Capturing the value of forest carbon for local livelihoods

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The analysis and recommendations summarized in this policy brief emerged from workshop organized by the Center for International Forestry Research (CIFOR) and the University of Maryland. The meetings were held at the Bellagio International Conference Center in Como, Italy, in February 2000. Participants included 24 policy makers, forest carbon project managers, representatives of NGOs and multilateral and bilateral agencies, and community development and forestry experts from five industrialized countries and seven developing countries in Africa, Asia and Latin America. Financial support was provided by the Rockefeller Foundation, GTZ, Forest Trends and USAID.

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Capturing the Value of Forest Carbon for Local Livelihoods: Opportunities Under the Clean Development Mechanism of the Kyoto Protocol

SUMMARY

PROJECTS IMPLEMENTED as part of the Clean Development Mechanism (CDM) of the Kyoto Protocol will have the dual mandate of reducing greenhouse gas emissions and contributing to sustainable development. It is not yet clear what, if any, forestry activities will be eligible for CDM. Nor is it known what rules will guide the implementation of CDM projects. These decisions have important implications for poor people who live in and around forests in developing countries.

Suitably designed CDM forestry projects can significantly benefit local communities by supplementing and diversifying income, increasing access to forest goods and services, improving land productivity, developing the local knowledge base and local institutions and increasing the energy efficiency of using forest products. In some cases there will be trade-offs between the amount of greenhouse gas reductions sought and direct benefits to local livelihoods. Without adequate safeguards, some CDM activities could have negative effects on local people, such as reducing access to resources they depend on for portions of their livelihoods.

As this policy brief describes, however, CDM guidelines can be designed to not only minimize the likelihood of negative effects on local communities but also to improve their livelihoods while achieving net greenhouse gas emissions reductions. Proposed measures include:

- Explicitly including forest management and agroforestry in the CDM
- Implementing social impact assessments for all CDM projects
- Providing incentives for projects with multiple benefits
- Reducing transactions costs of community-based projects
- Approving tonne-year carbon accounting
- Building capacity at local, national and international levels

THE NEED FOR ACTION

THE LANDMARK DECISIONS taken at Kyoto in 1997 paved the way to an intergovernmental climate change agreement that will commit

industrialized countries to lowering their greenhouse gas emissions by 5 percent, compared with that of 1990 levels, by 2008-2012. The Clean Development Mechanism (CDM) of the Kyoto Protocol, allows industrialized countries to meet a part of their commitments by funding projects that reduce net emissions of greenhouse gases in countries that do not have emission reduction commitments. This offers the potential for international financial and technological transfers that support greenhouse gas reduction activities in developing countries. The CDM will also "assist developing countries in achieving sustainable development."

At present, the CDM has not yet been clearly defined and much remains to be done before this mechanism will be implemented. However various meetings of the Parties to the Framework Convention on Climate Change, such as those of the Subsidiary Body for Scientific and Technological Advice in June and September 2000 and the Conference of the Parties in The Hague in November 2000, are preparing to define what activities may or may not be included in the CDM.

A major focus of the discussion and negotiation is the role of land use, land-use change and forestry projects in the CDM. While much of the discussion has focused on technical aspects, such as methodologies for measuring the contribution of these projects to greenhouse gas reductions, the social issues, such as the implications for the livelihoods of local communities, have received relatively little attention. This Policy Brief supports a number of provisions that negotiators could include in the CDM guidelines to increase livelihood benefits and reduce the risks for local communities where CDM-related forestry projects are implemented.

Forest carbon

TRADING FOREST CARBON

FORESTRY PROJECTS can help to lower net greenhouse gas emissions to the atmosphere in several ways. The first is to prevent the carbon stored in standing forests from being released into the atmosphere. This could be achieved by reducing deforestation and forest fires or by improving forest management practices (such as reduced-impact logging) that reduce damage to the surrounding vegetation. The second is to actively increase carbon stocks (known as carbon sequestration) through tree planting, improved soil management or by enhancing natural regeneration of degraded forest lands. Another approach is to reduce the combustion of fossil fuels by increasing the use of biofuels that replace fossil fuels.

Projects in developing countries that involve these various strategies are expected to be substantially more cost-effective than emission-reduction measures in industrialized countries. Therefore, it is reasonable to assume that private-sector entities with high emission levels (such as utility companies) and governments in industrialized countries would prefer to fund forestry projects in developing countries in exchange for carbon credits. Although the Kyoto Protocol has not yet been ratified, a number of

carbon forestry projects have been initiated in developing countries. Many of these were implemented under a pilot phase program of the UN Framework Convention on Climate Change known as Activities Implemented Jointly. For example, three U.S.-based energy companies are funding a forest protection project in Bolivia that was developed jointly by two NGOs, one local and one international, in cooperation with the Bolivian government. An agroforestry project involving farmers in Chiapas, Mexico receives funding from an international automobile federation. The Norwegian government has used revenues from a domestic carbon tax to purchase carbon offsets generated by forest protection and reforestation projects in Costa Rica. An independent Dutch non-profit organization is implementing a community-based plantation project in Ecuador with funding from voluntary private sources in the Netherlands. These pilot projects and others illustrate how trade in forest carbon could compensate forest owners and managers for the contribution their forests make to climate change mitigation without the need for subsidies.

