

**DESFIL**



**Development Strategies  
for Fragile Lands  
USAID/G/EG/EID**

# **THE GREEN BOOK**

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**VOLUME 3  
APPLICATIONS**

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**1994**

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Senior Natural Resource Economist, Abt Associates Inc.

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**RENARM**



**Regional Environmental and Natural  
Resources Management Project  
USAID/G-CAP**

# THE GREEN BOOK

1994

## VOLUME 3: APPLICATIONS

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# Preface

The Green Book has evolved from a series of activities supported by the Policy Initiatives component of USAID/G-CAP's Regional Environmental and Natural Resources Management (RENARM) Project. Through buy-ins with the Agricultural Policy Analysis Project, Phase II (APAP II), natural resource policy inventories were performed by Abt Associates Inc. in Guatemala, Belize, Honduras, El Salvador, and Costa Rica from 1989 through 1990. The Green Book was subsequently developed to combine lessons from the five countries and to present information in such a way that it could be used by Missions and local decision makers to improve their understanding of the natural resource and environmental consequences of a broad array of policies.

The 1992 version of The Green Book was initially produced for RENARM as a loose-leaf notebook entitled *The Green Book: An Environmental Sourcebook*. That work was supported by RENARM buy-ins to Abt Associates Inc. through APAP II with additional support from the Development Strategies for Fragile Lands (DESFIL II) Project. This initial version was subsequently published as *The Green Book, Part 1: A Policy Taxonomy and Analysis of Policies Affecting Natural Resources and the Environment*, October 1992, APAP II: Methods and Guidelines No. 406 and *The Green Book, Part 2: Manual For Conducting A Natural Resource Policy Inventory*, September 1993, APAP II: Methods and Guidelines, No.406, Volume 2.

The Green Book 1994 builds and expands upon the 1992 edition. It is supported by a buy-in from RENARM to Abt Associates Inc. through DESFIL II. The objectives of the Green Book throughout its development have been to: (1) promote participation in natural resource policy formulation; (2) increase the quality and use of information and analysis; and (3) build institutional capacity for policy formulation and dialogue.

The Green Book has received strong support from two individuals whose ideas and energy have contributed significantly to its structure and evolution. Bill Sugrue, recently ADO for USAID/G-CAP and the RENARM Project Officer, has been an enthusiastic supporter of the vision. Ronald Curtis, former ADO for ROCAP, contributed significantly to the Green Book, especially to the articulation and development of the sections that analyze the trade-offs between growth, welfare, and conservation.

Three people made production of this version of the Green Book possible. Jack Hopper edited and provided the graphics. Scott Lacy processed the words and the chaos. Marsha Strother managed the tables and the printing process.

# Users' Guide to the Green Book

## **THE GREEN BOOK**

### **VOLUME 1: POLICY SOURCE BOOK**

- POLICY SYNTHESIS
- PROBLEM-POLICY MATRIX
- POLICY ANALYSES

## **THE GREEN BOOK**

### **VOLUME 2: METHODOLOGIES**

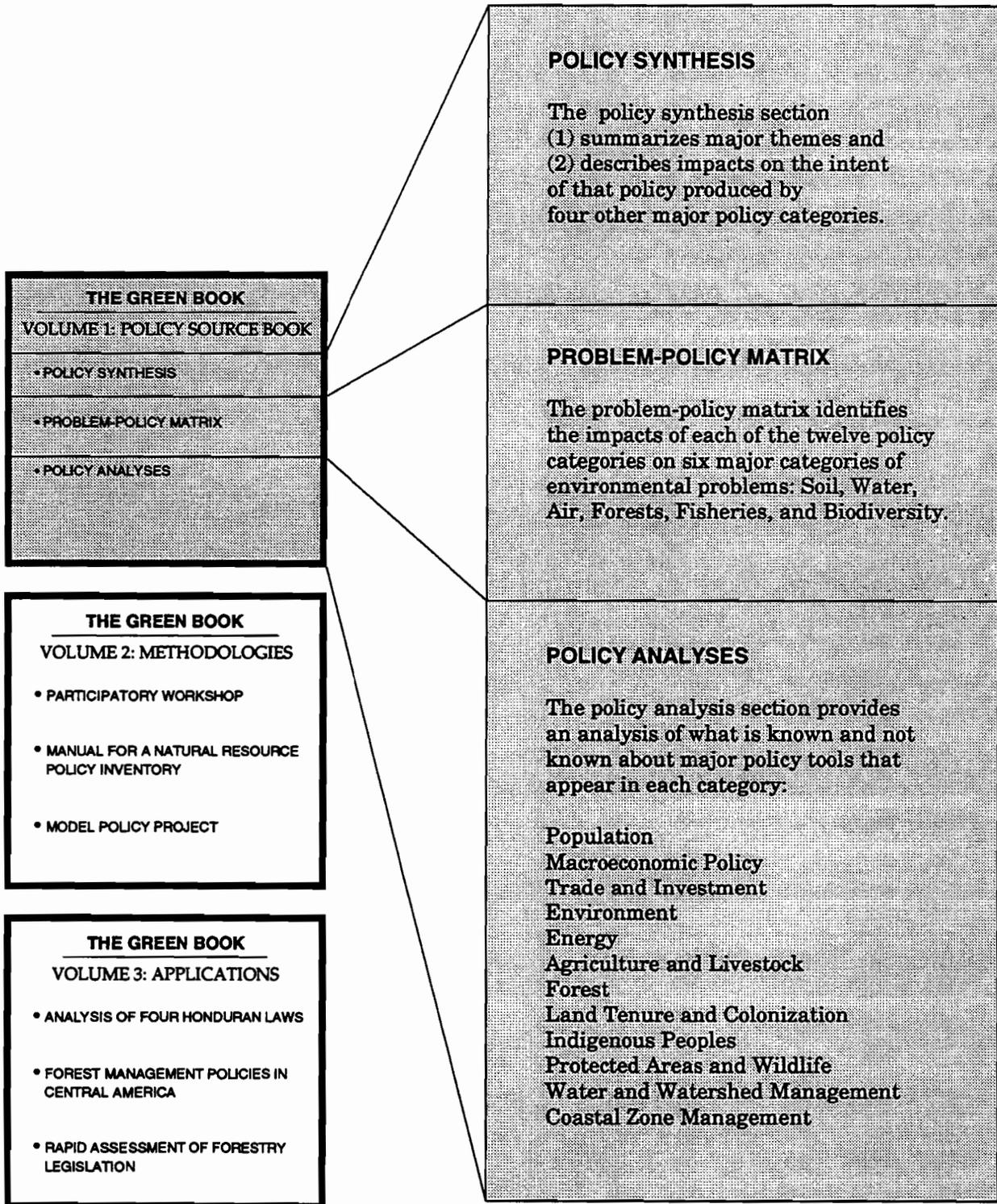
- PARTICIPATORY WORKSHOP
- MANUAL FOR A NATURAL RESOURCE POLICY INVENTORY
- MODEL POLICY PROJECT

## **THE GREEN BOOK**

### **VOLUME 3: APPLICATIONS**

- ANALYSIS OF FOUR HONDURAN LAWS
- FOREST MANAGEMENT POLICIES IN CENTRAL AMERICA
- RAPID ASSESSMENT OF FORESTRY LEGISLATION

# Green Book Volume 1: Policy Source Book



# Green Book Volume 2: Methodologies

<p><b>THE GREEN BOOK</b></p> <p>VOLUME 1: POLICY SOURCE BOOK</p> <ul style="list-style-type: none"><li>• POLICY SYNTHESIS</li><li>• PROBLEM-POLICY MATRIX</li><li>• POLICY ANALYSES</li></ul>
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<p><b>THE GREEN BOOK</b></p> <p>VOLUME 2: METHODOLOGIES</p> <ul style="list-style-type: none"><li>• PARTICIPATORY WORKSHOP</li><li>• MANUAL FOR A NATURAL RESOURCE POLICY INVENTORY</li><li>• MODEL POLICY PROJECT</li></ul>
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<p><b>PARTICIPATORY WORKSHOP</b></p> <p>Opening Session Problem Identification Part One Problem Identification Part Two Policy Identification Part One Guided Tour of the Source Book Policy Identification Part Two Policy Assessment Sharing Analyses Conclusion</p>
<p><b>MANUAL FOR A NATURAL RESOURCE POLICY INVENTORY</b></p> <p>Problem Identification Policy Identification Institution and Stakeholder Identification Policy Assessment Identification of Policy Alternatives and Research Implementation of a Natural Resource Policy Inventory Annexes Team-Building Exercise Taxonomy Guiding Questions</p>
<p><b>MODEL POLICY PROJECT</b></p> <p>Key Project Activities Country Adaption of the Green Book Participation Dual Local and National Activities Training Indicators Project Components Policy Inventory and Agenda Policy Information and Analysis System Policy Implementation and Education</p>

# Green Book Volume 3: Applications

**THE GREEN BOOK**  
VOLUME 1: POLICY SOURCE BOOK

- POLICY SYNTHESIS
- PROBLEM-POLICY MATRIX
- POLICY ANALYSES

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VOLUME 2: METHODOLOGIES

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- RAPID ASSESSMENT OF FORESTRY LEGISLATION

**ANALYSIS OF FOUR HONDURAN LAWS**

Agricultural Modernization Law  
Forestry Incentives Law  
Environmental Law  
Municipalities Law

**FOREST MANAGEMENT POLICIES IN CENTRAL AMERICA**

Belize  
Costa Rica  
El Salvador  
Guatemala  
Honduras  
Nicaragua

**RAPID ASSESSMENT OF FORESTRY LEGISLATION**

Guatemala Emergency Forestry Regulations  
Nicaragua Emergency Forestry Regulations  
El Salvador Proposed Forestry Law

# Introduction

The Green Book, Volume 3: Applications, provides three examples of ways the Policy Source Book has been used to generate a rapid analysis in response to specific user needs.

The first example applies the methodology to four new Honduran laws: the Agricultural Modernization, Forestry Incentives, Environmental, and Municipalities laws. The policy tools created by these laws were sorted into the policy taxonomy categories provided in the Policy Source Book and then compared in order to: (1) identify gaps, overlaps, and conflicts; (2) explore the extent to which the laws in combination promote the general objectives of each law separately; and (3) identify opportunities and limitations created by the new policy environment and the groups that may be advantaged or disadvantaged by the new opportunities and limitations. This study grew out of a decision maker workshop in Honduras held by PACA in 1994.

The second example uses forest section of the Policy Source Book to create a rapid inventory of forestry policies for Belize, Guatemala, Honduras, El Salvador, Nicaragua, and Costa Rica. The inventory was provided in response to requests for an updated policy baseline for revising forest policy in several Central American countries and tracing the impact of policy change.

The third example uses the methodology to create a rapid analysis of three draft forestry laws to provide the initial analytical basis for expanding the participatory base for further discussion and revision of subsequent drafts.

In all cases, the analysis could have been focused in a variety of ways. The methodology is flexible. These examples are provided to illustrate some possible applications and to encourage users to adapt the methodology to their specific needs.

We are grateful for the generous contributions of many people to this volume, especially to Henry Tschinkel, Abraham Guillen, and Tom Wittenberg for their contributions to the analysis of forest management policy in Central America and to the rapid assessment of draft forestry legislation, and to Ray Victurine and Silvia Marín for their contributions to the Honduras case study.

# Policy Taxonomy

## POPULATION

### **Policies to Slow Population Growth**

- Population Growth Issues
- Beliefs and Assumptions
- Fertility Regulation
- The Demographic Transition Model

### **Redistributing Population**

- Internal Redistribution
- External Redistribution

### **Gender Discrimination**

- Reducing Gender Bias in Policies and Programs

## MACROECONOMICS

### **Natural Capital and the Economy**

- Nature as Capital
- Natural Resource and Environmental Accounting

### **Economic Evaluation of Environmental Resources**

### **Monetary and Credit Policies**

- Monetary Policies
- Credit Policies

### **Exchange Rate Policies**

- Overvalued Exchange Rate
- Floating Exchange Rates

### **Fiscal Management**

- Fiscal Deficits
- Taxes and Revenue Sources
- Debt Financing
- Debt-for-Nature Swaps

## **Structural Adjustment Lending**

### **TRADE AND INVESTMENT**

#### **Export Promotion**

- Tariff Policies
- Trade-Generated Economic Growth
- Export Promotion Policies
- Trade Liberalization

#### **Privatization**

- Privatization of State-Owned Enterprises (SOEs)
- Re-regulation
- Privatization of Natural Resources

#### **Foreign Direct Investment**

- Special Incentives
- Foreign Exploitation of Natural Resources
- Technology Transfer and Human Capital Development
- Pollution Havens

### **ENVIRONMENT**

#### **Protection of Environmental Quality**

##### **Water Quality**

- Direct Regulation
- Effluent Charges
- Subsidies and Tax Exemptions

##### **Air Quality**

- Direct Regulation
- Emission Charges and Environmental Taxes/Tax Differentials
- Other Economic Instruments

##### **Land Disposal**

- Direct Regulation
- Economic Instruments

# **ENERGY**

## **Fossil Fuels**

Policies Affecting the Demand for Fossil Fuels

Policies Promoting End Use Efficiency

Policies Affecting the Supply of Fossil Fuels

## **Hydroelectric Energy**

Policies Affecting the Demand for Hydroelectric Energy

Policies Promoting End Use Efficiency

Policies Affecting the Supply of Hydroelectric Power

## **Alternative Fuels**

Policies Affecting the Demand for Alternative Fuel Sources

Policies Affecting the Supply of Alternative Energy Sources

# **AGRICULTURE AND LIVESTOCK**

## **Product Price Controls**

Price Ceilings

Price Floors and Support Prices

Price Bands

## **Input Subsidies and Prices**

Credit Subsidies

Pesticide Subsidies

Fertilizer Subsidies

Subsidies for Agricultural Machinery

## **Direct Government Activities**

Input Marketing

Product Marketing

## **Regulation of Pesticides**

Direct Regulation

Indirect Regulation

Cross-Border Effects

## **Livestock Policies**

- Credit Policies
- Fiscal Incentives
- Tenure Policies
- Provision of Public Services

## **FOREST**

### **Concessions and Licenses for the Use of Public Timber**

- Duration of Timber Concessions
- Conditions and Restrictions on Timber Concessions
- Award Process for Timber Concessions
- Concession Size

### **Forest Revenue Systems**

- Charges On Concessions
- Charges Based on Standing Timber Volumes
- Charges on Timber Harvested
- Charges on Forest Products Production
- Charges on Minor Forest Products
- Charges on Foreign Trade
- Charges For Services
- Charges On Productive Factors
- Charges On Companies
- Government Participation in Concessions, Harvesting, and Processing

### **Forest Industry and Export Policies**

- Domestic Industry/Resource Protection Policies
- Direct Government Involvement in Forest-Related Industries
- Price Controls
- Forest Industry Structure
- Certification and Eco-labeling

## **Private and Community Forest Management**

Private Forest Management and Tree Tenure

Farm and Community Forest Management

Nontimber Forest Products

## **Fuelwood and Other Biomass**

Policies Affecting the Demand for Fuelwood

Policies Affecting the Supply of Fuelwood

## **Reforestation Policies**

Fiscal Incentives and Policies

Public Reforestation Projects

# **LAND TENURE AND COLONIZATION**

## **Land Tenure and Markets**

Property Rights

Ownership Distribution

Land Markets

Land Banks

## **Colonization and Reform**

Direct Government Policies

Indirect Government Policies

Spontaneous Settlements and Invasions

## **Land Use Capability and Planning**

# **INDIGENOUS PEOPLES**

## **Indigenous Land Rights**

Values, Assumptions, and Policy Guidelines

## **Resource Management**

Exclusion from Parks and Protected Areas

National Parks and Indian Parks

Conditional Occupancy and Use

Priority Use

Lease-Back Provisions

Compensation for Conservation

Biosphere Reserves

Management and Research

Forest Parks and Refuges Catering to Tourism

Recreational Development

Protection of Boundaries

Economic Development Projects

### **International Legal Instruments**

UN Charter

Prevention and Punishment of the Crime of Genocide

Implementation

Organization of American States Charter

Implementation

Other Sources of Policy

### **Changing Values and Moral Persuasion**

UN Working Group on Indigenous Populations

International Conference of NGOs, Indigenous Peoples, and the Land

Inter-American Indian Congress

## **PROTECTED AREAS AND WILDLIFE**

### **Types and Legal Basis of Protected and Reserved Areas**

Types of Protected Areas

Problem Resolution for Protected Areas

Land Use Policy and Issues

### **Resource Management and the Local Community**

Community Participation

Direct Cash Incentives and Disincentives

In-Kind Incentives and Disincentives

Fiscal Incentives and Disincentives

## **Financing**

- International NGOs
- Foundations, Trust Funds, and Endowment Funds
- Public Law 480 Funds
- Foreign Aid
- Joint Government-NGO Financing
- Debt-For-Nature Swaps
- Bilateral Debt-For-Nature Swaps

## **International Conventions and Support**

### **Nature Tourism**

### **Wildlife Protection and Trade**

- International Conventions
- Export Controls and Cross-Border Issues
- Hunting Laws

## **WATER AND WATERSHED MANAGEMENT**

### **Water Control, Use, and Pricing**

- Policies Affecting Water Use
- Policies Affecting Water Quality

### **Watershed Management**

- Policies Applied at the Watershed Level
- Institutional Policies

### **Irrigation Provision and Pricing Policies**

## **COASTAL ZONE MANAGEMENT**

### **Policies Affecting the Quality of Coastal Resources**

- Subsidies
- Investment Incentives
- Fiscal Instruments
- Regulations
- Voluntary Approaches
- Integrated Coastal Zone Management Plans

**Policies Affecting the Use of Coastal Resources**

Ownership

Regulations

Management

**Policies Affecting the Management of Fisheries**

Subsidies

Regulations

Taxes

Use Rights

Public Participation

# Honduras Case Study

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# Honduras Case Study

The Honduras case study shows how the Green Book taxonomy can be used to develop a systematic analysis of four new Honduran laws: the Agricultural Modernization Law, the Forestry Incentives Law, the Environmental Law, and the Municipalities Law. The underlying objective of the legislation is the sustainable use and protection of the country's natural resources within the context of economic liberalization and a diminished role of the state in the economy.

