cover the upstream financing needs of SFM, however, there is a need to mobilize additional funding to ensure that countries and their forest stakeholders can effectively participate in the planned schemes and obtain tangible benefits. Without establishing clear and secure land tenure, it is unrealistic to assume that Indigenous and other local groups, forest communities, and smallholders will be able to access REDD benefits and thereby obtain the means for investing in SFM. Reform processes are politically sensitive, technically complex, and resource-demanding. Even within an adequate legislative framework, implementation is difficult if the administration cannot be mobilized effectively. This difficulty has frequently been underestimated in externally funded programs and projects to improve land tenure.

Potentially, REDD schemes could cover very extensive forest areas and affect the livelihoods of millions of people, but weaknesses in forest governance are a major constraint to their effective deployment. A whole range of other activities is therefore needed to underpin the sustained financing of global forest public goods and SFM for various forest products and services. The new financing instruments will require substantial initial upfront investment in order to develop and pilot suitable modalities in specific country conditions.

The appropriate integration of forests in the future climate change regime and its financing instruments will be critical for any substantial increase in the financing of SFM and forest restoration. The recent experience on biofuels shows that the inadequate consideration of environmental and social impacts in the design of new financing instruments can backfire. The development of REDD should avoid such a mistake through adequate analytical work, proper planning, ground-level piloting, and awareness-raising.

Need for Action

Action is needed in two main areas:

1. Over the next four years, substantial additional funds should be made available to enable developing countries, Indigenous and other local groups, communities, forest managers, and forest owners to build their capacity for effective participation in initiatives to reduce emissions from deforestation and forest degradation and to enhance carbon sequestration.

2. Whatever the final nature of forest-based mitigation provisions in the post-2012 climate regime, and irrespective of the types of financial transfer mechanisms that will accompany such measures, there is a pressing need for donors to work with their partner governments to immediately invest in the following pre-requisite activities:
   - Clarification and formalization of individual smallholder and collective rights to land, forests, and carbon;
   - Capacity building and the provision of information to rural communities, small-scale forest owners, Indigenous Peoples, and other local groups as to how they can organize themselves to better participate in future REDD initiatives and to implement SFM;

- Institutional capacity building among relevant government agencies to strengthen key elements of SFM and other measures to curb deforestation;
- Pilot-testing of different approaches and arrangements to efficiently, effectively, and equitably reward forest owners and managers for the provision of ecosystem services, including the avoidance of carbon emissions, carbon sequestration, and the maintenance and enhancement of other forest values (such as biodiversity and water);
- In those circumstances in which REDD programs might limit existing options for the management and use of forests, develop schemes that adequately re-train or otherwise offer forest dwellers and forest workers alternative and comparable livelihood options.

Recommended Related Actions

For developing country governments (particularly those in REDD-candidate countries):

- To ensure effective participation in carbon payment schemes, take measures to ensure that the quality of any forthcoming REDD carbon credits meet the anticipated requirements for credibility and security;
- Establish an explicit demand among bilateral and multilateral financing sources for the support needed for effective forest carbon-related capacity building.

For donors:

- Provide adequate resources to support: (i) capacity building, especially among forest owners and managers and other stakeholders, for effective participation in REDD activities; and (ii) adequate programs to safeguard the livelihoods of those people (e.g. forest workers) who might be adversely impacted by REDD implementation.

Notes

[1] Original title of this briefing note - "Financing Capacity Building in Countries and Stakeholder Groups for Effective Participation in Climate Related Forests-Sector Initiatives".

[2] UNFCCC (2007). *Investment and Financial Flows to Address Climate Change*. United Nations Framework Convention on Climate Change, Bonn, Germany.

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The Forests Dialogue (TFD), formed in 1999, is an outgrowth of dialogues and activities that began separately under the auspices of the World Business Council for Sustainable Development, The World Bank, the International Institute for Environment and Development, and the World Resources Institute. These initiatives converged to create TFD when these leaders agreed that there needed to be a unique, civil society driven, on-going, international multi-stakeholder dialogue forum to address important global forestry issues.

TFD's mission and purpose is to bring key leaders together to build relationships based on trust, commitment and understanding and through them, generate substantive discussion on key issues related to achieving sustainable forest management around the world. TFD's dialogues serve as a platform to share aspirations and learning and to new seek ways to take collaborative action on the highest priority forest conservation and management issues.

TFD is developing and conducting international multi-stakeholder dialogues on the following issues:

- *Forest Certification*
- *Illegal Logging and Forest Governance*
- *Intensively Managed Planted Forests*
- *Forests and Biodiversity Conservation*
- *Forests and Povery Reduction*
- *Forests and Climate Change*

There are currently 23 members of the TFD Steering Committee. The Committe is responsible for the governance and oversight of TFD's activities. It includes representatives of indigeonous peoples, the forest products industry, ENGOs, retailers, unions, and academics.

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