THE OPPORTUNITY

BY INCORPORATING land use change and forestry options, the CDM can work to promote sustainable livelihoods and improve forest management. While the degree to which CDM projects contribute to local livelihoods will be variable, in many cases they can be implemented so that activities leading to cost-effective greenhouse gas reductions can also benefit local people. The following are opportunities that would be possible as a result of the inclusion of forestry and land use change projects in the CDM.

Global consensus

Global consensus on sustainable development and poverty alleviation

The sustainable development clause of the CDM provides an opportunity for improving local livelihoods because poverty alleviation is included in the concept of sustainable development as defined by the Brundtland Commission. It is also consistent with Agenda 21's focus on meeting basic needs.

Forests that are sustainably managed can contribute significantly to the welfare of local communities. Rural poor people in developing countries often depend more on forests than those who are better off. Forests are often a major source of products needed for food, medicines, building and crafts materials and for supplementing and diversifying income. They also provide environmental services such as shade and water quality. Thus, improving the management of forests to ensure the continued availability of such goods and services is beneficial for local livelihoods.

Sustainable forest management may imply "holistic" management of forests and their resources, as reflected in proposals of the International Forum on Forests and in the Convention on Biodiversity. This approach is consistent with multiple use management of forests, which encourages the production of a range of products and environmental services of value to different stakeholders.

Potential benefits of CDM forestry projects for local livelihoods

Well designed CDM forestry projects can contribute to better livelihoods by improving access and management of forest resources in ways that will benefit local people and contribute to greenhouse gas emission reductions.

CDM forestry projects can provide new sources of income and increased access to forest products and services

Payment for carbon benefits increases the value of forests relative to other land uses. Although forests often provide needed goods, services and supplemental income, there are many situations in which sound forest management is currently not profitable. Carbon payments could be used to overcome barriers to maintain forests under sustainable management regimes, or to establish agroforestry systems. For example, where conversion of low-

productivity pasture to higher value community-managed forest plantations may be hindered by a lack of seeds or poor market infrastructure, carbon revenues could be used to finance tree nurseries and market development or value-added processing facilities.

Land-use change and forestry projects can improve the productivity of land

Millions of hectares of once forested lands in developing countries have been degraded through unsustainable land management practices. Soils in these areas are often eroded, nutrients are depleted and few resources have been allocated to rehabilitate these lands. CDM projects involving well planned plantations or assisted natural regeneration of forests can restore these lands to productivity and improve soil quality over the long term.

Land-use change and forestry options can develop the local knowledge base

Participation in carbon projects such as those involving small-scale plantations or agroforestry offer a means for local communities to build on and strengthen their expertise in effective land management strategies. For

example, the Scolel Te pilot carbon project in Mexico builds on the local knowledge base of small-scale farmers in using agroforestry to diversify income and improve fallow land. In Ecuador a project implemented by the Face Foundation develops the management skills of community groups in operating tree nurseries and establishing small-scale plantations to control erosion and prevent landslides.

Land-use change and forestry options can promote local institutional development

Successful community-based forestry development projects have often strengthened local institutions that work to address local needs. Rural women's cooperative associations in Bangladesh were originally organized to plant and care for small-scale tree

plantations. In response to local priorities, however, they have evolved to promote as well health care improvement and greater educational opportunities. Rural institutions strengthened through CDM projects could have other development benefits as well.

Forestry projects can improve the energy efficiency of forest product use and processing

Forestry projects can simultaneously improve forest management and establish more sustainable patterns of energy use by increasing the energy efficiency of forest product use and processing. There are many examples of successful forestry and renewable energy projects that have enhanced biomass fuel resources and improved energy efficiency by introducing better cooking stoves and charcoal kilns. Other projects have improved sawmill efficiency. Projects like these improve the sustainability of both the supply of and the demand for forest products.

RISKS FOR LOCAL COMMUNITIES

DESPITE THE CONSIDERABLE potential for using CDM projects to benefit local livelihoods, there is a risk that some projects will not lead to positive effects, and may in some cases threaten the interests of poor people in project areas.