The Green Book methodology makes it possible to identify and compare all of the various incentives established in these different sources of legislation to (1) identify gaps, overlaps, and conflicts; (2) explore the extent to which the laws in combination promote the general objectives of each law separately; and (3) identify the new opportunities and limitations created and the groups that may be able to take advantage of the new opportunities or that may be handicapped by new limitations.

This type of analysis provides the basis for designing follow-on activities that may include, among others, policy reform to fill gaps and resolve conflicts; identification of stakeholders for a participatory dialogue process; design and execution of implementation strategies; provision of technical assistance to help people take advantage of their new opportunities or to overcome new limitations. This analysis is designed to be exploratory, to identify areas that need a closer look. The second step would be to expand the analysis to include other sources of policy, or refocus it in greater detail on the concerns of a specific group (e.g., women, indigenous peoples, small farmers). The methodology is flexible and can be expanded to include as many policy sources as is useful, and focused as precisely as is required.

## GREEN BOOK ANALYSIS

Legislation and the systems created to support it can have important impacts on people's lives and on the natural resource base. A structured systematic analysis can provide insight into how those impacts might be felt and suggest actions that individuals and organizations can take to promote their interests in the new policy context.

For example, each law establishes a framework to direct future activities. Often, however, that framework provides the general objectives, but does not supply the specific policy tools or incentives that will change behavior so that those objectives can be achieved. The detailed implementation is determined administratively. It is during the definition of how that law will be administered and in the creation of the administrative structures that various stakeholders can participate in the political process to ensure that their interests receive attention.

To illustrate, the Agricultural Modernization Law states that the government will promote improved energy efficiency and the establishment of generating plants to relieve pressure on forests. The law, however, does not provide guidelines for how energy efficiency can best be improved, what kind of incentives can be provided to promote more efficient technologies, what kind of technologies should be promoted, and what other objectives might be addressed in addition to deforestation (e.g., air quality, energy self-sufficiency, balance of payments). Additionally, there is no mention on how the promotion of energy efficiency will be funded. In essence, the law creates opportunities and the translation of those opportunities into action will generate benefits and costs to specific interest groups and the environment. It is during the implementation phase that interest groups can best participate; analysis identifies where and how they can best direct their energies.

The Agricultural Modernization Law also establishes that farmers must maintain the fertility of their soils. There is no mention of how this objective will be implemented. Policymakers will have to create policy tools (taxes, subsidies, land use capability systems tied to availability of credit and/or taxation, active land markets, technical assistance, etc.) that encourage soil conservation. Again, it is during this phase in the process that stakeholders have the best opportunity to participate in developing a package of policy tools that reflects their concerns and interests. In this way the

analysis is transformed into a dynamic ongoing process where various groups are involved in policy formulation.

For example, the provision of incentives for reforestation of areas greater than five hectares ignores small farmers who work land of less than five hectares that would be classified as suitable for forests. With this in mind, small farmers may be able to join forces and help develop a management option that allows them to enter into cooperative management schemes that combine several small parcels. This in turn will require that farmers obtain information and technical assistance to form cooperatives, develop management plans, and perhaps establish legal recognition. Each of these steps is the basis of a policy related activity for NGOs, local community groups, and donors. Analysis supports participatory policy formulation and strategic planning by identifying:

- Sources of policy and the specific incentives for changing behavior which may or may not be established in them.
- Existence of, which gaps or conflicts among policy sources.
- Uncertainties or issues that require greater definition and clarification.
- Areas where the implementation process itself will implicitly establish the policy tools used to achieve the general objective.
- Opportunities and limitations created by the policy tools specified and not specified.
- Stakeholders that may be able to take advantage of opportunities or may be handicapped by limitations.

The Green Book can be used in many ways. This case study illustrates two of them. The first is a policy centered approach that uses the taxonomy as a framework to organize the policy tools established in the four laws so that their cumulative impact can be identified. The second is a problem centered approach that identifies likely impacts that the four laws will have on biodiversity and soil erosion.

## POLICY-CENTERED ANALYSIS

The policy-centered approach appears in Tables 1 through 5. Each law is dissected separately in Tables 1 through 4, and then they are compared in Table 5. The first column (Green Book Policy Taxonomy) in Tables 1 through 4 establishes the policy taxonomy and is taken directly from the Green Book. This list of policies from the Green Book Taxonomy is provisional and can be modified to suit goals of the analysis.

The second column (Policy Tools) includes a description of the policy tool if it is established in the law. A blank cell indicates that a policy tool was not addressed in the law; and that the analysis should be expanded to include other sources of policy because significant interactions may not have been included. For example, sources of macroeconomic policy or family law may create additional incentives for the small farmer that will enrich, complicate, or even contradict, the brief analysis presented here.

The third column (Opportunities/Limitations) lists opportunities and limitations and other potential impacts; the fourth column (Stakeholders) lists the stakeholder groups that may be affected by the new legislation.

In Table 5, column one lists the policy taxonomy categories from the Green Book; columns 2 through 5 describe how they appear in each law.

### Agricultural Modernization Law

Table 1 presents the analysis of the Agricultural Modernization Law. The primary objectives of this law are to:

- Increase the rate of employment generation in agriculture as well as increase incomes and production.
- Improve the situation of the small farmer.
- Accelerate the expansion of agricultural exports.
- Create stability in the agricultural sector that promotes investment and increased production.
- Ensure the conservation and rational use of soil, water, forests, and flora and fauna toward a more sustainable development.

From a review of the table, trade and investment policies and forest industry policies should result in long-term rural employment gains, but that increased efficiency in the forest products sector will probably result in the closure of inefficient plants and short-term employment loss. Public sector employment will fall due to proposed budget cuts and many of the positions eliminated could be in urban area rather than rural areas. The new investment climate should stimulate job creation in agriculture and forestry as a result of improved management techniques, increasing demand for food and wood products, and expansion of ancillary industries and services.

The analysis indicates that the effect on the small farmer is mixed. The management of credit will remain with BANDESA, which has been inefficiently managed in the past, however the decentralization of credit should help resolve some of the inefficiencies. The law generally makes credit more easily available, establishes a mechanism for creation of credit unions in local areas, and specifically makes credit available to farmers who own less than 10 hectares and have title to their land.

The law does not address the terms of credit or mention credit subsidies. This may be significant because under the new law, land under agrarian reform must be purchased using the land as collateral. Thus, farmers on the smallest parcels may be unable to obtain credit. This exclusion could result because many farmers may not be able to qualify for loans based on their income levels, or because the value of the land in terms of collateral may be too low to meet credit terms. How terms of credit are established and how credit unions are managed will determine the impact on the target group.

The new land tenure legislation makes it easier to gain title to land but also places restrictions on the type of land that can be titled. Land classified as suitable for forest under a land capability classification system (which must be developed and applied) will not be eligible for title or for credit for agricultural purposes. This will be beneficial for the environment, as land that is more subject to erosion will be kept under vegetative cover, but could limit the possibilities of poorer small farmers on marginal lands who use these lands for agricultural production. The law does not specify what will happen to titled and untitled small farmers who have traditionally managed marginal lands or how the restrictions against agricultural production on steep slopes may or may not be enforced.

Land tenure rules also make it easier for large landowners to expand their holdings beyond the previous limits of 200 has. This may place small farmers at a disadvantage in the face of pressures from wealthier and more powerful producers and investors who may be able to benefit from forestry incentives to develop marginal lands for forestry. Forestry incentives will make such land more attractive to investors. If small farmers have difficulty making mortgage payments they may be forced to rent their land, or if they default on their mortgage payments, banks or investors may gradually accumulate land. This aspect is not clear in the legislation and will most likely be defined in practice.

The financial burden for small landholders is increased by the requirement that private landowners assume the cost of developing management plans for using the forest on their land. Few small farmers can make this investment to legally undertake forest activities. Because the law makes rental of land less restrictive, many small farmers who own forestland may rent to larger landowners or investors. An alternative would be for small farmers to form cooperatives or other organizations to combine small landholdings. The law recognizes the rights of cooperatives and provides support for them, but the opportunities for pooling land for cooperative forest management is not defined.

In essence, the small farmer will benefit from credit and easier ownership, but the control of the resources will become more tenuous and susceptibility to pressure from wealthier individuals will increase uncertainty. The support for small farmers is not guaranteed under this law even though the stated purpose is to create a level of security for them.

This collection of policy tools may create opportunities for expansion into lands that have been traditionally managed by indigenous groups, which cannot easily take advantage of the new opportunities because they manage their land communally and do not recognize private ownership. As forested land becomes more valuable under the new policy set, pressure on these groups will increase. In addition to concerns about cultural integrity, community management of large tracts of forested land is a cost-effective way for the government to delegate management responsibilities. Without additional policy support, these options may be precluded by a rapid invasion of indigenous people's lands promoted by the existing policy set.

The law successfully establishes a favorable climate for both the export of agricultural crops and forest products as outlined under

the section on forest management policies. These policies should contribute to greater revenue as well as to more sustainable management practices. Greater revenue will be generated by open competitive auction for forest concessions, and reduced government spending will result from the termination of agriculture and forest related subsidies, as will more efficient land use in the long term.

Longer term forest concessions and land tenure security will make investment in agriculture and forestry more attractive. In addition the law provides that the government will ensure adequate infrastructure and transportation and shipping facilities to promote greater exports. Small farmers will benefit from the establishment of price bands that provide a level of price security and from improved information systems on agricultural prices.

The impact on natural resources is difficult to assess. On one hand, the economic measures should promote greater stewardship of resources as they help to raise the value of resources and provide for longer-term secure usufruct rights on public land and secure ownership rights on private land. However, the emphasis on export promotion as a major source of foreign exchange may promote unsustainable practices. For example, despite prohibitions, marginal lands could be placed into production for export crops or forestlands could be clear-cut to meet the demands for export markets, contrary to management plans. The ability of the government to control and oversee the impacts on the environment from agriculture and forestry may be limited as public sector budgets are cut. The issue of oversight and application of regulations may offer opportunities for NGOs to coordinate with municipalities and the government to monitor development activities.

In many parts of the law, more specificity will be required as implementation proceeds. This lack of specificity offers opportunities for various stakeholders to help shape the implementation process. For example, under indigenous land rights the law provides title to indigenous peoples, but it is not clear if the law provides title for communal land or for individuals, or how it will take into account any conflict between traditional uses and non-indigenous demand for land. Additionally, foreign investment encouraged in the Forestry Incentives Law may create unintended and undesirable consequences for indigenous groups. These areas of uncertainty provide fertile areas for community participation and for the design of activities by NGOs and donors.

## Forestry Incentives Law

The primary objective of the Forestry Incentives Law is to establish incentives that induce the private sector to participate in afforestation, reforestation, and natural forest protection. The incentives as outlined in Table 2 include free technical assistance, tax breaks, investment rebates, and secure usufruct rights to forest resources and products. The incentives may make forestry on certain land much more profitable than agriculture and create a demand for land suitable for forest use.

Landowners with a minimum of 5 hectares can take advantage of the forestry incentives. Smaller holders are ineligible, however, and if the new tenure laws are enforced, they may be forced to abandon their traditional agricultural practices and turn to forestry, but without access to incentives. To undertake forestry practices farmers must have an approved management plan (paid for by the landholder). If unable to comply with the plan, a farmer could be forced to sell or rent his land to other interests and be forced to find land elsewhere or to seek employment. These rules apply to all land classified suitable for forestry, especially steep hillsides, which are often used by small (for substance agriculture farmers). Unless small farmers are able to organize and develop associations they may face increasing pressures on their land.

An objective land use capability system that does not require detailed mapping but that can be applied on a site-specific basis is an a key policy tool for developing market-based land use incentives. Requiring compliance with land use capability without having such a system in place will create uncertainty for landowners, who in response may mine the resources rapidly to avoid any perceived future economic disadvantages.

The small farmer is especially subject to these sources of uncertainty. For example, will owners of small parcels of less than 5 hectares be eligible for loans under the Agricultural Modernization Law for agroforestry activities despite the fact that the Forestry Incentive Laws stipulates that incentives for agroforestry are available only to those with landholdings greater than 5 hectares? In the Forestry Incentive Law there is specific mention of subsidized credit available for private forest activities, whereas in the Agricultural Modernization Law the terms of credit for small farmers is not specified. Will subsidized credit for forestry disadvantage the subsistence farmer? NGOs can play a major role in providing education about the impacts of the laws, providing technical assistance to help farmers organize, and

bridging the communication gap between farmers and farmer organizations and policymakers.

The fiscal incentives for reforestation for natural forests, private forest management, and fuelwood may be significant, and they will have an opportunity cost in terms of the services that cannot be provided with the foregone revenue, such as assistance to the municipalities to comply with their responsibilities for environmental protection. These incentives are a direct income transfer to landowners and investors. In the case of large domestic and foreign investment in forest resource development and exploitation, the issue of royalties and resource rents is also not adequately dealt with. If a large portion of the resource rent stays with the investor, incentives are created for inefficient management.

## **Environmental Law**

Table 3 outlines the policy tools contained in the Environmental Law, whose objective is the protection, conservation, restoration, and sustainable management of the environment and natural resources. This law focuses primarily on the control of contamination. If the government and municipalities can effectively monitor contamination and enforce regulations, the impact on the environment can be positive over the long term. The law assigns responsibilities but does not establish how the conduct of these responsibilities will be financed. Taxes and levies as well as fines are authorized, but these sources of income will not be sufficient to carry out the responsibilities. Technical competence of staff at the national and, particularly, at the municipal level will have to be developed.

Restrictions on the importation of environmentally unsound technologies, combined with income tax deductions and elimination of import duties on cleanup technologies could begin to improve air, soil, and water quality. The requirement for an environmental impact assessment (EIA) for all projects can help prevent environmental problems at the outset. These controls may raise project costs and the costs of services, and have a short-term regressive impact on the poor. The various fiscal incentives may lead to reduced government revenue, which could decrease the government's ability to monitor and control the use of antipollution equipment.

The Environmental Law prohibits the sitting of settlements on watersheds, but it does not adequately address the issues of how to deal with the people living in these areas. While the

Agricultural Modernization Law refers to resettlement of people who live in critical watersheds as a last resort or the development of management plans where feasible, the Environmental Law takes a more direct approach by simply prohibiting settlement. Realistic criteria have not been established and application of this section of the law may be difficult.

The Environmental Law contains many good intentions but offers few policy tools to ensure their implementation. For example, under monetary and credit policies it states that agricultural credit will be issued based on the quality of soils, but offers no system or description of how the program would be administered. The same occurs with land use and controls where the law states that people are responsible for maintaining and improving the fertility of the soils but offer no mechanisms for determining how this will be measured or implemented. There are more examples in Table 3.

A significant area of new policy opened up by this law is (1) how to finance national and local efforts to monitor and control environmental contamination and threats to biological diversity, and (2) what criteria should be used for establishing priorities, given limited financial and institutional resources. This provides a fertile area for private sector and NGO participation in policy development. However, this in turn will require the design of participatory processes for policy analysis, identification of stakeholders, assessment of various alternatives and monitoring impacts. NGOs are well equipped to provide technical assistance and to run workshops to help communities identify risks, establish priorities, and communicate this information to decision makers.

