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FOREST MANAGEMENT POLICY SYNTHESIS: APPLICATIONS TO CENTRAL AMERICA

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FOREST MANAGEMENT POLICY SYNTHESIS: APPLICATIONS TO CENTRAL AMERICA

Introduction

To achieve sustainable management of forest resources a large number of policies, both forest and nonforest, will need to be changed or put in place. The analysis in this section focuses on policies related to forest management and their general and specific effects on resource use decisions, although other policies may have a greater effect. Many factors will determine whether forest management policies are crucial. These factors include the amount of public versus private forestland, the quality of each forest and the degree of deforestation, the off-site effects of deforestation, and the relative demand and supply of timber, among others.

Forest policies affect not only the value and use of timber and non-timber forest resources but also the willingness of those who control the resource to manage for long- or short-term objectives. These policies plus non-forest sector policies affect the relative value of forest activities and services compared to other land uses. The non-forest sector policies often have a greater, often unanticipated, influence on resource values and human behavior resulting in deforestation than do forest policies. Nevertheless, changing behavioral incentives to encourage long-term management rather than short-term resource mining will require changes in forest policy as well as in non-forest sector policy. While there is no ideal set of forest policies for all contexts and issues, policies and institutions will need to address market and non-market benefits of forest management as well as address the institutional elements of policy implementation which should determine the effective sequencing of policy reform.

Problem Definition

Deforestation and forest degradation can result from a number of activities such as commercial logging that mines the resource, fuelwood gathering, land conversion to agricultural and livestock uses, and infrastructure and industrial expansion into forest areas. These activities are usually highly interdependent. For example, commercial logging and road construction open up areas for agricultural expansion. Most deforestation is occurring on public land which is a de facto open access resource.

There are a large number of outcomes associated with deforestation. From the standpoint of economic growth deforestation is not *per se* bad. If the profits from forest products are invested in long-term productive activities, then from an economic standpoint development might be sustainable even if forest production is not sustainable. However, these short-term economic returns do not account for environmental losses, long-term economic productivity of the resource, and the welfare of future generations. In addition, the beneficiaries of commercial logging are usually the wealthy, and the profits are seldom used for improved resource management.

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Timber Concessions

In many developing countries the government is the de facto owner of most forestlands and resources. Commercial use, especially for timber extraction, is usually managed by a system of logging or forest management concessions or licenses. The duration of the concession is usually short or insecure which provides a disincentive to long-term management of forests. Commercial timber operations often selectively harvest high-value species and leave the area open for land conversion to agricultural and livestock uses. Reinvestment of timber profits into timber management does not occur because no benefits would accrue to the concession holder. In many countries opposition to long-duration timber concessions developed because of the cut-and-run behavior of foreign-owned timber firms. Ultimately, however, the duration of the concession may not significantly affect the behavior of firms if other policies encourage short-term economic activities instead of investment in long-term production activities or favor other sector activities such as agriculture or livestock.

Forest concessions (and in some countries management of timber on private land) are subject to conditions and restrictions and must fulfill the requirements of management plans that address those conditions and restrictions. These include allowable annual cut, prescribed and proscribed practices, and species and size cutting restrictions. In many cases these restrictions are not enforced and the technical resources needed to support management plans are not available. Concession management will remain ineffective if the public institutions responsible for implementing concessions and management plans **have** limited resources and the scale of the public forest estate is large.

The awarding of concessions is generally administrative and non-competitive. Non-price allocation of concessions based, for example, on political awards precludes the potential of a competitive process that would increase revenues to the state and promote long-term resource management.

The cumulative effect of these aspects of the concession system is to favor a few well-connected interests who have timber cutting permits with little or no management oversight. Without management and technical infrastructure and given the existence of economic incentives that favor short-term activities, concession systems do little to control resource depletion and conversion to other uses. For the concession management system to operate effectively, concessions must be awarded in open competition, be secure in some sense if managed well, and safeguards must be in place to assure good management. In addition, decentralization of resource management from the central government to local resource users and an increase in the participation of local residents in the management process will be needed.

Forest Charges

There is a wide array of potential charges on public timber. In theory, the concept of economic rent (profit arising from natural limitations in supply) suggests that forest charges could be much higher than they generally are. Raising charges to capture more of the economic rent for the public treasury, and perhaps using those funds to improve forest management, also may improve long-term resource management by reducing or eliminating windfall profits. In addition, low forest charges have resulted in harvesting of marginal timber areas, have depressed prices for private timber, and have encouraged high-grading, among other effects. The exact effects on harvesting depend upon the type of charge. Issues to consider in reforming charges on timber include the amount of revenue produced, the ease of administration, the efficiency in the use of forest products, and who wins and loses from the

changes. For example, assessing charges on timber removed rather than timber in the stand encourages highgrading. In addition, flat charges and ad valorem taxes, if differentiated by species, would reduce highgrading. However, such a system is more difficult to administer.