Without adequate safeguards, some kinds of projects may impede access to resources

In some cases, forest carbon projects involving large-scale land use change may lead to restricted access to land that previously made an important contribution to local livelihoods. Biodiversity conservation projects that forbid harvesting of forest products, for example, may curtail locally important sources of forest products or income. Where forestland is converted from production to conservation use, jobs formerly held by local people in forest harvesting or processing might be lost.

It is common for governments to grant timber concessions in forests long used by local people. When rights are unclear, informal or overlapping, local communities may fail to win compensation in favor of more visible and vocal stakeholders. Projects may establish large-scale plantations on public lands that previously provided fuelwood, fodder and other non-timber forest products important to local livelihoods. Although plantation-

related employment often becomes available to local people, this may or may not adequately compensate them for lost access to these lands.

Community-based projects may have difficulty competing with projects involving large-scale operators

CDM projects that involve local communities in a meaningful way may have higher transactions and implementation costs per unit of emission reduction, which can reduce the attractiveness of such projects to investors. Transactions costs, such as the cost of project development or negotiating and enforcing contracts, may be higher because of factors that include working with large numbers of geographically dispersed small-holders with differing priorities and needs, rather than a few large-scale land owners or managers. Small-holder land uses and management are more varied and will often produce fewer carbon benefits than other kinds of projects. Therefore, implementation costs may be higher per unit of emission reduction. The cost of monitoring carbon benefits may be higher and it may be more difficult to credibly establish baseline emissions i.e. "business-as-usual" emissions in the absence of the project.

ENHANCING LIVELIHOOD BENEFITS AND REDUCING RISKS

ALTHOUGH WELL DESIGNED CDM land-use change and forestry projects are likely to have positive effects on local livelihoods in most cases, the extent of impact inevitably will vary. Some CDM projects will meet sustainable development criteria established by sovereign governments, and not provide significant livelihood benefits.

The Kyoto Protocol provides an opportunity to use land-use change and forestry to pro-actively pursue the dual objectives of sustainable development and reduced emissions of greenhouse gases. Several measures could increase the probability of favorable outcomes for local livelihoods, help avert some of the risks, and make it simpler and more attractive for investors to identify and work with community-based projects.

Proposals for CDM guidelines to support sustainable livelihoods

- Explicitly include a broad range of forest management and agroforestry activities in the CDM

The Kyoto Protocol is not clear on what, if any, forestry and land-use

Livelihood benefits

change activities may be eligible under the CDM. A wide variety of land-use changes and forestry projects could meet the Protocol's dual objectives. Among these are projects that could directly benefit local people, such as community-based natural forest management, agroforestry and community-managed plantations. Biodiversity conservation projects that forbid extraction of forest products should not be barred from consideration, provided adequate safeguards are used to ensure local needs are appropriately addressed. Inclusion of a wide variety of forestry and land use options opens the way for investors and local partners to exercise creativity and innovation in the design of CDM projects.

- Implement social impact assessments for all CDM projects

To guard against negative impacts on livelihoods, a social impact assessment should be required for all CDM projects at the project proposal stage and when greenhouse gas benefits are verified. A social impact assessment could be based on either international guidelines or criteria specified in nationally devised sustainable development plans and could be used by all stakeholders, including local communities and potential investors, to identify projects that have positive social benefits.

- Provide incentives for projects with multiple benefits

Incentives should be incorporated into CDM guidelines to encourage investment in projects that not only reduce greenhouse gas emissions but also have other positive outcomes that support the objectives of other international processes and conventions. For example, projects that enhance biodiversity might be exempt from CDM taxes used to support adaptation to climate change or from possible restrictions on the amount of emission reduction allowed from abroad.

Livelihood benefits

■ Reduce the transactions costs of community-based projects

Specialized companies, public agencies or NGOs could provide intermediary services that lower transaction costs such as project development, marketing, and contract negotiation and design. Reducing transactions costs increases efficiency; it would be especially beneficial to community-based projects because they are likely to have higher transactions costs per unit of emission reduction.

Other intermediary bodies could encourage "project bundling." Carbon produced by many small-holders could be organized and marketed by an NGO (as in a pilot carbon project in Mexico) or by a national umbrella group (as in Costa Rica). Under such arrangements, investors without expertise in livelihood issues could contract directly with the intermediary who would take responsibility for managing a project with agreed livelihood and carbon benefits.

Carbon projects could also be coordinated with development projects to cover costs that do not directly relate to carbon sales. For example, partners could take responsibility for learning about the needs and priorities of large numbers of small-holders and formulating land management strategies with them.