## **Municipalities Law**

The Municipal Law is shown in Table 4. The law delegates new major responsibilities to the municipalities, some to be carried out in coordination with the government. The municipalities can contract with the private sector to provide many of these services, which should promote efficient delivery of services and private sector growth. A brief review of the table indicates that municipalities are now responsible for: environmental protection and reforestation as well as plans for rural development. This includes ensuring water quality; regulating emissions from factories; developing zoning regulations to ensure that polluting firms are located away from urban areas; regulating vehicles; controlling land disposal of waste; coordinating with the AFE to issue permits and sign contracts for exploitation of forests;

ensuring reforestation as well as protecting ecosystems; ensuring that resource use, including reforestation activities, is undertaken in accordance with national priorities; issuing titles for land within the municipality; controlling land and soil; coordinating with state authorities to ensure the ability of protected areas located within the boundaries; and promoting tourism.

Municipalities must have a balanced budget, and they can issue bonds and borrow to finance capital projects; raise funds from taxes and user fees, levy taxes and changes on polluters; establish a tax on forest extraction and forest product exploitation, and on commercial value of all fish and marine life

The municipalities are responsible for controlling discharges and contamination and can levy appropriate charges in order to ensure compliance with standards established by the government. They are encouraged to promote zoning whereby polluters are concentrated in one geographic area to limit the pollution effects on the urban environment. Despite these requirements there are no inducements or sanctions to force the municipality to comply. As a result the impact that the law will have on environmental quality is uncertain.

The law is specific about the charges that municipalities can levy on the exploitation of natural resources, establishing a 1-2 percent levy on the commercial value-added to the resource or raw material within the municipal borders. If timber is directly exploited the levy would be on the value of the cut wood as established by the market. The law is also specific in defining a role for the municipality in the management of protected areas and in watershed management. In these cases the municipality is required to coordinate with the national government, and the definitions of roles and responsibilities are clear enough to avoid most conflict.

The issue of funding for implementing these responsibilities is not adequately addressed. For example, the law establishes that municipalities can levy taxes, creates the resource exploitation levy, and permits municipalities to receive international project development assistance. There is no mention whether government funds will be transferred to municipalities to help defray the expense of the shared responsibilities outlined in the law. Poorer municipalities may be particularly burdened by the cost of these responsibilities, both in terms of financial and technical requirements.

As in the Environmental Law some of the terms of the law are descriptive and do not create policy tools or mechanisms. For example, the municipalities are responsible for land use planning and for the promotion of tourism, but the specific policy tools for doing this have yet to be developed. In the case of land use the municipalities supposedly have control over determining use and charging taxes. However, the municipality is subordinate to national agrarian reform laws and to forestry laws but is responsible for ensuring compliance with them. Municipal compliance may be difficult unless coordination and collaboration is established between the national and municipal governments. Unless collaboration exists conflict over the types of land use and how land use rules are applied will arise, especially as municipal governments face pressures from local constituents.

The table for the Municipalities Law provides information for identifying and exploring a variety of questions that suggest the need for future action. For example:

- What obligations and responsibilities will municipalities have under the new policy regime?
- What obligations and responsibilities will remain with the government?
- Which responsibilities will be shared with the government? What is the division of responsibility?
- How will municipal and state responsibilities be coordinated?
- What sources of funding exist for providing services at the municipal level?
- If municipalities are to meet these obligations, what technical and organizational capabilities will they require? Who benefits and loses if municipalities have responsibility but no ability to carry out their assigned responsibilities?
- How these issues are resolved during implementation will have definite wide-ranging impacts on different groups at the municipal level. Each question suggests further activities that local groups, NGOs, and donors can carry out to support their particular objectives.

## **Combined Analysis**

Table 5 presents a comparative analysis of the four laws by comparing each with the Green Book taxonomy. Several observations can be made from this table.

The population issue is not mentioned in any of the laws even though population growth is an important factor in land use. The municipal law addresses health issues but not population issues, while the Agricultural Modernization Law addresses women's rights to land. Greater land rights can lead to greater economic opportunity for women. Generally greater economic opportunity for women along with higher levels of education lead to lower fertility rates.

Watershed management issues may become conflictive. In the Environmental Law settlement in watersheds is restricted or proscribed whereas the Forestry Incentive Law offers incentives to promote agroforestry and reforestation with the private farmer gaining right of benefit to the forest products. The Agricultural Modernization Law calls for resettlement out of certain watersheds. Criteria need to be established to provide a consistent watershed management policy that addresses environmental issues as well as the needs of rural households.

The Agricultural Modernization Law makes agricultural credit available for farms of less than 10 has. while forestry loans are provided for farms greater than 5 has. Because incentives for forestry are more attractive than credit schemes for agriculture, forest activities may become more lucrative on farms in the 5-10 hectare range.

Each law calls for land use determinations based on a land use capability classification system, but none of the laws refers to the existence of such a system nor calls for the development of one prior to implementation of the laws.

Potential for conflict exists between the role of the municipalities and the role of the national government in determining land use and managing resources. This conflict could be exacerbated by issues related to revenue generation. If municipalities have responsibility for managing protected areas, for example, do they also receive some of the income from tourism? Who will be responsible for resolving land use conflicts, the national or municipal government?

A major question not adequately addressed in the legislation is whether local governments will have sufficient revenue and access to technical assistance to undertake their new responsibilities. Governments, NGOs, and donors will need to work together to establish priorities so that the existing revenue can be allocated to the most important issues according to the established criteria.

Some of the legislation will create conflict with sustainable development objectives and among stakeholders. The emphasis on export promotion may actually place greater pressures on resources and increase water and soil contamination from high-input agriculture. Market liberalization as well as many of the forest incentives are biased in the short term in favor of wealthier landowners and investors. In combination with incentives to increase exports, the holdings of small farmers may become more insecure as property values rise.

This brief analysis provides a general background for understanding some of the impacts of these four laws in Honduras. By comparing the policy tools established in the legislation with the Green Book taxonomy, and referring to the likely trade-off tables and text, a rapid analysis can be generated easily. This analysis then provides the data for follow-on action.

## **PROBLEM-CENTERED ANALYSIS**

Another approach begins with a specific problem and identifies how existing or new legislation might affect the problem. The Green Book provides a problem-policy table as the point of entrance. This case identifies the probable impact of the four laws on soil erosion and biodiversity. The problem analysis for soil erosion is presented in Table 6 and that for preservation of biodiversity is presented in Table 7. The policy categories from the Green Book that are relevant are listed in column one. Referring to these sections in the Green Book provides information to help identify the impacts, stakeholders, and key issues that are likely to arise from the policy implementation. Columns 2 through 4 lists observations about each law as it applies to the two problems.

Table 6 shows that the economic practices promoted through trade liberalization and export promotion under the Agricultural Modernization Law may further threaten biological diversity. Export promotion may actually increase pressures on certain resources and lead to mono-cropping of plant and marine species to meet demands from export markets. Reforestation policies

coupled with fewer restrictions on the commercial logging sector could promote the establishment of mono-species stands when reforestation occurs after harvesting.

Economic incentives such as free technical assistance, tax breaks, investment rebates, subsidized credit, longer-term tenure, and usufruct rights promote more sustainable management of forest stands, especially because access to incentives depends on development and (hopefully) compliance with approved management plans. However, this sustainable management may ultimately mean management of only a few commercial species. The content of management plans and the objectives promoted under these plans will determine the impact on biological diversity. Economic realities could mean that management plans are approved with reforestation of a few commercially viable species.

The law provides for government action to preserve habitat and endangered species, manage protected areas, and limit the conversion of forested land to agriculture. Secure protected area management may represent the surest way to preserve biological diversity. Agroforestry can enhance diversity, and the requirement that management plans be in place prior to forest exploitation represents a potential tool to dictate the level of diversity in reforested stands. However, the greatest potential for preserving biological diversity will occur in protected areas.

The economic incentives created by the four laws promote behavior that is not compatible with protecting biodiversity. Its protection requires active and competent oversight by both the national and municipal governments, especially in the management of protected areas. In fact, the Forestry Incentive Law promotes the protection of natural forests through incentives, but, except in protected areas, exploitation and replanting of forestlands offers the greatest economic opportunity, and many stands will be replanted with one or two species. Economic forces create tremendous pressure on biological diversity, while the government will need to play a strong and active role to ensure its preservation.

The economic incentives for mono-cropping established under the new laws suggest an important role for NGOs and organized community groups. These organizations can enter into partnerships with national and local governments to develop appropriate management techniques, and can participate with municipalities in the management and oversight of protected

areas and buffer zone projects in an effort to ensure preservation of biological diversity.

The soil erosion problem is outlined in Table 7. In comparison with the issue of biological diversity, the economic incentives proposed under the various laws will probably help to control erosion. Both the Modernization Law and the Forestry Incentives Laws promote reforestation, which will result in greater vegetative cover on hillsides and subsequently reduce rates of erosion. The laws also provide for secure tenure and incentives for wise management of watersheds. These incentives help raise the value of forest resources and create a climate for longer-term investment in land resources. These should result in improved land management and keener interest on the part of farmers to limit erosion.

There are, however, potential exceptions to this scenario. The emphasis on agricultural export crops could result in the conversion of marginal land for subsistence agricultural production, with subsequent increases in erosion. Commercial timber operations will open up previously inaccessible areas, and if management plans are not enforced their activities could result in degradation of timber stands and subsequent invasion by subsistence agriculturalists who work the land without title. These practices will lead to greater erosion and siltation of streams. Most important, the land use capability system must be implemented so that fragile lands can be recognized and regional planning activities undertaken to limit practices in those areas.

This example indicates some of the issues that can arise from a problem-oriented analysis of legislation using the Green Book as a reference guide. The analysis identifies likely impacts and suggests activities that interest groups can undertake during the implementation phase.

## POST-ANALYSIS ACTIVITIES

- Expanding the analysis to include other sources of policy.
- Focusing the analysis tightly on the interests of one group or geographical area (e.g., small farmers).
- Developing a technical assistance package for small farmers so that they can take advantage of new incentives.

- Identifying the capabilities municipalities will need to comply with their new responsibilities, and developing an activity to provide some of these capabilities (e.g., technical assistance in risk assessment).
- Identifying stakeholders affected by specific policy tools and establishing a network of people interested in participating in the implementation of specific aspects of the new policy.
- Developing technical assistance to address issues affecting the stakeholders.
- Providing mediation and conflict resolution for specific resource use or stakeholder interest.
- Playing the role of citizen watchdog, which may in turn suggest the need for policy reform that supports citizens' suits, class actions suits and, injunctive capabilities that are backed by the force of law.
- Provision of workshops to educate groups and organizations on the impact of policy and to develop strategies for addressing specific issues.

Whatever course of action is chosen, it will be better targeted and more responsive to a group's goals and resources if it is supported by solid and thorough analysis that becomes part of an ongoing dynamic participatory process.

# **Table 1: Agricultural Modernization Law**

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<b>Population</b>	<p>No specific mention of population but law gives women benefits including:</p> <ul style="list-style-type: none"> <li>• women can own land and receive title under agrarian reform;</li> <li>• women gain right to property upon the death or incapacitation of a spouse</li> </ul>	<p>As land owners women have access to credit and technical assistance. Women, especially women without a male head of household, will have higher status, greater economic security and higher incomes. Higher status may stimulate lower fertility, thereby easing pressure on natural resources.</p>	<p>Rural women, especially those with insecure tenure due to the death of a husband, can maintain community cohesion and preservation smaller farms.</p> <p>Land speculators or larger land owners will lose access to land that might otherwise come available.</p>
<b>Macroeconomic Policies</b>			
Natural Capital and the Economy			
<b>Monetary &amp; Credit Policies</b>	<p>Agricultural credit centralized in one institution (BANDESA)</p> <p>Credit to be made available specifically for farms with fewer than 10 has.</p> <p>70% of available funds will be channeled to farmer organizations to set up credit unions and 30% for a special fund to support production of small-scale farmer.</p> <p>Credits provided if farmer holds title</p>	<p>Credit in the hands of one inefficient state institution may be problematic in terms of access and distribution;</p> <p>Credit will be available to small- and medium-size farmers. Titles will be required to access credit and this may cause problems for many small farmers in the country who cannot negotiate titles.</p> <p>Will promote investment in soil conservation, forestry and more intensive agriculture.</p>	<p>Small- and medium-size farmers will benefit.</p> <p>With greater access to capital in rural areas, rural employment should grow, driving growth in the rural economy.</p> <p>May limit the availability of land for larger landowners to increase land holdings</p>
Exchange Rate Policies			

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
Fiscal Management	BANDESA is prohibited to loan funds to other public institutions	<p>This will eliminate defaults by other public institutions and help reduce fiscal deficits which will make more capital available at lower rates of interest.</p> <p>More funds available to the rural sector.</p>	<p>Small farmers will be greatest beneficiaries as will laborers they may be able to hire.</p> <p>Public institutions which traditionally had money channeled will lose, and may result in reduced public sector employment.</p>
Structural Adjustment Lending			
Trade and Investment			
Trade and Export Promotion	<p>Law limits controls on domestic and foreign trade.</p> <p>Export promotion and support for agro-industry established.</p> <p>State will expedite licenses for exports and will ensure that adequate infrastructure is in place to facilitate both domestic and foreign agricultural trade</p>	<p>Commercial farmers will expand production of export crops. This production tends to be input intensive and based on mono-cropping, which can have negative environmental impacts</p> <p>Government expenditures will be provided for infrastructure and transportation to support commercial farmers. This functions as a subsidy to commercial interests, but will also benefit some small farmers. Could limit the availability of capital for supporting smaller farmers. It also will open up isolated areas and threaten protected area conservation and create fiscal deficits.</p>	<p>Larger commercial farmers and exporters will gain</p> <p>Some medium-size farmers may also gain.</p> <p>Improved infrastructure could help small farmers by providing farm to market roads and eliminating middlemen.</p>

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
Privatization	The Center for Science and Agricultural Technology will prepare a plan to privatize services for the generation and transfer of technology to producers.	Technology transfer services may be more efficiently provided, but may restrict services to those who can pay and may therefore limit access to poorer farmers on marginal lands.	Private sector will benefit as will farmers who can afford services. Small farmers may see their access to technical assistance diminished in the long run.
Foreign Direct Investment	Increases opportunities for foreign investment in forest industry, permitting foreign industries to process wood and to export processed and non-processed timber.	<p>Greater foreign investment and an increased log exports. Impact on management depends on how much of the resource rents are collected through royalties and how competitive the bidding processes are.</p> <p>Unless there is adequate monitoring and control, opportunities will exist to over-exploit resources for export markets.</p>	<p>Beneficiaries will be foreign industries, Honduran investment partners, and labor pool hired as a result of expanded forestry activities.</p> <p>Losers will be the previously subsidized wood processing industry that may suffer closures. Loss of employment will also be a problem.</p>
<b>Environmental Management Policies</b>			
Water Quality			
Air Quality	State will promote improved energy efficiency use in homes and industry and will establish energy generating plants to relieve pressure on forests.	<p>The impacts on air quality are difficult to measure but raising efficiency should ultimately lower air pollution from wood smoke and help reduce CO2 emissions.</p> <p>Potential for growth in the environmental services sector stimulating demand for air quality improvement.</p>	<p>Industry and most citizens will benefit from more efficient stoves and from greater access to electric power from cleaner technologies.</p> <p>Poorer families will especially benefit since they are more exposed to woodsmoke.</p>

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
Land Disposal			
<b>Energy Policies</b>			
Fossil Fuels			
Hydroelectric Energy	The State Forest Administration (AFE) will promote the sustainable use of forests insuring the conservation of soils and water	Watersheds will be protected and less erosion will flow into reservoirs and security of annual water flows can be achieved.	Watershed inhabitants will benefit as will electric consumers dependent on hydropower.  Farmers dependent on irrigation work will also benefit.
Alternative Fuel			
<b>Agricultural &amp; Livestock Policies</b>			
Product Price Controls	Elimination of price controls in all but exceptional cases.  Greater control over amount of food imports from donations and assurance that donated foodstuffs are sold at market prices.  Establishment of price bands for agricultural commodities to tie domestic prices to those on the international market.	Should encourage production. Increased agricultural investment is likely with subsequent increases in rural employment.  Producers will also be freed from price distortions resulting from the sale of donated commodities.  Higher prices may improve the management of natural resources; it may also encourage production on fragile lands.	Producers of agricultural commodities will gain from the elimination of controls.  Security in prices coupled with information on prices will help farmers at all levels.  Urban consumers, especially the poor, will pay higher food prices. If accompanied by higher energy prices may cause political pressure from urban centers.
Input Subsidies and Prices	Any subsidies will be set at levels that ensure that the price distortions are limited and that they do not serve as a disincentive to production.	Will balance benefits of free trade and social stability to ensure that people have adequate access to food and that producers face competitive market prices.	The stakeholders are those who either benefit or lose from the subsidy and can be determined once the subsidy is known.