Typically, forest charges do not capture much revenue for the government. The result is an incentive system that promotes competition for economic rent and results in windfall profits for concession holders. Where the award of timber concessions is not transparent and not competitive, bribery may result. Again weak institutions limit the ability to establish forest charge systems that promote long-term resource management.

Forest Industry and Export Policies

A common feature of forest policy is a set of export controls and taxes designed to encourage and protect domestic processing of timber. These may include log export bans, export taxes, differentiated rates for processed timber products, tax relief or subsidies, and direct public involvement in the timber industry through parastatals. Protective policy structure undervalues the timber resource, encourages inefficient processing industries, and encourages overly rapid resource use as governments allow timber cutting to support the domestic industry.

Arguments for freer trade contend that eliminating protective policies will raise resource values, encourage efficient processing as domestic industries respond to international competition, and lessen the need to support no longer inefficient industries. However, the history of boom-and-bust in logging suggests that higher prices will result in unsustainable forest management unless: the government has the capacity to manage the rate and location of harvesting and other policies exist, as noted above, to support a long-term sustainable resource management regime.

Overall economic development may be sustainable if the profits from timber activities are successfully invested in other sectors. But sustainable forest management would require both timber cutting and environmental controls beyond the capacity of most developing country forest management institutions. Therefore, short term environmental losses would result in long term economic and welfare losses. Freer international trade and presumably higher prices for timber will result in increased windfall profits unless firms have secure rights to manage forestland and the government is able to capture sufficient economic rent.

Private Forest Management

Regulations in many countries also undermine sustainable forest management on private lands especially when conditions and restrictions applied to cutting on public land are also applied to private land. Cutting permits are required; often a long, cumbersome, and corruptive process. The cumulative effect is to create an atmosphere of uncertainty surrounding the tenure and use rights to forestland. While many owners ignore and evade the requirements, they will also not invest in long-term management of a resource over which their control is uncertain.

While clearer rights and responsibilities may be necessary conditions for improved resource management, they are not sufficient conditions to guarantee that outcome. Many policies and circumstances affect the incentives of timber firms including macroeconomic or sectoral policies and conditions that favor short term investments. These issues should be considered when discussing

privatization of forestlands as an option because firms can adopt non-sustainable practices, even with secure tenure. For example, in the early 1980s the Georgia Pacific Company was accused of rapid cutting of old growth forests in order to help pay for their office building in Atlanta. Therefore, enforceable regulatory safeguards are needed to guarantee that other values and interests are addressed if the public forest areas are privatized.

Reforestation and Plantation Management Incentives

Reforestation is defined as restoration of degraded stands, enrichment planting, or the establishment of plantations. There are two broad policy approaches to reforestation: fiscal incentives and government or donor sponsored projects.

Fiscal incentives for reforestation may be tax breaks, subsidies for inputs, reimbursable deposit fees, and others and they may be applied to either public land concessions or licenses or private land management. The effectiveness of these incentives often depends on the effectiveness of the tax system, the size of the exemption or subsidy, and the target beneficiaries. If a tax is paid only by larger, easier to monitor corporations, then only they will use the incentive. If the relative importance or size of the benefit is small and/or the program poorly implemented, then actual on-the-ground reforestation will not occur. While some reforestation incentives target smaller resource users, many favor larger, wealthier elements of society. In some cases, timber plantations are based on such subsidy systems. In other cases, the subsidies accrue to the wealthy, but reforestation does not occur because of ineffective management.

The second approach to reforestation entails a wide array of government and donor-sponsored projects. The government-managed projects have been disappointing. More success has been achieved where reforestation has been a part of a process to empower local communities and support their management of reforested areas. In addition some new programs subsidize the management of natural forests.

Non-timber Forest Products

The set of policies related to non-timber forest products is less developed than forest management policies; some governments treat non-timber products the same as timber. Management plans and/or laws and regulations may be required to address the sustainable management of specific resources (e.g., resin or chicle). Frequently these aspects of forests are ignored. Given the high correlation between the preservation of biodiversity and indigenous people's rights, this aspect of sustainable forest management policy may become a more important policy dialogue focus in the future.

Policies in Central America

This section summarizes forest management policies in six Central American countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. Subsequent elements of this volume provide the detailed information from which this summary is taken.