■ Approve tonne-year carbon accounting

Under tonne-year carbon accounting, carbon credits earned by a forestry project depend on the duration of carbon storage or sequestration. Duration is relevant for carbon accounting in forestry projects because carbon is sequestered or stored only while the forest or its harvested products exist. In contrast, the beneficial impact on global warming of shifting to a new clean source of energy is estimated to last around 100 years. Payment for mass-time units of carbon (as in the tonne year approach) avoids the need for "locking up" land in forest land uses for prolonged periods because credits are calculated according to carbon storage duration. This flexibility is particularly valuable to small-holders as it enables them to change land use in the future if market or policy conditions change. Tonne-year accounting methods also reduce the risk of project failure as a result of management or natural disaster. While the concept may appear to be contradictory to the CDM goal of long-term climate change benefits, it would bring larger areas under

CDM projects by enabling greater participation by local communities, thus increasing overall greenhouse gas benefits as well as the proportion of benefits accruing to local communities.

■ Strengthen capacity at the local, national and international levels

Local communities need information to take advantage of the opportunities provided by the CDM. Strategic assistance might include dissemination of knowledge on forest carbon trading, project design and implementation, negotiation of compensation and conflict resolution. Investors, project developers and national governments also need information about the potential for using the CDM to benefit local communities. This includes knowledge about potential ways to increase net greenhouse gas reductions, produce social benefits and reduce risks for local communities.

Public agencies, overseas aid funds, multilateral organizations and NGOs interested in poverty alleviation could serve as CDM "information brokers." Their assistance could include, for example, local capacity building and facilitating the dissemination of information to all stakeholders. Meanwhile, national and international research institutions could provide scientific knowledge on forest dynamics and carbon storage capacity and develop low-cost monitoring methods.

Guidelines for project design

Incorporating a number of principles into the design of CDM projects can result in greater benefits for local communities, thereby increasing the chances of success. These principles are based on lessons from past forestry experience and pilot carbon projects implemented during the Activities Implemented Jointly phase of the UN Framework Convention on Climate Change.

■ Maximize project success through strong local participation

Projects with the greatest potential for minimizing risks and improving local livelihoods are likely to be those in which: a) communities are involved in decisions on project design, the production of carbon benefits and the sharing of payments for carbon services; and b) funds derived from the project are used to finance activities that enable local people to increase their well being, while at the same time

carbon sinks are expanded in ways that otherwise would not have occurred.

Effective involvement of local communities reduces risks not only for local communities but also for investors. The World Parks Congress in 1982 pointed out, for example, that forest protection is unlikely to be effective if local people do not benefit from conservation. An example of efforts to provide local benefits through forest preservation is the Noel Kempff Mercado Climate Action Project, which seeks to reduce the risk of carbon emissions outside the project by providing benefits to local communities. Many other forest protection projects today include plans for local economic development. Local benefits are likely to reduce the risk of forfeiting carbon payments because of project failure.

Increase stakeholder confidence through transparency

Clear criteria and transparent mechanisms for the distribution of benefits among multiple stakeholders have been important determinants of successful community-based forestry projects. All projects will require clear legal

contracts spelling out the financial agreements, the responsibilities and benefits of all parties, as well as effective mechanisms for contract enforcement and conflict resolution.

Capitalize on enabling policy and institutional environments

The likelihood of producing benefits for local communities can be increased by targeting CDM forestry projects to sites where enabling policy and institutional environments already exist. Clearly defined rights to forests, land, trees and other forest resources enhance the likelihood of success in land-use change and forestry projects. This does not require private ownership of forests, but rather that ownership and use rights be clear.

In Brazil, the success of extractive reserves has been

Conclusions

enhanced by formally granting forest use rights to local communities on the condition that only non-timber forest products are removed and only minimal subsistence agriculture is done. This prevents the sale of the land for other uses that extractive reserves may not be able to compete with effectively. In India, the Joint Forest Management Program of forest conservation and regeneration has been successful in part because decision-making authority for forest resources was shifted from government agencies to a partnership between community-based organizations and the state.

These kinds of initiatives create an environment conducive to forest management with local livelihood benefits. CDM projects could build on and contribute to favorable policy frameworks by providing the extra funds that would make community-based forestry a more frequent reality.

CONCLUSIONS

LAND-USE CHANGE and forestry projects with significant livelihood benefits are both possible and desirable in efforts to achieve the dual goals of the CDM, climate change mitigation and sustainable development. Therefore, concerns about livelihood impacts should not prevent forest carbon projects from being included in the CDM. Indeed, although the extent to which projects can support sustainable development and local livelihoods will vary, the potential to achieve positive impacts is considerable.

Clearly, CDM land use change and forestry projects are not a solution for poverty, given the magnitude of needs in developing countries. Nonetheless, they can be designed and managed to increase the well being of the poor. Incorporating provisions such as those proposed here would reduce the risks to local people, increase the appeal to private investors and increase the chances of success for community-based CDM forestry projects.

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