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**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
Direct Government Activities	<p>Promotion of free trade for most crops. Government role in the basic grains sector primarily focused on the establishment of a strategic reserve through either a permanent fund or physical inventory and establishment of a price information system.</p> <p>Government coordination with the private sector to execute studies and programs for improved infrastructure, transport and communication.</p> <p>Issuance of permits will occur more rapidly.</p>	<p>The elimination of government from marketing and management will increase efficiency and promote greater rural employment.</p> <p>Strategic reserve provides food security and stability for consumers and guaranteed market for smaller farmers.</p> <p>Coordination between public and private sector should result in better support for the private sector.</p> <p>Less support for poorer sectors of the economy</p>	<p>Farmers and consumers benefit from the strategic reserve. The benefits to farmers will depend on how the government purchases commodities.</p> <p>Purchase from small- and medium-size farmers who follow sustainable practices could provide incentives and help that particular group.</p> <p>All farmers benefit from secure prices while in certain cases consumers may face higher prices;</p> <p>Marginalized members of society lose support.</p>
Regulation of Pesticides			
Livestock Policies	Public land classified for forestry use cannot be converted to use in agriculture and livestock	<p>Will slow conversion of forests to pasture which represents a serious source of deforestation and often soil erosion and compaction.</p> <p>Interest groups dedicated to cattle production may bring serious pressure to bear to limit application of the law.</p>	Large cattle owners have a great deal to lose, and small farmers who see cattle as one of their primary investments will be constrained economically.

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<b>Forest Management Policies</b>			
Concession for the Use of Public Timber	Concessions will be awarded competitive auction.	Auctions permit open competition and allow the State to capture more rent from the use of natural resources; care must be shown to ensure that larger investors do not collude to purchase at low prices; minimum price standards can help.	<p>Society gains as more revenue is available to government and forest resources are not mined.</p> <p>Auctions will be limited to organizations that have the capital and technical capability to participate, which might concentrate forest industry in few hands and work against community management of forestry.</p>
Forest Revenue Systems	<p>The base price for standing timber will be the cost to replace the forest, the residual value of the wood or result of whichever method generates the most income for the State.</p> <p>The AFE on a semester basis will determine those values according to the different quality of wood available.</p>	<p>System is administratively simple and should result in increased revenue for the State.</p> <p>Since prices will be based on species differentiation and subject to improved management plans, resources should be used efficiently.</p> <p>The AFE will need to ensure that the management plans are completed and that auctions reflect the value of the timber.</p>	<p>The State will benefit from greater revenue, while society benefits from more efficient management of public forest stands.</p> <p>Industry will face higher costs for timber and process wood more efficiently. Jobs may be lost in inefficient mills.</p>

**Table 1: Agricultural Modernization Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities and Limitations</b>	<b>Stakeholders</b>
<p>Forest Industry and Trade Policies</p>	<p>Liberalization of domestic and foreign trade in domestic timber including permission for foreign investors to export raw logs;</p> <p>Elimination of state role in the use and industrialization of wood.</p>	<p>Inefficient mills will close and there will be loss of employment;</p> <p>Increased recovery rates at mills and reduced wastage of wood;</p> <p>Shift to the utilization to the highest and best use of timber, and elimination of distorting incentives in raw material use.</p> <p>Care must be shown not to minimize risks of mining and overcutting.</p>	<p>Short term unemployment as inefficient mills close, but long-term growth as the industry expands.</p> <p>Consumers will benefit from lower prices for forest products.</p>
<p>Private Forest Management</p>	<p>Land owners will receive all the benefits derived from the sale of timber on their land as long as harvesting is consistent with government-approved management plan.</p> <p>All extraction requires State approval according to management plans.</p> <p>Small producers, cooperatives and other organized groups recognized by the State can have access to credit.</p>	<p>Private landowners can sell timber on the open market, and may have greater incentives manage land for sustainable forestry.</p> <p>Security of ownership and resource use rights should have a positive impact on the environment.</p> <p>Provides an economic incentive to forest and manage stands profitably, especially in the small farm sector.</p>	<p>Private landowners will benefit from sales and from secure tenure.</p> <p>Small farmers may suffer from this law since they will have little or no access to financing to cover management plans.</p>

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<p><b>Reforestation Policies</b></p>	<p>All private and public lands must be replanted and reestablished within two years</p> <p>The AFE will establish technical regulations regarding the reforestation of forest classified lands.</p> <p>The AFE will promote silvicultural practices with communities, cooperatives and individuals to ensure water and soil conservation</p>	<p>Time limits, if enforced, will reduce soil erosion and prevent invasion by squatters.</p> <p>Regulations will ensure that reforestation involves the planting of appropriate species and issues of biological diversity</p> <p>Agroforestry practices can be implemented to ensure improved watershed management and incomes for farmers.</p>	<p>Long-term benefits to natural resource and natural resource users. Possibly a disproportionate burden on small farmers if sufficient credit is not available at realistic terms.</p> <p>Small- and medium-size farmers in watershed areas can take advantage of incentives to practice agroforestry. Improved management will maintain soil quality and water regimes and should translate into higher incomes.</p>
<p><b>Fuelwood and other Biomass</b></p>	<p>In order to prevent deforestation the State will promote the establishment of energy generators and will improve the efficiency of domestic and industrial fuelwood use</p> <p>Mechanisms will be established to convert industries that use fuelwood as an energy source</p> <p>The AFE will promote energy plantations for domestic and industrial use</p>	<p>Greater efficiency and elimination of dependence on fuelwood will take pressure off wood supplies in the country.</p> <p>Stimulates a market for alternative energy sources and small decentralized producers.</p>	<p>Domestic fuelwood users will benefit from saving in time and money from more efficient stoves. Industry will also benefit and may benefit from tree plantations for energy.</p> <p>Conversion to other energy sources for domestic consumers will be beneficial if the price for energy and for stoves is affordable, otherwise energy consumers will lose.</p>

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Table 1: Agricultural Modernization Law

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<b>Land Tenure</b>			
<p><b>Land Tenure and Markets</b></p>	<p>The National Agrarian Institute will demand the return of all lands held illegally.</p> <p>If someone has occupied land for a period three years, then they can purchase the land if the parcel is not greater than 200 hectares.</p> <p>The Executive can grant exceptions to the 200 hectare limit rule to allow larger private land holdings due to important social and economic reasons.</p> <p>All parcels less than one hectare are considered minifundios and the INA will move to terminate minifundios and the land will be grouped into larger parcels for redistribution</p> <p>Rental of productive land is permitted.</p> <p>Titles must be issued within 6 months of the request. Titled land can be used as collateral.</p> <p>The State will provide a credit facility and make credit available to beneficiaries of agrarian reform to help finance the purchase of their lands</p>	<p>More security for land ownership for most people.</p> <p>The three-year occupancy provision may conflict with restriction of occupancy in watershed areas that occur elsewhere in the law.</p> <p>The three-year occupancy provision may encourage invasion of traditionally held and communally managed indigenous lands.</p> <p>The titling process is easier and the minifundio will be eliminated to make sure holdings are productive. It will be easier to accumulate larger landholdings.</p> <p>Some increased insecurity for groups due to the fact that all land is purchased with mortgages. Land is subject to supply and demand, and prices will rise, limiting available land.</p> <p>Rental of the land allows income to be earned from productive land.</p> <p>Credit will help many farmers, but default provisions and high unemployment rates may increase land insecurity.</p>	<p>Security is guaranteed for wealthier farmers, and large farmers will be able to justify expanding landholdings, surpassing the 200-hectare limit. However, this may help consolidate their power and limit access to land.</p> <p>The law favors those cooperatives and organized groups with good financial management ability.</p> <p>Rural economies in general should benefit from increased investment and employment opportunities.</p>

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<p>Land Use and Controls</p>	<p>Land use will be determined by the classification of the land; in no case will forest lands be considered unused and subject to confiscation by land reform.</p> <p>Forest lands classified as such will be only exploited as forest</p> <p>A seed fund will be established to provide working capital and technical assistance to each beneficiary of agrarian reform with a holding of 10 has. or less.</p>	<p>Land use classification will help achieve more sustainable development and reduce resource mining.</p> <p>The State would require modification of land use practices that are not appropriate for the land classification category.</p> <p>Appropriate land use including agroforestry practices will be fostered by the credit incentives and technical assistance.</p>	<p>Large landowners for cattle as well as farmers on hillsides and other marginal lands will be affected. Political realities point to more insecurity of land use for small farmers than for larger landowners.</p> <p>Long term benefits to the resource base will result from better land use and management, and will benefit people downstream from watersheds with significant current human intervention.</p> <p>Small to medium farmers will benefit from credit opportunities.</p>
<p>Colonization and Reform</p>	<p>Resettlement of people as a last resort who live in protected areas or in areas where their activities run counter to the issues outlined in the management plans for forested areas, etc.</p>	<p>Opportunity to ensure protection and sustainable management of resources in protected areas and in critical watersheds; resettlement will not be politically popular especially since land of equal or better quality may not be available for all settlers.</p>	<p>Small farmers may be the losers in this as they will lose land with no solid guarantee of other lands being available;</p> <p>Resources user in general will benefit from the protection of ecosystem services;</p> <p>Wealthy sectors could benefit if resettlement is an excuse to remove people from conflicting claims.</p>

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<b>Indigenous Peoples</b>			
Indigenous Land Rights	<p>Indigenous groups who have possession of land for a period of at least three years are eligible for free access to titles for that land</p> <p>This policy similar to normal land tenure laws except that indigenous groups do not have to buy the land.</p> <p>Commercial exploitation of timber in national forests is prohibited if such lands are located in an indigenous reserve.</p>	<p>Recognizes indigenous land rights, but it is not clear whether titles are communal or individual. Individual titles will not permit a traditional lifestyle, nor will they provide the resource management benefits offered by community management.</p> <p>The law is not specific as to whether land can be held communally in sufficient quantity to allow traditional resource management.</p>	<p>The extent to which indigenous land rights and lifestyle is protected will depend on how communal land is treated how effectively rights are protected.</p> <p>Small farmers might be adversely affected since they are the ones most likely to compete with indigenous groups for land.</p>
Resource Management	Law calls for the promotion of agricultural development but with an eye toward conservation and the sustainable management of natural resources.	<p>Opportunities to research and learn indigenous farming techniques for applications elsewhere;</p> <p>Practices may not be appropriate to many settings and adoption difficult or resisted by non-indigenous communities</p>	Indigenous communities benefit.
International Legal Instruments			
Changing Values & Moral Persuasion			

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<b>Protected Areas and Wildlife Protection</b>			
Management Issues	All protected areas are required to have management plans	Management plan creates opportunity to effectively manage protected areas, control required by the State to ensure compliance	Long-term benefits from environmental services, and short-term losses to those who do not have access to the resources within the protected area.
Land Use Planning and Management	Resettlement of people living in some protected areas especially where resources are fragile.  Where modification of a habitat could threaten an endangered species, no modifications of that habitat are allowed until mitigative measures taken to ensure the survival of the species.	Resettlement and other schemes that prohibit access may lead to lack of support for protected areas.  A variety of management innovations are available to involve local people in protected area management and selective use of its resources.	Costs will be highest to the small farmer who is resettled especially if alternative land is not forthcoming;  Lack of access to natural resources will negatively affect poorer people;
Resource Management & the Local Community	Law promotes the development of management plans with participation and support from the local communities	Gain greater support for protected areas, especially if people will benefit from the resources in some sustainable way. Community benefits (jobs, revenue) from tourism can also build support for protected areas.	The communities will benefit economically and the protected areas benefit from reduced encroachment.  Benefits from tourism may also flow to the community.
Financing			
International Conventions & Support			
Nature Tourism			

**Table 1: Agricultural Modernization Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities and Limitations</b>	<b>Stakeholders</b>
Wildlife Protection and Trade	<p>Sale, transport, hunting, capture and closed seasons for wildlife will be regulated by the State in conjunction with international treaties.</p> <p>Only animals raised in captivity (exsitu) can be marketed and exported</p>	<p>Greater control can help ease the problems of trafficking of wildlife, and avoidance of closed seasons for some species.</p> <p>The ability of the State to adequately monitor and stem the black market in animals must be demonstrated.</p> <p>Revenue generation is likely from ex-situ raising of animals for food and sale such as in iguana farms.</p>	<p>Hunters and locals who capture animals for sale will lose income in the short term. Large traffickers will also be affected if adequate control is in place.</p> <p>Entrepreneurs or families that can raise animals could earn income from the sale of these animals.</p>
<b>Water Policy &amp; Watershed Management</b>			
Water Control, Use and Pricing			
Watershed Management	<p>Law calls for the resettlement of people from critical watersheds and control of deforestation through management plans and prohibitions against farming on steep slopes or on land classified as forest</p>	<p>There exists a need to monitor activities on watersheds, protect water supplies, improved tenure, and technical support for management plans, and promote greater coordination among institution.</p>	<p>Small farmers who receive technical assistance will gain, whereas those who are resettled may lose access to land.</p> <p>The winners will be downstream water users and electric consumers who may need to subsidize efforts on watersheds to ensure the long-term quality of resources.</p>

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
Irrigation Provision and Pricing Policies	Irrigation projects will be promoted that involve the participation of the users and the communities	<p>The opportunity to include users in design and management of irrigation systems can result in more efficient localized management of the systems and less waste of water; efforts to build up expertise will be required</p> <p>More sustainable water use implies selling it at its market value which means a rise in price to producers</p>	<p>The communities and user associations benefit.</p> <p>However the price of water will rise and that could have a negative impact on consumers and producers.</p>
<b>Coastal Zone Management</b>			
Quality of Coastal Resources	Law outlines incentives and regulations involving reforestation and management of watersheds.	Opportunity to ensure that water quality from watersheds is relatively free from sedimentation and toxins. Success will require monitoring, technical assistance and a long-term commitment.	Coastal resource users in general benefit from less contamination of estuaries and waters where marine life reproduces, small upland farmers could lose if restrictions on the user of their resources are established.

**Table 1: Agricultural Modernization Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities and Limitations	Stakeholders
<p>Use of Coastal Resources</p>	<p>Law provides stimulus for export promotion which will promote greater development of shrimp and mariculture production.</p>	<p>Export promotion policies could lead to greater conversion of coastal areas to shrimp and mariculture farms and threaten and destroy important habitat and coastal environmental processes.</p> <p>Deforestation, especially of mangrove areas, is likely.</p> <p>Traditional users may be cut off from access to specific areas as land is converted to private commercial use.</p>	<p>Larger producers with established shrimp and mariculture farms will benefit the most.</p> <p>Traditional resource users will suffer loss of access to fisheries and will see the deterioration of supplies due to habitat destruction.</p> <p>Deforestation of mangrove areas can lead to greater coastal erosion and loss of diversity of coastal flora and fauna.</p> <p>Fisherman would also lose from reduced catches due to the potential loss of food stocks.</p>
<p>Management of Fisheries</p>			

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## Table 2: Forestry Law

**Table 2: Forestry Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities/Limitations</b>	<b>Stakeholders</b>
<b>Population</b>			
<b>Macroeconomic Policies</b>			
<b>Natural Capital &amp; the Economy</b>			
<b>Monetary &amp; Credit Policies</b>	Subsidized credit with repayment grace periods will be provided to support reforestation and watershed management.	Will encourage reforestation, but low interest rates may limit the availability of funding	<p>Competition between small and larger farmers for this credit may be great and lending criteria will need to be established.</p> <p>Subsidies are for areas of over 5 hectares. Small farmers will need to form association or they will not participate.</p> <p>May create serious conflicts between those people who have traditionally farmed marginal lands and those who want to take advantage of incentives to reforest marginal land.</p>
<b>Exchange Rate Policies</b>			

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**Table 2: Forestry Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
Fiscal Management	Tax breaks up to maximum limits will be provided to support reforestation and stimulate multiple use plantations	<p>Will stimulate investment in fuelwood and plantations which should provide important environmental benefits as long as actions are consistent with management plans.</p> <p>Reforestation activities will help control erosion and improve water regimes.</p>	<p>Benefits will accrue to industries and larger farmers who can take advantage of tax breaks. Smaller farmers may be squeezed off of land that is classified as forest if it can be taken over by larger interests.</p> <p>Downstream environmental conditions will improve as siltation is reduced water is available year round. Irrigators, domestic water consumers and coastal resource users should benefit from reforestation.</p>
Structural Adjustment Lending			
<b>Trade and Investment</b>			
Trade and Export Promotion	<p>Wood from industrial plantations can be exported in processed or semi-processed form.</p> <p>If plantations are established with foreign investment funds, log exports are permitted. The law is not explicit about the amount of foreign investment required to justify log exports.</p>	<p>Local investors may seek more foreign partner to justify the export of logs. Foreign investment in logging operations may increase if there is an economic incentive.</p> <p>Increased efficiency of domestic wood processing. The amount of resource rent collected by the government will influence sustainability and the revenue available for monitoring management plans.</p>	<p>Foreign and domestic investors will benefit from freer exports.</p> <p>Inefficient mills will be sold or close down with subsequent loss of rural employment in the short term. Long-term forest management should increase rural employment opportunities.</p> <p>Less expenditure of government revenue on subsidies to mills.</p>
Privatization			