Belize

Timber concessions in Belize are generally one year in length and are usually a cutting permit for a specific volume of timber. Renewal is possible but uncertain and the concessions are often awarded as political favors. Cutting of protected species is technically prohibited while other requirements support high-grading. The institutional capacity to monitor concessions is weak.

The forest revenue system consists of royalties differentiated by species and quality, but the royalties are low relative to the actual value of the timber. In addition, a royalty is also applied to timber from land parcels greater than 100 acres, which promotes less private land management and greater use of public lands. As with concessions, the ability to administer the tax is weak.

Belize also prohibits export of raw and semiprocessed logs. This has resulted in a generally inefficient forest processing sector. In addition, short-duration licenses for sawmillers prevents investment in better equipment.

In aggregate, the forest management laws and administration of Belize result in unsustainable resource management. Few incentives exist to invest in long-term management because tenure is insecure, windfall profits are high, and management safeguards are generally unenforceable.

Costa Rica

Because Costa Rica has very little public forestland outside of protected areas, the concession system is not important. No concessions are being awarded and previous awards were cutting licenses. However, conditions, restrictions, and requirements for management plans apply equally to public and private timber land. Management plans are usually cutting plans with little actual oversight ability by local and national authorities. Over-cutting is common, charges on timber extraction from both public and private lands are low, and the fee structure and management requirements limit long-term management of private land.

The domestic wood industry in Costa Rica is protected by tariffs, bans, and procedures that regulate timber trade. Log exports are prohibited and high tariffs on processed wood products inhibit competition, resulting in inefficient domestic processing.

Reforestation policies include exemptions from the property tax, the income tax on wood harvested from plantations, and import duties on reforestation equipment. Many of these benefits have accrued to wealthier elements of the country. Some areas reforested were less suitable than others according to Costa Rica's land use plan.

The cumulative effect of this policy structure is unsustainable forest resource management. Owners of private timber lands have less incentive for long-term management because the value of the resource is

depleted because of export restrictions and import tariff for wood products. Domestic wood processing is inefficient. Reforestation is primarily manifested as subsidies to the wealthy while broader based policies targeted to smaller participants have yet to be substantively implemented.

Cross-policy Analysis: Deforestation

Many policies contribute to deforestation and are often more important policy sources for behavior resulting in deforestation than forest management policies. While forest management policies affect a resource user's willingness to invest or not invest in long-term management (or to account for environmental goods provided by forests), other policies affect the investment options available and their relative value.

Macroeconomic policies determine the economic climate in which investment decisions are made. High inflation or high real interest rates reduce incentives for long-term investment. Sectors where economic returns are quicker, such as agriculture and livestock production, will be favored over the much longerterm investment horizon for forest management. Stagnant economies increase rural poverty and increase pressure on open access resources. Trade and exchange rate policies may be biased against resource sectors such as agriculture and further increase rural poverty. On the other hand, policy changes that favor agriculture will result in resource depletion in the absence of other policy reforms. For example, increasing prices for agricultural products by exchange rate reform will spur increased production of **export** crops on open access land if tenure reforms are not also implemented. In addition, situations where there is a large **fiscal** deficit reduces the ability of the government to manage resources.

Sector-specific policies for agriculture and livestock make these sectors more attractive. Why manage land as forests when subsidies exist for other activities? In combination with some macroeconomic policies, agriculture and livestock policies are generally the primary policies that lead to deforestation. These policies include credit subsidies, better collateral requirements, credit for "land clearing," and subsidies for agricultural equipment and livestock operations. In addition, government services and development projects generally favor agriculture and livestock activities.

Land tenure contributes to deforestation activities in a number of ways. Forests, whether de jure in public or private ownership, are often de facto open access resources and easily invaded. Formal government colonization and settlement policies may make land clearing a requirement for proof of use. If the land is still forested, then it is considered idle and potentially subject to expropriation or idle-land taxes. The statute is often enough of an incentive to induce land clearing. However, the potentially greatest land tenure dynamic leading to deforestation is the skewed distribution of land. Large landowners own and frequently underutilize land suitable for more intensive uses. The skewed land distribution and the absence of land markets, forces poorer people onto marginal lands on hillsides or forests. Land use planning generally does not exist.

Energy policy also affects the use of forests. Fuelwood gathering by both urban and rural people and industries contribute to deforestation. Rural fuelwood collection is often not officially controlled; when controls exist, they are often unenforced. Similarly, laws designed to limit fuelwood use in urban areas have not been successful. The relatively high cost of alternative fuels favors the use of fuelwood from open access forests in many urban- oriented industries.