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**Table 2: Forestry Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities/Limitations</b>	<b>Stakeholders</b>
Foreign Direct Investment			
<b>Environmental Management Policies</b>			
Water Quality			
Air Quality			
Land Disposal			
<b>Energy Policies</b>			
Fossil Fuels			
Hydroelectric Energy			
Alternative Fuels			
<b>Agricultural &amp; Livestock Policies</b>			
Product Price Controls			
Input Subsidies and Prices			
Direct Government Activities			
Regulation of Pesticides			
Livestock Policies			

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<b>Table 2: Forestry Law</b>			
<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities/Limitations</b>	<b>Stakeholders</b>
<b>Forest Management Policies</b>			
Concession for the Use of Public Timber	<p>Concession contracts for forestry activities will be long-term and cover at least one growing cycle;</p> <p>For reforestation of natural forests greater than 5 has:</p> <p>Free development of the project</p> <p>Free technical assistance for at least 3 years.</p> <p>Free use rights to forest products and the right to 50% of the commercial value of the wood.</p> <p>Reimbursement of 100% of the investment made to protect regenerating public forests that are not under management plans.</p> <p>Reimbursement of 50% of investment made in reforestation of public lands, and total usufruct rights in compliance with management plans.</p>	<p>Should promote improved long-term management of forest stands. Incentives will stimulate investment and produce greater long-term revenue for the government for natural resource management.</p> <p>Long-term employment will increase as investment in the sector grows.</p> <p>Should see slower conversion of forests to other land uses.</p> <p>Those incentives will add up to a significant amount that has an opportunity cost in terms of government services.</p> <p>In the case of public timber. It is not clear how the impact of these incentives will influence an investor's decision given competitive bidding procedures, or what the input will be on revenue generation.</p>	<p>Larger investors are more likely to benefit.</p> <p>Should generate employment in forest management but may cause less employment related to subsistence agriculture.</p>
Forest Revenue Systems			
Forest Industry and Trade Policies			

**Table 2: Forestry Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities/Limitations</b>	<b>Stakeholders</b>
<p><b>Private Forest Management</b></p>	<p>Incentives for natural forests on private lands:</p> <p>Free development of the project</p> <p>Free technical assistance for at least 3 years.</p> <p>Reimbursement of 50% of the investment that property owners make to manage new stands on private property</p> <p>Reimbursement of 50% of the investment that property owners make in reforestation according to management plans</p>	<p>Private landowners have more of an economic incentive to leave land as forest than in promoting agricultural conversion.</p> <p>Reconversion from agriculture to forestry especially on marginal lands may occur.</p> <p>Greater discouragement of squatters to take over marginal lands.</p>	<p>Small landowners and associations with holdings greater than 5 has. of forest land will benefit.</p> <p>Groups needing access to land or those that have in the past used marginal lands for subsistence agriculture may experience a loss of welfare.</p> <p>Labor intensive forest activities may generate temporary jobs.</p>

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**Table 2: Forestry Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<p>Reforestation Policies</p>	<p>Incentives for reforestation in fuelwood and multiple-use plantations:</p> <ul style="list-style-type: none"> <li>• Free development of the project and free technical assistance.</li> <li>• Usufruct rights to all forest products for an indefinite time period</li> <li>• Reimbursement of the total cost of established seedlings in the case of fuelwood, but only 50% in the case of industrial production.</li> </ul>	<p>Increased availability of fuelwood for industry.</p> <p>Increase in the amount of land dedicated to industrial production.</p> <p>Should create rural jobs for planing and harvesting.</p>	<p>Investors and medium to large landowners will gain as will cooperatives holding non-agricultural lands.</p> <p>People who require off-farm income may also benefit from the potential for increased jobs. Rural economy should benefit from increased in economic activity.</p> <p>Coastal resource users, irrigators and downstream resource users in general will benefit from greater consistency in water flows and less siltation from the control of erosion provided by vegetative cover.</p>
<p>Fuelwood and other Biomass</p>	<p>Profits earned in the production of fuelwood will be exempt from taxes for a period of 5 years after the time of initial yields.</p>	<p>Greater investment in fuelwood and fuelwood technologies to increase efficiencies. Less pressure on wood resources for fuelwood on non-plantation lands.</p> <p>Conversion of natural forests into fuelwood plantations.</p>	<p>Plantation production should also lead to stabilized fuelwood prices which will benefit all consumers.</p>
<p><b>Land Tenure</b></p>			
<p>Land Tenure and Markets</p>			

**Table 2: Forestry Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
Land Use and Controls	Under agrarian reform, the INA will not be allowed to provide forested land, or land classified as forested, to people for agricultural or livestock production.	Should help to halt the expansion of the agricultural frontier. Will require oversight and enforcement.  Should improve overall management of resources in the country.  Will make it more difficult for poor farmers to gain title given requirement for purchase and exclusion of small parcels from credit.	Poor farmers may have land use practices threatened especially where no title exists. Greater insecurity of land.  Those farmers who can take advantage of the forestry incentives can obtain title. Small, poor farmers probably are not prepared to take advantage of these incentives.
Colonization and Reform			
<b>Indigenous Peoples</b>			
Indigenous Land Rights			
Resource Management			
International Legal Instruments			
Changing Values & Moral Persuasion			
<b>Protected Areas and Wildlife Protection</b>			
Management Issues			
Land Use Planning and Management			
Resource Management & the Local Community			
Financing			
International Conventions & Support			

**Table 2: Forestry Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
Nature Tourism			
Wildlife Protection & Trade			
<b>Water Policy &amp; Watershed Management</b>			
Water Control, Use and Pricing			
Watershed Management	<p>For people holding more than five hectares involved in projects to manage watersheds:</p> <p>Free project development and technical assistance</p> <p>Rights to harvest all agricultural products obtained from the project area and those trees required for individual use as per management plans</p> <p>All commercial benefit derived from the area.</p> <p>Acquisition of seeds, seedlings, tools and other inputs at no cost and whose value will be paid for with work.</p>	<p>Less destruction of watersheds, including less deforestation and erosion. Improved water quality and loss sedimentation downstream.</p> <p>Diversified production on steeper lands can lead to greater income opportunities and more economic security.</p> <p>Capital provided to the rural economy will help to increase incomes and improve food security.</p> <p>Support aimed at medium sized farmers with questionable support for small farmers.</p>	<p>Farmers on watersheds will benefit but smaller farmers whose tenure situation is questionable may find greater insecurity from the new laws.</p> <p>Downstream inhabitants will benefit from improved watershed management.</p> <p>The five hectares requirement will limit opportunities for small farmers unless they form associations.</p> <p>Land use and ownership conflicts will most likely arise between people who have traditionally farmed steep hillsides and those who want to reforest to take advantage or incentives.</p>
Irrigation Provision and Pricing Policies			
<b>Coastal Zone Management</b>			
Quality of Coastal Resources			
Use of Coastal Resources			
Management of Fisheries			

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## **Table 3: Environmental Law**

Table 3: Environmental Law

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
Population			
Macroeconomic Policies			
Natural Capital & the Economy			
Monetary & Credit Policies	Agricultural credit will be oriented toward promoting the employment of techniques consistent with the type of soil available.	If applied, this tool could promote long-term management of forests and soil.  It requires a land use capability system that can be applied on a site specific basis that does not require mapping.	Will not promote unsustainable agricultural practices and should work as an incentive to modify behavior of those seeking credit.  If sufficient funds are available could be very effective in getting many small and medium farmers to modify systems of production.
Exchange Rate Policies			
Fiscal Management	All investments in filters or other equipment to prevent or clean-up contamination can be deducted from income taxes.  Equipment will also be free from import duties.	Will provide an incentive to adopt new technologies if the cost of investing in new technology is lower than the marginal tax rate.  Regulations may also be required to motivate investments. Represents an opportunity for private sector to work with environmental interests to develop standards. As Honduras moves toward a NAFTA-like agreement, these capabilities will become increasingly important.	Industries will be able to take advantage of the incentive. Represents potential loss of government revenue.
Structural Adjustment Lending			

**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<b>Trade and Investment</b>			
Trade and Export Promotion	The law establishes controls on the import of technologies that are not environmentally sound.	Criteria must be established. Opportunity for environmental interests and donors to provide ?? May stimulate local technology production.  May prove difficult to implement	Input depends on the price shifts, if any, that occur and the availability of substitutes especially for pesticides and fertilizer.
Privatization			
Foreign Direct Investment			

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<b>Environmental Management Policies</b>			
<p>Water Quality</p>	<p>The State will adopt measures to prevent or correct ambient contamination and all discharges and emissions will be adjusted to meet regulatory standards. All disposal must occur in designated areas and according to municipal directives.</p> <p>Law prohibits the dumping of contaminants into the rivers and lakes or other water bodies.</p> <p>Contaminating industries will be located in areas to limit damage to the ecosystem and to human health. Municipalities approve new facilities after approval by secretary of natural resources.</p>	<p>The success of the effort will depend on the specific measures adopted and these are not specified in the law.</p> <p>The State and the municipalities will need to create the infrastructure to monitor effluents and water quality in general and ensure compliance with regulations.</p> <p>May require a cooperative participation involving NGOs, industry and government to develop substantive and procedural details, including dispute resolution and arbitration capabilities.</p> <p>Zoning will be beneficial but the waste assimilative capacity of the environment can be exceeded due to the concentration of polluters in one place. The poor are more likely to be affected by localized pollution because property prices will fall in these areas, attracting low-income residents.</p> <p>Water treatment is expensive and will require user fees aimed at recovering costs.</p>	<p>Domestic water users, and to a lesser extent irrigators, have a great deal to gain from clean water.</p> <p>Improved water quality will probably cause the cost of water to rise. Higher costs will affect irrigated agriculture, industry and domestic consumption. While promoting efficiency, they may also have equity consequences, and will require attention to alternative pricing schemes.</p>

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<p>Air Quality</p>	<p>The State will adopt measures to prevent or correct ambient contamination and all discharges and emissions will be adjusted to meet regulatory standards. All disposal must occur in designated areas and according to municipal directives.</p> <p>Potentially contaminating industries will located in areas to limit damage to the ecosystem and to human health. Municipalities will provide permission to build facilities after permission of the Secretary of Natural Resources.</p> <p>Health and environmental leaders will determine technical standards and permissible levels for air pollution.</p>	<p>Establishment and implementation of air quality standards is a good first step. The biggest challenge will be to monitor emissions. Pollution from mobile sources is not adequately addressed.</p> <p>Zoning is a partial solution that requires infrastructure for water and waste disposal. It will also draw populations needing additional services.</p> <p>Overall effect will be to begin to bring air pollution under control through the proper incentives.</p>	<p>Mobile sources (cars and buses) may not be paying a fair share of air pollution mitigation costs.</p> <p>Poor populations that tend to be sited near concentrated polluters may suffer health and quality of life consequences, especially as urban population grows.</p>
<p>Land Disposal</p>	<p>The law prohibits the introduction into the country of toxic wastes, garbage or other contaminating substances.</p> <p>All solid waste must be adequately treated in order to prevent contamination of soils, water, lakes, shorelines and air.</p> <p>Municipalities are required to adopt a system of collection and attempt to introduce recycling and reuse.</p>	<p>Opportunity for private sector supply of waste treatment but will require monitoring.</p>	<p>Benefits from improved solid waste disposal are broadly distributed but in the short term flow mainly to poor population living around dump sites.</p> <p>May raise costs of disposal and provide an incentive for illegal dumping.</p>

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**Table 3: Environmental Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities/Limitations</b>	<b>Stakeholders</b>
<b>Energy Policies</b>			
<b>Fossil Fuels</b>			
<b>Hydroelectric Energy</b>	New hydropower plants will require hydrological studies and environmental impact evaluations.	<p>Could lead to delays in project implementation and raise the costs of electric energy and partial use of alternative technologies.</p> <p>Will help ensure that environmental costs are considered and construction is more consistent with forest and land use policies. Provides opportunities for NGOs and consultants to provide T.A.</p>	<p>May raise costs to electric or result in insufficient energy supplies in the absence of conservation.</p> <p>The concerns and interests of upstream inhabitants who would be flooded out will be taken into consideration before a dam is built. Resettlement policies and compensation issues will need to be addressed prior to any project approval.</p>
<b>Alternative Fuels</b>			
<b>Agricultural &amp; Livestock Policies</b>			
<b>Product Price Controls</b>			
<b>Input Subsidies and Prices</b>			
<b>Direct Government Activities</b>			

**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
Regulation of Pesticides	The State will require the registration and authorization of pesticides, fertilizers and other chemical or biological contaminants and insure that the introduction or manufacture of the most toxic is controlled or prohibited.	<p>The success of the measure will depend on the ability to monitor transportation and use. If enforced, there should be fewer poisonings and less non-point pollution problems.</p> <p>Quality of soils and water are enhanced, and higher pesticide prices will result along with the potential for black market imports.</p>	<p>Farmers will receive long-term benefits in terms of less damage to resources and safer conditions.</p> <p>Consumers will enjoy safer agricultural and food products. Incidences of accidental poisonings of both adults and children should fall.</p> <p>Farmers will face short-term rises in price which could lead to lower use or higher production costs depending on the response to the price rise.</p>
Livestock Policies			
Forest Management Policies			
Concession for the Use of Public Timber			
Forest Revenue Systems			
Forest Industry and Trade Policies			

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
Private Forest Management	Forest management plans required for all forest exploitation to ensure sustainability.	<p>Improved management of forests and preservation of long term assets.</p> <p>If process is burdened by bureaucratic delays, frustration and even illegal cutting may occur.</p> <p>The cost of management plans will make it difficult for poorer farmers to successfully exploit the timber.</p>	<p>Private woodlot owners will benefit from the long term increase in value.</p> <p>Improved management will ensure that water and soil resources are better conserved which will benefit water users and improve the quality of coastal resources. Downstream users will benefit.</p> <p>Small farmers may not be able to afford management plans, nor convert their forested land to agriculture, causing serious economic hardship and conflict between small farmers and those with holdings greater than five hectares.</p>
Reforestation Policies			
Fuelwood and other Biomass			
<b>Land Tenure</b>			
Land Tenure and Markets			

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunitites/Limitations	Stakeholders
<p>Land Use and Controls</p>	<p>The law states that whoever undertakes agricultural activities should conserve or improve the fertility of the soils and insure against erosion, salinization, poor drainage, etc.</p> <p>Soils found on steep slopes that are likely to erode should be maintained under permanent vegetative cover and these lands will not be available for agrarian reform.</p> <p>All projects, industrial installations and public or private activity that could contaminate or degrade the environment will require an environmental impact assessment.</p>	<p>No mention of specific incentives or policy tools for promoting soil conservation and improvement.</p> <p>As part of an integrated watershed management plan, will have important impacts on water regimes and sedimentation rates. In many areas may create clients for agroforestry systems that can provide livelihoods.</p> <p>Implementation requires specification of the land use capability system, rapid assessment of sites, and availability of technical assistance.</p>	<p>Groups who commonly deforest such areas will suffer loss of income.</p> <p>Farmers will gain if technical assistance in agroforestry is available.</p> <p>Many farmers who have settled on steep slopes will be forced to leave as titles cannot be given to people farming steep slopes.</p> <p>Downstream resource users will gain.</p> <p>With EIAs costs of project may rise and some will not be approved affecting the construction sector, agri-business and other business sectors</p>
<p>Colonization and Reform</p>			
<p>Indigenous Peoples</p>			
<p>Indigenous Land Rights</p>			
<p>Resource Management</p>	<p>Indigenous groups will receive special support with respect to their customary use of natural resources. Studies will be done to explore the contributions they may be able to make toward a model for sustainable use.</p>	<p>Increase in usability of indigenous concerns and land use practices.</p> <p>Law remains unclear as to the extent of the special support to be given to indigenous groups, especially with regard to communal ownership and use of traditional lands.</p>	<p>Indigenous communal management of large forested areas will allow the government to delegate some of its management responsibilities and more efficiently focus limited resources on protected areas of the state lands.</p>

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
International Legal Instruments			
Changing Values & Moral Persuasion			
<b>Protected Areas and Wildlife Protection</b>			
Types of Protected Areas and Legal Status	<p>Law creates the Protected Areas System made up of national parks, biosphere reserves, wildlife refuges, etc.</p> <p>Management of protected areas will be coordinated between the State and the municipalities.</p>	<p>No mention of how municipalities will raise necessary revenue.</p> <p>These new responsibilities and municipal capabilities may stimulate private sector supply and/or NGO participation.</p>	<p>Better management will benefit those who depend on ecosystem services, people with usufruct rights, and those who enjoy recreation and tourism to parks.</p> <p>Better management will mean loss of access by certain groups, including small subsistence farmers and illegal loggers.</p> <p>Poorer municipalities may be unable to meet responsibilities. There will be those who benefit and lose from the municipalities inability to meet their new responsibilities.</p>

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<p>Land Use Planning and Management</p>	<p>The law calls for land use planning taking into account environmental, economic, demographic, and social factors.</p> <p>Municipalities will take part in the management of protected areas.</p>	<p>Municipal involvement in management should help reduce the burden on the State and provide mechanisms to develop local control. The specific capabilities required are not defined and provide opportunity for NGOs and the private sector to provide T.A. and implementation.</p>	<p>Better management will benefit those who depend on ecosystem services, people with usufruct rights, and those who enjoy recreation and tourism to parks.</p> <p>Better management will mean loss of access by certain groups.</p> <p>Poorer municipalities may be unable to meet responsibilities. There will be those who benefit and lose from the municipality's inability to meet their new responsibilities.</p>
<p>Resource Management &amp; the Local Community</p>	<p>Buffer zones and exclusion zones will be established to respond to objectives of protection and economic development. Resource use in the buffer zone is subject to technical norms and soil conditions according to decrees in each zone.</p> <p>The State has the right to impose restrictions to ensure protection and sustainable use of resources in a protected area.</p>	<p>If people participate in management and benefit from the protected area, they will be more likely to support protection.</p> <p>Establishment of restrictions will help set the foundation for managing the protected area but enforcement will be required.</p>	<p>People living in and around protected areas will benefit from technical support and involvement in activities to protect the park.</p> <p>Environmentalists, researchers and tourists will benefit from protection while those who lose traditional access will be less supportive.</p>
<p>Financing</p>			
<p>International Conventions &amp; Support</p>			
<p>Nature Tourism</p>			

**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<p><b>Wildlife Protection &amp; Trade</b></p>	<p>Hunting requires a license obtained from COHDEFOR and will be based on identification of permitted species, open and closed seasons, hunting zones, maximum size, sex , age and quantities. This activity is to be coordinated with municipalities. Regulations established by the Secretary of State for Natural Resources.</p> <p>Import and export of wildlife is only permitted under license issued by COHDEFOR.</p>	<p>Limits established should help to protect wildlife as long as they are enforced and not easily circumvented.</p> <p>A major challenge will be the control of the black market sales and exports.</p> <p>Overall enforcement may be difficult without local participation</p>	<p>Hunting will be restricted affecting locals who depend on hunted meat to satisfy some protein demands.</p> <p>Some animals destroy crops and property and represent a cost to those people living near protected areas. Greater numbers of animals could inflict more damage</p> <p>Some loss of income to people who collect animals for sale to traders. Greatest control problems will be for the sellers who make large profits in the market.</p> <p>Once numbers increase traditional hunters will have more access to sources of protein,</p>
<p><b>Water Policy &amp; Watershed Management</b></p>			
<p>Water Control, Use and Pricing</p>			

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**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<p><b>Watershed Management</b></p>	<p>Assigns role of watershed protection to the State and to the municipalities.</p> <p>It is illegal to site human settlements, military bases, industrial plants or other installation in areas that influence the water supply serving domestic and agricultural needs.</p> <p>Watershed declared the unit of operation and management in order to regulate the water regime and avoid downstream sedimentation.</p>	<p>Law will help to protect annual water flows and to limit the extent of erosion from hillsides.</p> <p>Will require development of institutional coordination capabilities and integrating planning opens policy discussion to include water pricing.</p>	<p>Upstream farmers may be forced off land or will need to negotiate how upland watersheds can best be managed and coordinate with agencies involved.</p> <p>Downstream inhabitants including irrigators, fishermen and electricity consumers will benefit.</p>
<p><b>Irrigation Provision and Pricing Policies</b></p>			
<p><b>Coastal Zone Management</b></p>			
<p><b>Quality of Coastal Resources</b></p>	<p>Law prohibits the dumping of contaminants into the ocean and coastal waters.</p> <p>Civil works along the coast must conform to standards that ensure that the shoreline and shoreline ecology is not damaged, or that serious ecological changes do not occur from the activity.</p>	<p>Coastal resources will be better protected and uncontrolled growth along the shoreline will be minimized but will require mechanism for citizen involvement to monitor and enforce regulations such as citizen suit, class action and injunctive capabilities.</p> <p>Enforcement of dumping regulations may be difficult while civil works can be controlled under EIAs.</p>	<p>Coastal inhabitants will benefit from less contamination as will consumers of seafood products.</p> <p>Wealthier segments of society and the hotel industry will find certain types of construction curtailed and their construction costs may rise.</p> <p>Poorer municipalities will find it hard to comply with new responsibilities.</p>

**Table 3: Environmental Law**

<b>Green Book Policy Taxonomy</b>	<b>Policy Tools</b>	<b>Impacts: Opportunities/Limitations</b>	<b>Stakeholders</b>
Use of Coastal Resources	Secretary of State for Natural Resources will declare closed seasons for certain fisheries.	Will help to improve the availability and viability of certain species that are susceptible to over-fishing enforcement and exclusion will be a problem.	Greatest short-term impact will be on artisanal and subsistence fisheries, however these groups may ultimately gain by the limitation of commercial fisheries during closed seasons
Management of Fisheries	Secretary of State for Natural Resources will declare closed seasons for certain fisheries.  Natural Resources can also demarcate zones of protection at sea and along the coast to ensure survival of species.	Will help to improve the availability and viability of certain species that are susceptible to over-fishing  Zoning may be particularly effective in limiting exploitation and ensuring protection of species.	Long term benefits for coastal inhabitants from protection of the resources upon which food supplies depend.  Efforts will limit profits of commercial fisheries and have short-term negative effects.  Benefits could accrue to other countries as protected species are migratory.
<b>Other</b>			
Natural Heritage	The State will protect the anthropological, archeological, cultural and ethnic heritage of the country.	Greater appreciation and respect for cultural patrimony.  Promotes greater understanding of humans and environmental interactions.	All citizens can benefit from efforts to understand the past and to develop pride in the culture.

**Table 3: Environmental Law**

Green Book Policy Taxonomy	Policy Tools	Impacts: Opportunities/Limitations	Stakeholders
<p>Environmental Education</p>	<p>Environmental education will be incorporated into the national education system and programs will be developed for extension, research and study to find solutions to environmental problems.</p> <p>The State will promote the participation of non-governmental organizations and the community in general in environmental education activities.</p> <p>State will require free air time for public service education, legislation and general environmental information programs.</p>	<p>Through education there will be a greater understanding of the environment and reasons for sustainable practices. Benefits will be long terms, especially as children gain greater knowledge.</p> <p>Modification of behavior over the long term.</p>	<p>The citizenry will benefit from greater knowledge and education on the environment.</p> <p>Teachers will be challenged to learn a new curriculum and short term resistance may exist.</p>

## Table 4: Municipalities Law

**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
<b>Population</b>	Law does not specifically mention population but the municipality is charged with ensuring the health and well-being of its citizens	Family planning programs supported by the municipality can serve to improve women's health and will have a long-term positive impact on natural resources	Women and children have the most to gain from decreased pressure on natural resources.  Groups opposed to family planning for religious or political reasons will be unresponsive
<b>Macroeconomic Policies</b>			
Natural Capital & the Economy			
Monetary & Credit Policies			
Exchange Rate Policies			
<b>Fiscal Management</b>	Municipalities must have a balanced budget; can issue bonds and borrow to finance capital projects.  Law establishes the ability of the municipality to raise funds from user fees, taxes, and other sources.	Balanced budgets helps to limit fiscal deficits.  Financing of capital projects will help ensure that adequate services are provided.  Ability to raise funds provides the municipality with increased autonomy.	Residents of the municipalities will benefit from extended and improved services.  Most services will be provided to concentrated urban areas and those living in more marginal areas may not be included within service plans.
Structural Adjustment Lending			
<b>Trade and Investment</b>			
Trade and Export Promotion			

**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
Privatization	Municipalities can contract out to private enterprise to obtain required municipal services.	<p>Can obtain services more efficiently and at a lower cost. The role of the municipality would be one of monitoring and control to ensure that standards are respected.</p> <p>Growth in private sector supply for services (water treatment, solid waste disposal, etc.)</p>	Private sector employment created. Inhabitants of the municipality will benefit from improved services, but costs may rise placing a burden on lower income residents.
Foreign Direct Investment			
Environmental Management Policies			
Water Quality	<p>Municipalities are charged with ensuring the quality of water in their areas to ensure the health of the population.</p> <p>Municipalities can levy taxes and charges on polluters to insure compliance with water quality standards</p>	<p>Investment in water treatment and water services will need to occur in most municipalities.</p> <p>Services can either be run by municipal authorities, contracted out to private enterprises or carried out through a mixed system.</p> <p>Capital to invest in adequate systems will be a constraint</p> <p>Municipalities will need to control discharges through effluent taxes or regulation</p>	<p>Everyone will benefit from improved water quality.</p> <p>Municipalities may need to tax or regulate industries to insure water quality standards. Such charges or controls will meet from opposition from businesses and agricultural industry as they will raise costs of production.</p> <p>Poorer municipalities will have trouble financing water and treatment systems and monitoring. So effectiveness of municipal role will be questionable in those cases.</p>

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**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
Air Quality	<p>Municipalities are charged with ensuring the health and quality of life of inhabitants and can regulate emissions from factories.</p> <p>Municipalities can institute zoning regulations to ensure that air polluting firms are located away from urban areas and can regulate vehicles.</p>	<p>If municipalities exert their control they will be able to have an impact on air quality and therefore, human health, in urban areas. The largest challenge is monitoring and control.</p> <p>Zoning will give the impression of pollution control but the concentration can tax the environment and probably require regulation or taxation.</p>	<p>Inhabitants of the municipality will benefit from cleaner air. The costs will be mostly absorbed by industry and motorists who would be subject to higher costs or to greater control.</p> <p>Some of these costs may be passed on to consumers.</p>
Land Disposal	Municipalities are charged with the control of land disposal and for ensuring that toxic wastes are not disposed of within the municipalities.	<p>Will help to limit contamination of soil and water supplies help prevent the accidental poisoning of citizens.</p> <p>Will require adequate sources of funding to ensure high quality service</p>	<p>All inhabitants gains from the added security and safety. Toxic waste producers will incur higher costs to insure safe and adequate disposal of wastes.</p> <p>Costs will need to be borne by citizens and may be difficult to afford for many.</p>
<b>Energy Policies</b>			
Fossil Fuels			
Hydroelectric Energy			
Alternative Fuels			
<b>Agricultural &amp; Livestock Policies</b>			
Product Price Controls			
Input Subsidies and Prices			
Direct Government Activities			

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**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
Regulation of Pesticides			
Livestock Policies			
Forest Management Policies			
Concession for the Use of Public Timber			
Forest Revenue Systems	Municipalities can charge a tax on forest extraction and forest product exploitation which represents between 1% and 2 % of the commercial value that the activity generates within municipal borders, independent of where transformation, collection or processing took place i.e.. a value added tax (VAT).	Will generate revenue for the municipality.	Industries will most likely pass on extra cost to the consumers in both the domestic and export markets. Municipal dwellers can benefit depending upon the use to which the tax revenue is placed.
Forest Industry and Trade Policies			
Private Forest Management	The municipalities must coordinate with the AFE in the issuance of permits and signing of contracts for the exploitation of forests within municipal boundaries.  Exploitation of these resources are subject to the extraction tax of between 1% and 2 %.	Convergence between the modernization law and the municipal law regarding shared responsibilities between municipal and national government for the control and management of forest lands.  Provides an extra bureaucratic layer for forestry permits that could slow the process depending on the coordination between municipal government and the State.	Private forest owners should still benefit from the right to control forest products from their stands. Additional bureaucracy could make permits and approval of management plans more time consuming and cause delays and frustrations.  Poorer farmers on forest land may not be able to pay extraction taxes.

**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
<p>Reforestation Policies</p>	<p>Municipalities are directly assigned responsibility for ensuring reforestation of land within its borders as well as protecting the ecosystems.</p> <p>Resource use, including reforestation activities, must be undertaken in accordance with national priorities and national development plans</p>	<p>Reforestation will be promoted but will need to occur in coordination with the AFE.</p> <p>Coordination will probably provide standard rules and regulations which should assist in implementation and control of resource projects.</p>	<p>Municipal government can benefit from the expertise and support from the national level, if it is available on a timely basis. Otherwise delays will occur in project implementation to the detriment of forest resource users and the municipality in general.</p> <p>Poorer municipalities may be unable to comply with responsibilities.</p>
<p>Fuelwood and other Biomass</p>	<p>Municipalities charged with both reforestation and provision of services to citizenry</p>	<p>Impacts on fuelwood are unknown but the potential is great in terms of promoting reforestation, fuel efficient stoves, etc. Coordination with the State with respect to domestic and industrial fuelwood efficiency and conversion to other energy sources potentially can create a market for alternative fuel sources.</p>	<p>Industry and households can benefit from more efficient technology and lower per unit energy costs.</p> <p>Growth in private sector supply of technology and alternative fuel sources.</p>

**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
<b>Land Tenure</b>			
Land Tenure and Markets	<p>National or common agricultural lands within municipal boundaries are subject to Agrarian Reform laws and INA can dispose of them under the appropriate legal mandates.</p> <p>Untitled urban lands become the possession of the municipality. Where land is under possession but with no legal control, the municipality can issue a title based on a charge of no less than 10% of the last tax value. For lots in marginal lands the charge can not be more than 10% of the value.</p>	<p>Leaves ownership issues for agricultural lands in the in hands of the national government. Impacts are hard to assess. It may simplify agrarian reform processes since all will be handled in one institution, however there is a loss of local control which compromises municipal autonomy.</p> <p>Autonomy is maintained for urban lands. Ownership rights are well defined and charges are specified for acquiring a title.</p>	<p>Offers opportunity for ownership of agricultural land through agrarian reform as outlined in the agricultural modernization law. Small farmers with little capital may be discriminated against.</p> <p>Access to urban land is made easy and costs for ownership for urban lands in marginal sectors are low and should allow inhabitants to take advantage of ownership.</p> <p>Any land speculation may occur.</p>
Land Use and Controls	The municipalities will control land and soil use.	Impacts are uncertain but opportunities for zoning to isolate polluters and limit overall levels of contamination is great. Enforcement will be required.	Municipal inhabitants will benefit from improved quality of life. Opposition among business that are forced to relocate or change processes. Increased costs to industry in general.
Colonization and Reform			
Indigenous Peoples			
Indigenous Land Rights			
Resource Management			
International Legal Instruments			
Changing Values & Moral Persuasion			

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**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
<b>Protected Areas and Wildlife Protection</b>			
Management Issues	<p>It is illegal for areas designated as green space or parks to be given in concession or used for private gain</p> <p>Municipalities will coordinate with State authorities to ensure the viability of protected areas located within the boundaries of the municipality.</p>	<p>Municipality takes a stake in the conservation of protected areas. Can possibly derive economic benefits from a management role.</p>	<p>The citizenry in general benefits from better environmental protection. Landless people who might normally try to occupy the land will not benefit from stricter control.</p> <p>Beneficiaries of greater control of protected areas are tourists and those earning revenue from park vistas and from tourism in general.</p>
Land Use Planning and Management			
Resource Management & the Local Community			
Financing			
International Conventions & Support			
Nature Tourism	<p>Municipalities are charged with the promotion of tourism.</p>	<p>Tourism promotion can generate revenue to support role municipality plays in protected areas.</p> <p>Promotion of tourism can generate revenue within the economy and create private sector employment.</p> <p>Increased tourism can also create public sector employment.</p>	<p>Private sector organizations involved in providing services to tourists.</p> <p>Small farmers or community people who can serve as guides or fill other direct service roles.</p>
Wildlife Protection & Trade			

**Table 4: Municipalities Law**

Green Book Policy Taxonomy	Policy Tools	Impacts/Opportunities and Limitations	Stakeholders
<b>Water Policy &amp; Watershed Management</b>			
Water Control, Use and Pricing			
Watershed Management	Municipalities are charged with environmental protection and reforestation as well as executing plans for rural development	<p>Municipalities, in coordination with the AFE, can promote watershed protection projects that promote agroforestry and reforestation in an effort to protect the environment and help increase rural incomes.</p> <p>Municipalities will need technical assistance.</p>	<p>Beneficiaries are small farmers living and working in watersheds, downstream farmers and resource users including irrigators.</p> <p>Electric consumers and electric utilities can benefit from less siltation of hydropower reservoirs.</p>
Irrigation Provision and Pricing Policies			
<b>Coastal Zone Management</b>			
Quality of Coastal Resources			
Use of Coastal Resources	Municipalities will tax the commercial value of all fish and marine life captured in national waters. The tax rate is between 1% and 2% of this commercial value.	<p>It will be hard to enforce especially for smaller scale fisheries and coastal resource users.</p> <p>The greatest impact may be on larger scale fisheries where the tax may be easier to apply.</p>	Evasion will be easy, and smaller-scale exploitation will probably not be monitored due to the difficulty and may not be affected.
Management of Fisheries			

**Table 5: Summary Table of the Four Honduran Laws**

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
<b>Population</b>	No specific mention but possible impacts due to improved status of widowed or single women holding land.	Not discussed in law	Not discussed in law despite population impacts on environment	Not mentioned but room for consideration through municipal responsibilities in health care, especially for women.
<b>Macroeconomic Policies</b>				
<b>Natural Capital &amp; the Economy</b>	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Monetary &amp; Credit Policies</b>	Credit provided for people with title and for farms under 10 has. from BANDESA for agriculture. No mention of subsidies	Subsidized credit for forestry for land over 5 has. May make forestry more attractive than some agriculture in the 5 to 10 has. range. Title also required.	Credit toward sustainable use and consistent with soil types. Many small farms in marginal areas may need to opt for forestry related credits.	No specific policy outlined in law
<b>Exchange Rate Policies</b>	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Fiscal Management</b>	Improved fiscal management in credit sector	Tax breaks intended to promote forestry, along with subsidized credit represents a major fiscal outlay in support of reforestation and forestry. Effects on government outlays and fiscal deficits need to be assessed.	Provides tax breaks for environmental in friendly technologies. Cumulative effects with other tax breaks need to be assessed.	Proposed tax breaks in forest law will need to be coordinated with municipal ability to tax resource use. Sources of revenue for municipal operations may be limited compared to responsibilities that must be assumed.
<b>Structural Adjustment Lending</b>	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
<b>Trade and Investment</b>				
Trade and Export Promotion	Opening of export and import markets through deregulation. Promotion of exports may have negative impacts on the environment	Export of forest products including logs is promoted, in conjunction with foreign investment.	Import controls on environmentally appropriate technology will be established.	No specific policy outlined in law
Privatization	Privatization of technology services and assures important role for private sector in agriculture. Limits state role and may limit access of poor.	No specific policy outlined in law	No specific policy outlined in law	Offers possibility to contract public services with private sector entities.  Will need control to ensure access of poor to services.
Foreign Direct Investment	Promotes freer investment of foreign capital in the forestry sector. Impact on jobs is uncertain.	Incentives established to make foreign investment particularly attractive where justification for log exports is desired. Could affect jobs in local processing industries if inefficient plants close. Offers justification for developing partnerships between national and foreign investors	No specific policy outlined in law	No specific policy outlined in law
<b>Environmental Management Policies</b>				
Water Quality	No specific policy outlined in law	No specific policy outlined in law	State will adopt regulatory standards to ensure control of emissions.	Municipalities will be responsible for enforcing standards and can levy taxes and charges on polluters.