El Salvador

There is very little productive forest left in El Salvador. The concessions are for one year, awards are made administratively, and management plans are simply cutting plans. Extraction of timber from private land requires compliance with sustainable management practices, but enforcement and monitoring are ineffective. Nominal fees are required for harvesting from mangroves. Regulations and fines are established to encourage reforestation but they are ineffective. Land tax exemptions exist for reforestation, but the land tax is seldom paid and therefore does not provide the desired incentive.

Many of these issues are addressed in the draft Forest Law, but effective management will still remain a troubling issue.

Guatemala

Guatemala has significant forest resources but is experiencing a rapid rate of deforestation The system of laws and regulations governing the role of the state in the management of forests and protected areas has been changed recently and the outcome of those changes is uncertain in terms of solving the problem. The approach maintains a significant role for the central government.

Concessions have not yet been awarded under the new laws. The concessions are to be longer, either 10 or 25 years depending upon which institution manages the areas. The award process is to be competitive and charges for the concessions are to be based on the competitive bidding process. The conditions and restrictions are imbedded in sustainable use management plans. Both the management plans and the charge basis require institutional capacity not yet in place.

Timber cutting on private land requires cutting permits and payment of a license fee. Both requirements are generally ignored, but provide disincentives for long-term management and result in corruption.

Export of raw logs is generally prohibited, which depresses the value of the timber resource. Evasion of the law is frequent for some high-value species. The log ban and import restrictions on some imported processed wood products have resulted in inefficient domestic wood processing industries.

Reforestation policies include mandates, but these are usually ignored. Reforestation deposits are also collected but are generally forfeited because they are too small relative to reforestation costs. Fiscal incentives for reforestation include income tax credits and land tax credits. Because these taxes are usually only collected from large corporations, if at all, reforestation tends to occur only when wealthier interests are served.

Honduras

Honduras has also recently passed comprehensive legislation on forest management. Concessions are awarded generally for cutting and not for long-term management. Most concessions have been awarded administratively, but awards are supposed to be made competitively. Management plans are required but are more frequently simple cutting plans. Charges on timber harvested are

much lower than the value of the timber. Private forestland management is also subject to management plan requirements. These also appear to be mostly cutting plans.

Export of raw and semiprocessed logs is prohibited. This reduces the value of timber resources and also encourages an inefficient domestic wood-processing industry.

In 1993 a new reforestation incentives law was passed. It provides technical support, protection from expropriation, and fiscal incentives in the form of tax and tariff exemptions. Whether this comprehensive system achieves its objectives depends on implementation. Reportedly implementation has been held up because of the budget impacts on the implementing agency.

Nicaragua

An interim forest decree adopted in 1993 controls the use of forests. Rather than concessions, the language of the decree refers to contracts and extraction permits. The parastatal charged with the administration of the decree can also participate in joint ventures. No contracts have yet been awarded. Management plans and transport licenses are required but no institutional capacity exists to monitor performance. Payment for the value of the timber is required but the system is not yet in place. Except for a small government tax, no fees are required for harvesting from private land, although a cutting permit is required. Inspection is mandated but not at the present implementable. The decree does not address reforestation. A small donor-supported fund has been established to partially reimburse reforestation costs. Export of logs is prohibited.

Conclusion

Deforestation in Central America is a significant problem and the forest management policy structure is a contributing factor. Those factors, which vary from country to country, include:

- Centralized government ownership or regulations without the ability to effectively manage and implement those responsibilities and without allowing participation by other key players
- Management is designed for timber concessions that favors special interests and do not support sustainable forest management practices
- Regulation of timber management on private land, which creates uncertainty and reduces incentives for long-term resource management
- Limited capture of economic rent from public lands by governments which results in windfall profits for concession winners
- Trade policies that prohibit or limit log exports and processed wood imports which results in inefficient domestic wood-processing and reduced value for timber resources
- Reforestation incentives that favor mostly wealthier elements of society

- Government reforestation and forest management projects that do not adequately involve local communities

- A system that supports widespread corruption and bribery to supplement low-paying government salaries and results in evasion of regulations and management plans

Reform of the forest management policy structure will need to include many elements such as: tenure security, collection of economic rent, freer trade, better management, less restrictive policies for private forest management, and community-based reforestation and forest management efforts, among others. Some guiding principles for policy development in this context include:

- Policies that are easy for governments to administer

- Improved local and community participation in resource management

- More transparency in decision processes

- Better accountability by all participants

- Greater efficiency in resource use

- Incorporation of environmental values in the decision-making process

- Greater consideration of equity within and across generations

- More integration with other policies affecting forest management