Table 5: Summary Table of the Four Honduran Laws

Green Book Policy Taxonomy	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
Air Quality	Air quality will be addressed through the promotion of energy efficiency in domestic stoves and industry.	No specific policy outlined in law	Law establishes close coordination with municipalities. State will develop standards and move to ensure compliance.  Pollution from mobile sources not adequately addressed.	Municipalities, with help from the State, will apply standards and enforce regulations. Fiscal ability to do so must be addressed. Poorer municipalities may not have the capability.  Municipalities can enforce zoning regulations to limit pollution in concentrated urban areas. Can control pollution from mobile sources but not addressed adequately.
Land Disposal	No specific policy outlined in law	No specific policy outlined in law	Law provides for municipal role for disposal of wastes. Toxic imports are banned.	Law recognizes municipal role in safe disposal of wastes. Consistent with environmental law and role of the municipality.
<b>Energy Policies</b>				
Fossil Fuels	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
Hydroelectric Energy	Law gives the State a role to ensure conservation of soils and water which indirectly affects hydropower although no direct mention is made.	No specific policy outlined in law	All new hydroelectric plants will require an EIA. This is consistent with the conservation terms of the modernization law. May result in fewer projects and less loss of land from flooding. Alternative sources of energy will be necessary as well as conservation.	No specific policy outlined in law
Alternative Fuels	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Agricultural &amp; Livestock Policies</b>				
Product Price Controls	Elimination of price controls and distortions to benefit producers. Free market approaches applied. Support for small farmers and to poorer consumers not as available.	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
Input Subsidies and Prices	Law calls for subsidies that do not have high price distortions. No particular subsidies mentioned to promote specific agricultural policies as compared to specific subsidy incentives under forestry.	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law

Table 5: Summary Table of the Four Honduran Laws

Green Book Policy Taxonomy	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
Direct Government Activities	Government role is diminished in most areas which may affect smaller landholder and poorer consumers. Primary government role is in establishment of a strategic reserve for grains	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
Regulation of Pesticides	No specific policy outlined in law	No specific policy outlined in law	State role is established to insure the regulation and authorization of pesticides in an effort to control contamination and public health.	No specific policy outlined in law
Livestock Policies	No titles can be provided for land that is classified as forest and has been converted into livestock. Indirect control on expansion of agricultural frontier, but will not affect already titled property.	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Forest Management Policies</b>				
Concession for the Use of Public Timber	Consistent with free market approaches. Awards will be made by public auction with goal to have prices reflect value of trees and allow government to capture rent	All concession contracts aimed at better management through provision of secure contracts that last at least one growing cycle. Incentives provided to resource users for forest management on public lands of over 5 has.	No specific policy outlined in law	No specific policy outlined in law

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
Forest Revenue Systems	Establishes prices for timber that are differentiated by species and represent the highest possible value.	No specific policy outlined in law	No specific policy outlined in law	Municipalities will charge an extraction tax similar to a VAT of between 1% and 2%. Will raise revenue for the municipality but will not modify the state tax. Additional value added to wood.
Forest Industry and Trade Policies	Liberalization of trade including freer exports will make industry more profitable and result in closings and loss of employment in inefficient industries	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
Private Forest Management	Private landowners will receive the benefits from forest exploitation, government control is proscribed.  Credit available to cooperatives and legally recognized groups for private forest management	Incentive system established for management of forests on private lands including free assistance and reimbursements for activities based on management plans. Incentives apply for land holding greater than 5 has. Small farmers will have little to no access to incentives.	Establishes requirements of forest management plans for all forest exploitation.  May limit availability of small farmer to exploit forest lands.	Municipalities must coordinate on contracts let on their land for private forest management.  Exploitation subject to the use tax of 1% to 2% and the need for revenue might lead to increased exploitation without adequate State control.  No stipulations for working with smaller farmers within municipality.

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
<b>Reforestation Policies</b>	Calls for the reforestation of all public and private lands according to State regulations.	Reforestation incentives provided as discussed earlier. Also State offers incentives for industrial and fuelwood plantations. Medium to large farmers and industrial land owners will benefit.	No specific policy outlined in law	Municipalities assigned responsibility to ensure reforestation within borders. Municipalities must coordinate with State to ensure compliance with regulations and access to incentives.  Municipality free to operate own incentive system for reforestation.
<b>Fuelwood and other Biomass</b>	Promotion of energy generator construction and more efficient fuelwood technology to help limit deforestation.  Fuelwood efficiency should result in lower per unit energy costs.	Profits earned in the production of fuelwood will be exempt from taxes for up to 10 years.  Should result in greater use of land for plantations, but could create land conflicts between forestry and agriculture.	No specific policy outlined in law	Municipalities responsible for reforestation and provision of services will coordinate fuelwood and industrial plantations with the State.  Technical and financial capability of municipalities is questionable.
<b>Land Tenure</b>				
<b>Land Tenure and Markets</b>	All illegally held land will be returned to the State for reissue under land reform but permits right to buy land if held for at least 3 years prior to law.  More individual control and market control for land	No specific policy outlined in law	No specific policy outlined in law	Municipal lands designated as agricultural are subject to agricultural modernization law.  Municipalities can provide titles for municipal lands.

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
Land Use and Controls	Land use will be determined by classification and forest lands cannot be confiscated for non-use.	No titles can be provided under agrarian reform for forest classified lands for agricultural or livestock purposes.	Land on steep slopes, which would tend to be classified as forest, must be kept in permanent vegetative cover.	Municipalities will control the use of land and soil and will follow State stipulations regarding land use.
Colonization and Reform	Calls for the resettlement of people who live in critical watersheds, environmentally critical areas or in protected areas as a measure of last resort for protection.	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Indigenous Peoples</b>				
Indigenous Land Rights	Land rights established but communal land not addressed. Titles are provided at no charge.  Commercial exploitation of timber on indigenous lands is prohibited.  Protection of indigenous rights still questionable.	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law

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<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
<b>Resource Management</b>	Law calls for conservation and sustainable management of natural resources which is often consistent with indigenous practices but no specific mention of support for indigenous groups	No specific policy outlined in law	In contrast this law requires special support (not specified) to indigenous groups to undertake studies to understand integrated use of natural resources and create sustainable development models.  No specific actions outlined.	No specific policy outlined in law
<b>International Legal Instruments</b>	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Changing Values &amp; Moral Persuasion</b>	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Protected Areas and Wildlife Protection</b>				
<b>Management Issues</b>	All protected areas required to have management plans for resource protection	No specific policy outlined in law	Protected area system established and coordination between State and municipalities established.	Role given to municipality in coordination with the State to manage and control protected areas but no mention of revenue for municipalities to support greater municipal participation.  Municipalities cannot allow concessions for private gain in green spaces and protected areas.

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
Land Use Planning and Management	Establishes protection of endangered species through preservation of habitat .  Promotion of sustainable resource use and resettlement of people from protected areas to ensure protection as a last resort.	No specific policy outlined in law	Law calls for taking into account the combination of environmental, economic demographic and social factors in planning and decision making	No specific policy outlined in law
Resource Management & the Local Community	Laws calls for the establishment of management plans with support from NGOs and local communities but no specific actions are outlined.	No specific policy outlined in law	State can impose restrictions on land use, but will also promote the designation of buffer zones and exclusion areas to promote protection and sustainable use.	No specific policy outlined in law
Financing	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
International Conventions & Support	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
Nature Tourism	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	Municipalities have the responsibility of promoting tourism in general.  Coordination possible with State and NGOs.
Wildlife Protection & Trade	State regulation of hunting and wildlife exploitation in general.  Controls on the export of wild animals, except for ex-situ.	No specific policy outlined in law	Sets up licensing process for hunting and wildlife trade. Procedures consistent with policy established under modernization law.	No specific policy outlined in law

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
<b>Water Policy &amp; Watershed Management</b>				
Water Control, Use and Pricing	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
Watershed Management	<p>Calls for greater controls on watersheds including resettlement, management plans and prohibitions against farming steep slopes.</p> <p>Most will affect smaller farmers and those needing to farm marginal lands.</p>	<p>Provides incentives for reforestation and recuperation of watersheds, but again for landholdings greater than 5 has. Could result in larger farmers or wealthier individuals gaining access to marginal lands at the expense of smaller farmers.</p>	<p>Watershed declared a management unit and will involve coordination among ministries and municipalities.</p> <p>Makes it illegal to settle in critical watersheds and is thus consistent with resettlement point mentioned in other laws.</p>	<p>Municipalities have responsibility for protecting watershed and will coordinate with State to do so.</p> <p>Technical and financial capability of the municipalities not addressed.</p>
Irrigation Provision and Pricing Policies	All irrigation projects will involve the participation of users.	No specific policy outlined in law	No specific policy outlined in law	No specific policy outlined in law
<b>Coastal Zone Management</b>				
Quality of Coastal Resources	Reforestation and watershed management regulations will help insure quality of coastal resources. Otherwise no specific policy is mentioned.	No specific policy outlined in law	Controls on dumping and on construction can have a big impact. How regulations to be administered still not established.	No specific policy outlined in law
Use of Coastal Resources	No specific policy outlined in law	No specific policy outlined in law	Closed seasons and zoning will be established to protect species and coastal resources. Differentiation between commercial and subsistence resource users which is not clear in law	

**Table 5: Summary Table of the Four Honduran Laws**

<b>Green Book Policy Taxonomy</b>	<b>Agricultural Modernization Law</b>	<b>Forest Incentives Law</b>	<b>Environmental Law</b>	<b>Municipalities Law</b>
Management of Fisheries	No specific policy outlined in law	No specific policy outlined in law	Closed seasons and zoning will be established to protect species and coastal resources. Differentiation between commercial and subsistence resource users which is not clear in law	No specific policy outlined in law
<b>Other</b>				
Protection of Natural Heritage	No specific policy outlined in law	No specific policy outlined in law	Calls for protection of cultural and natural resources but is not specific on how this will occur.	No specific policy outlined in law
Environmental Education	No specific policy outlined in law	No specific policy outlined in law	Environmental education incorporated directly into the curriculum. Will serve to have generational benefits on the environment.	No specific policy outlined in law

**Table 6: Problem: Soil Erosion**

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**Table 6: Problem: Soil Erosion**

Green Book Categories	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
<ul style="list-style-type: none"> <li>• Monetary &amp; Credit Policies</li> <li>• Trade and Export Promotion</li> <li>• Water Quality</li> <li>• Fossil Fuels</li> <li>• Hydroelectric Energy</li> <li>• Alternative Fuels</li> <li>• Livestock Policies</li> <li>• Concessions for the Use of Public Timber</li> <li>• Forest Revenue Systems</li> <li>• Private Forest Management</li> <li>• Reforestation Policies</li> </ul>	<ul style="list-style-type: none"> <li>• State will promote greater energy efficiency and the development of energy producing plants to reduce deforestation and limit soil erosion.</li> <li>• The AFE is given a mandate to promote the sustainable use of forests to insure the conservation of soils</li> <li>• Land that is classified as apt for forest use cannot receive title or support for agricultural or cattle production purposes. This will serve to preserve soil quality and limit erosion.</li> <li>• Increased production of exports could lead to the use of marginal lands with increases in the amount of potential erosion.</li> <li>• The forest trade and revenue provision will help increase the value of forest resources and should lead to better management of forest lands and less deforestation helping to limit erosion.</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidized credit and tax breaks will be made available to support reforestation and management of watersheds.</li> <li>• Incentives for log exports could lead to harvesting practices that increase erosion unless required management plans are enforced.</li> <li>• Tenure and concession policies increase the value of timber and should lead to improved resource management and better management of soils.</li> <li>• Incentives provided for management of natural forests and use of forest products can lead to more sustainable practices on forested land and greater vegetative cover which would limit erosion. Application of incentives toward sustainable management is required with possible support from NGOs.</li> <li>• Forest land or land classified as forest will be ineligible for ownership under agrarian reform for agricultural purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• Law promotes the orientation of agricultural credit toward activities consistent with soil types to address problems of erosion.</li> <li>• Forest management plans are required for all forest exploitation. Opportunities to control practices that cause erosion.</li> <li>• Law establishes that soils located on steep slopes or likely to erode should be maintained under permanent vegetative cover and not made available for agrarian reform.</li> <li>• Requires soil conservation measures are practiced on all lands. Enforcement is difficult.</li> </ul>	<ul style="list-style-type: none"> <li>• Municipalities are charged with maintaining the quality of water to ensure the health of the population. This will include control of sedimentation by controlling erosion or by treatment.</li> <li>• Municipalities are responsible for promoting reforestation within their boundaries and reforestation activities can lead to control of erosion.</li> <li>• Responsibility for the control of land use and of soil is also a municipal responsibility. Municipalities are authorized to control erosion.</li> </ul>

**Table 6: Problem: Soil Erosion**

Green Book Categories	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
<ul style="list-style-type: none"> <li>• Fuelwood and other Biomass</li> <li>• Land Tenure and Markets</li> <li>• Land Use and Controls</li> <li>• Colonization and Reform</li> <li>• Protected Areas Management Issues</li> <li>• Land Use Planning and Management</li> <li>• Watershed Management</li> <li>• Quality of Coastal Resources</li> <li>• Use of Coastal Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Management plans can help to limit the amount of clear-cutting on steep hillsides. Government control and enforcement of management plans will be required to ensure that harvesting practices do not create more erosion.</li> <li>• All forested land must be regenerated within 2 years of cutting, also State will work with communities to promote silvicultural practices that guard against soil erosion.</li> <li>• Secure tenure on private lands and long-term concessions for forest exploitation on public lands will lead to better resource management and begin to stem erosion problems.</li> <li>• The law creates the option to resettle people who live and exploit resources in critical watersheds to protect soil and water resources and general prohibitions against farming on steep hillsides are established.</li> </ul>	<ul style="list-style-type: none"> <li>• Incentives provided to promote projects that protect watersheds and address the problem of the expanding agricultural frontier through reforestation.</li> </ul>	<ul style="list-style-type: none"> <li>• Law requires that EIA's and land use planning activities be carried out to address issues related to environmental degradation, including soil erosion.</li> <li>• The State is authorized to impose restrictions on all land use in protected areas.</li> <li>• Stringent watershed controls are imposed including the prohibitions of settlement and siting of plants, bases, etc. on watersheds. In addition the watershed is declared a planning unit that will involve coordinated resource planning efforts. As a result soil erosion from steep slopes will be addressed.</li> <li>• Civil works along coastlines must conform to standards that insure that coastal erosion is controlled and that shoreline and coastal ecosystem is not damaged by siltation from erosion for instance.</li> </ul>	<ul style="list-style-type: none"> <li>• Municipalities will coordinate with the State to ensure the viability of protected areas and will manage the protection of green spaces. These activities can contribute to limiting soil erosion.</li> <li>• The municipalities will be required to manage watersheds to insure availability of water and to control erosion. This is consistent with their mandate for the control of the environment and for the management of rural development activities.</li> </ul>

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## **Table 7: Problem: Loss of Biological**

**Table 7: Problem: Loss of Biological Diversity**

Green Book Categories	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
<ul style="list-style-type: none"> <li>• Monetary &amp; Credit Policies</li> <li>• Trade and Export Promotion</li> <li>• Water Quality</li> <li>• Hydroelectric Energy</li> <li>• Concessions for the Use of Public Timber</li> <li>• Private Forest Management</li> <li>• Reforestation Policies</li> <li>• Land Tenure and Markets</li> <li>• Land Use and Controls</li> <li>• Indigenous Land Rights</li> <li>• Indigenous Resource Management</li> </ul>	<ul style="list-style-type: none"> <li>• Under Trade and Export policies, increased foreign investment in forestry may encourage mono-cropped plantations and loss of biological diversity.</li> <li>• Trade liberalization and the promotion of exports can stimulate mono-cropping in agriculture and limit numbers of species. Mono-cropping also likely in energy and multiple use plantations. May result in increase in pesticide use.</li> <li>• Export promotion can also lead to greater conversion of coastal lands to shrimp and mariculture production with subsequent destruction of diverse coastal ecosystems.</li> <li>• Forest policies will increase the efficiency of resource use as the value of forest products rises. Replantings will take place with the tendency to replant in a few higher value faster growing species yielding stands that do not resemble natural forests in species composition</li> </ul>	<ul style="list-style-type: none"> <li>• Under Trade and Export policies, increased foreign investment in forestry may encourage mono-cropped plantations and loss of biological diversity.</li> <li>• Incentives provided to industry and private landowners will stimulate the forestry industry. Economic incentives may encourage planting one or two species that maximize profits with little regard for biological diversity. Theoretically, exploitation of forest requires a management plan, but unless approval is contingent on maintaining a certain level of diversity there may be no incentive to do so.</li> <li>• Forestry incentives should result in slower rates of conversion of forests to other uses. Limited conversion can help protect biological diversity.</li> <li>• Land tenure rules will not permit the conversion of forest land to agriculture. The impact on bio-diversity will depend on how the forest stand is managed, but the potential is for higher diversity than for agriculture.</li> </ul>	<ul style="list-style-type: none"> <li>• The prohibition against waste dumping in inland and coastal waters will help protect fragile ecosystems and serve to protect the diversity of species .</li> <li>• Any new hydropower plant construction will require an EIA as will any large project in the country. The EIA should include a component that deals with the mitigation of the loss of biological diversity.</li> <li>• Forest management plans are required. Although no mention is made of biological diversity these plans can be used as a tool for its preservation.</li> <li>• Indigenous groups will receive special support (not stipulated what it will be) for integrated use of natural resources. Studies will be promoted to establish the viability of indigenous resource use models to promote sustainable development.</li> <li>• Law creates the Protected Areas System specifically to ensure the protection of biological diversity.</li> </ul>	<ul style="list-style-type: none"> <li>• Municipalities will coordinate with the AFE to issue forest exploitation contracts. If so inclined municipalities can make the protection of biological diversity a requirement.</li> <li>• Municipalities are assigned responsibility for ensuring reforestation for lands within their borders. The manner in which reforestation occurs and the types of species used can contribute to biological diversity preservation. No provisions made for generating and guaranteeing revenue for these duties, however.</li> <li>• The law makes it illegal to exploit or provide title to lands designated as green space, parks or protected areas. Areas of biological diversity will be preserved.</li> <li>• Municipalities will coordinate with the State to ensure that protected areas are adequately managed to ensure their protection. Since the highest biological diversity will be found in parks, this stipulation should ensure protections if enforcement occurs.</li> </ul>

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**Table 7: Problem: Loss of Biological Diversity**

Green Book Categories	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
<ul style="list-style-type: none"> <li>• Protected Areas Management Issues</li> <li>• Land Use Planning and Management</li> <li>• Resource Management &amp; the Local Community</li> <li>• Wildlife Protection and Trade</li> <li>• Watershed Management</li> <li>• Use of Coastal Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Silvicultural practices promoted among communities on watersheds, especially for agroforestry initiatives, offer a potential for promoting species differentiation</li> <li>• The law creates an option for resettlement of people living in protected areas. Would eliminate pressures on protected areas.</li> <li>• Land tenure rules will not permit the conversion of forest land to agriculture. The impact on biodiversity will depend on how the forest stand is managed, but the potential for diversity is higher than for agriculture.</li> </ul>	<ul style="list-style-type: none"> <li>• Incentives to promote agro-forestry should result in a diversity of tree species for food that fodder and will be certainly greater than for traditional agricultural practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Law establishes the requirement for land use planning to ensure that land use is consistent with environmental, economic, demographic and social factors. The impact of this article is difficult to determine but adequate land use planning can result in the protection of biological diversity.</li> <li>• Exclusion zones and buffer zones around parks will be created to ensure the protection of biological diversity. Enforcement will be required.</li> <li>• All hunting requires licenses from COHDEFOR which will control access to areas and establish seasons. All animal export will require permits from the agency. If enforced adequately, will lead to greater protection of biological diversity.</li> <li>• Closed season will be declared for certain fisheries and shellfish to help ensure the viability of the species.</li> </ul>	<ul style="list-style-type: none"> <li>• Municipalities are charged with developing rural development plans. The nature of those plans can have a significant impact on biodiversity.</li> <li>• Municipalities are given responsibility for natural resource management and insuring environmental quality, but little attention is given to how municipalities will implement these responsibilities. Cost and revenue sharing issues are not addressed and are left up to the implementation process.</li> </ul>

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**Table 7: Problem: Loss of Biological Diversity**

Green Book Categories	Agricultural Modernization Law	Forest Incentives Law	Environmental Law	Municipalities Law
	<ul style="list-style-type: none"> <li>• Indigenous groups rights to land is recognized and indigenous management may result in greater diversity depending on the types of agricultural systems employed. Law is uncertain regarding the extent and class of land that will be recognized for title (individual vs. communal)</li> <li>• No habitat modification is allowed that threatens endangered species unless mitigative measures are taken.</li> </ul>			
	<ul style="list-style-type: none"> <li>• The law provides for the protection of wildlife diversity by regulating hunting and sale of animals, establishing closed seasons, and permitting trade in animals only for those raised in captivity.</li> <li>• Law requires management plans for forest activities and protected area management. Type of management will have impact on biodiversity.</li> </ul>			

# Analysis of Forest Management Policies in Central America

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# Analysis of Forest Management Policies in Central America

The information presented in Table 1 summarizes forest management policies in Belize, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua using the Green Book taxonomy as a framework. The taxonomy is a systematic method for disaggregating the components of a policy and identifying the impact on behavior attributable to each.

The first row in the table identifies the principal written legislation that directly governs forest management practices in each country. Each subsequent row examines a particular aspect of forestry policy that is identified in the Green Book taxonomy as having implications for the use and conservation of forested areas. If a particular policy tool is used in a country, a brief description appears in the cell.

The information in the table was obtained by examining existing legislation, reviewing recent analyses of the forest sector and forestry policy, and interviewing key people in the forestry sector. These interviews were used to explore the extent to which written policies in these countries differ from the policies that are actually implemented, to clarify the relative importance of particular aspects of policy, and to identify obstacles to implementation.

The information in the table is as accurate and complete as possible as of May 1994. Cells of the table have been left blank where relevant information is lacking.

The usefulness of the table is found not so much in the timeliness of the country-specific information (that will change rapidly) as in the methodology used to dissect forest sector policy. The systematic disaggregation illustrated in the table makes it possible to examine the interactive impact of policy tools within a country and to compare them across countries.

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Principal Legislation</b>	<ul style="list-style-type: none"> <li>• Forests Act, 1927</li> <li>• Private Forests (Conservation) Act, 1945</li> <li>• Forest Fire Protection Act, 1962</li> <li>• National Parks System Act, 1981</li> <li>• Forest Rules, 1963</li> <li>• Forest (Protection of Mangroves) Regulations, 1989</li> </ul>	<ul style="list-style-type: none"> <li>• Forestry Law (Decree 7174) 1990.</li> <li>• New forest policy, September 1993.</li> </ul>	<ul style="list-style-type: none"> <li>• Decree 268 adopted Feb 1973 (Forestry Law), Regulations never written.</li> <li>• Decree 458 adopted October 23, 1973.</li> <li>• Decree 59 adopted August 22, 1985 (Forestry Ban for El Imposible Forest).</li> <li>• Decree 418 adopted July 1986.</li> <li>• Draft Forestry Law dated July. 1993.</li> </ul>	<ul style="list-style-type: none"> <li>• For non protected areas Forestry Law (Decree 70-89), January 1990</li> <li>• Protected Areas Law (CONAP Decree 4-89), 1989</li> <li>• CONAP forest management concession regulations, March 1994</li> </ul>	<ul style="list-style-type: none"> <li>• Law for the Development and Modernization of the Agricultural (Decree 31-92), March 1992, State Forestry Administration (AFE) implemented by COHDEFOR</li> <li>• Forestry Regulations July 1993</li> <li>• Municipalities Law</li> </ul>	<ul style="list-style-type: none"> <li>• Interim Emergency Decree (45-93), Adopted in November 1993 (Selective compilation of previous forestry law regulating forest extraction until permanent law is established)</li> </ul>
<b>Concessions For the Use of Public Timber</b>						
<b>Duration/Security</b>	<ul style="list-style-type: none"> <li>• Not restricted by law, but in practice tend to be 1 to 10 years. Concession periods are generally too short to encourage the use of sustainable management practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Not restricted by law.</li> <li>• No concessions have been granted for some time. Historically, concessions have been granted for 1 to 2 year periods, reportedly to constrain overcutting.</li> <li>• Only very small areas of publicly-owned timber exist that are not on protected land.</li> </ul>	<ul style="list-style-type: none"> <li>• One year. Concession period is too short to encourage use of sustainable management practices.</li> <li>• Proposed law does not specify length of concession.</li> <li>• Only very small areas of publicly-owned timber exist that are not on protected land.</li> <li>• Currently, concessions exist for mangroves only.</li> </ul>	<p>For Non Protected Areas (NPA):</p> <ul style="list-style-type: none"> <li>• 10 years or less</li> <li>• No concessions have been granted under current legislation.</li> </ul> <p>For Protected Areas (PA):</p> <ul style="list-style-type: none"> <li>• 25 years or less</li> </ul>	<ul style="list-style-type: none"> <li>• Not limited specifically by law but referred to forest management plan. Regulations establish that the length of the concession should be determined by the nature of the extraction, and principles of protection, conservation and reforestation.</li> <li>• In practice, concession periods are short (less than 4 years) as concessions are design to allow extraction of existing timber only.</li> </ul>	<ul style="list-style-type: none"> <li>• Not specified by law (Concessions are not addressed directly in the decree, nor have any concessions been awarded under the current legislation.)</li> </ul>

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Sale and Transfer</b>	<ul style="list-style-type: none"> <li>Four types of licences are granted: for sustained yield harvesting, for liquidation basis, forest permit where royalty does not exceed \$1000, and a petty permit if royalty is not in excess of \$50. Licences are to be granted if conducive to good forest management.</li> <li>Licences for concessions on public land cannot be transferred.</li> <li>The short duration of concession periods lessens the importance of this aspect of concession in determining the overall policy impact.</li> </ul>	<ul style="list-style-type: none"> <li>By law, licenses for concessions on public land cannot be transferred.</li> <li>The short duration of concession periods lessens the importance of this aspect of concession in determining the overall policy impact.</li> </ul>	<ul style="list-style-type: none"> <li>Licenses for concessions on public land cannot be transferred without authorization.</li> <li>The short duration of concession periods lessens the importance of this aspect of the concession in determining the overall policy impact.</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>Licenses for concessions on public land cannot be transferred.</li> <li>No concessions have been granted under the current legislation. Presumably, however, the inability to transfer the rights of relatively long concession, may discourage the use of sustainable management practices.</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>Sale and transfer allowed to qualified buyer with prior CONAP's approval. Only one concession has been granted, still system security has not been tested.</li> </ul>	<ul style="list-style-type: none"> <li>Licenses for concessions on public land cannot be transferred.</li> <li>The short duration of concession periods lessens the importance of this aspect of concession in determining the overall policy impact.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified by law</li> </ul>
<b>Exclusivity</b>	<ul style="list-style-type: none"> <li>All licenses except petty permits grant exclusive rights for the specified resource in the license area unless otherwise stated.</li> </ul>	<ul style="list-style-type: none"> <li>The law does not specifically grant exclusive rights.</li> </ul>	<ul style="list-style-type: none"> <li>The law does not specifically grant exclusive rights.</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>The law does not specifically grant exclusive rights.</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>Community concessions are granted exclusive rights for timber and non timber products.</li> <li>Commercial concessions grant exclusive rights only for timber products.</li> </ul>	<ul style="list-style-type: none"> <li>The terms of the concession must protect historical use rights of current occupants (small foresters, indigenous communities or campesino organizations)</li> </ul>	<ul style="list-style-type: none"> <li>Not specified by law (Concessions are not addressed directly in the decree, nor have any concessions been awarded under the current legislation.)</li> </ul>

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Renewal &amp; Extension</b>	<ul style="list-style-type: none"> <li>Renewal is uncertain. Many continue harvesting beyond expiration date because monitoring is problematic and enforcement weak.</li> </ul>	<ul style="list-style-type: none"> <li>Concessions can be renewed for additional one year periods, provided all conditions have been met.</li> </ul>	<ul style="list-style-type: none"> <li>Concessions can be renewed for additional one year periods provided all previous restrictions and conditions were met.</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>The law does not specify and no concessions have been granted under current legislation.</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>Renewal allowed up to 25 years provided all previous conditions and restrictions are met.</li> </ul>	<ul style="list-style-type: none"> <li>The law does not specify.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified by law.</li> </ul>
<b>Revocability</b>	<ul style="list-style-type: none"> <li>Revocable for noncompliance with management plans, not well enforced. (Overcutting is common)</li> </ul>	<ul style="list-style-type: none"> <li>Revocable for noncompliance with management plans, not well enforced. (Overcutting has been common)</li> </ul>	<ul style="list-style-type: none"> <li>Revocable for noncompliance with management plans, unauthorized transfer of rights, unauthorized use of resources or fraudulent license application. Not enforced.</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>Revocable for noncompliance with management plans.</li> <li>Has not been tested under current legislation.</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>Revocable for non compliance with contract and management plan, for insufficient operating capacity, is legally restrained from operating, for bankruptcy.</li> </ul>	<ul style="list-style-type: none"> <li>Revocable for noncompliance with management plans, not enforced (over cutting is common).</li> </ul>	<ul style="list-style-type: none"> <li>Not specified by law (Concessions are not addressed directly in the decree, nor have any concessions been awarded under the current legislation.)</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<p><b>Conditions and Restrictions</b></p> <p><b>Management Plan</b></p>	<ul style="list-style-type: none"> <li>• With the exception of the Mountain Ridge Pine long term management plan being implemented under sustainable principles, in reality the rest of the management plans are cutting plans required to be prepared by a professional forester. Plans generally specify only volumes and species to be harvested and do not ensure following of sustainable management practices.</li> <li>• All timber must be marked with a registered brand by owner according to cutting plan.</li> </ul>	<ul style="list-style-type: none"> <li>• In reality the management plans are little more than cutting plans required to be prepared by a professional forester and approved by the Forest Service. They specify the volume and species of trees to be cut and little else.</li> <li>• One principle generally underlying management plans, that for the first cut only 60% of the commercial timber in an area is harvested, is often ignored. Overcutting is common.</li> <li>• Only trees marked by forest service official can be cut.</li> </ul>	<ul style="list-style-type: none"> <li>• Forest Management plans are required to be under sustained yield principles but are essentially simple cutting plans.</li> <li>• The regulations that were supposed to guide development of forest management plans were not officially written.</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>• Forest management plan is required. Plan must be produced by professional forester and must be approved by DIGEBOS for nonprotected areas and CONAP for protected areas. Plans are basically cutting plans.</li> <li>• CONAP and DIGEBOS do not have the capability to effectively monitor and enforce restrictions.</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>• Forest management plans are required following sustainable management principles, respecting biodiversity and local population, and include an environmental impact assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Management plan, reforestation plan and environmental impact assessment produced by professionals and authorized by COHDEFOR are required.</li> <li>• In practice, management plans are essentially simple cutting plans and are not effectively used to ensure sustainable forest management practices.</li> <li>• COHDEFOR does not have the capability to effectively monitor compliance with management plans.</li> </ul>	<ul style="list-style-type: none"> <li>• SFN is responsible for developing developing guidelines and implementing forest management plans that ensure conservation and sustainable production for all state-owned property.</li> <li>• As of April 1994, SFN has not completed forest management plans for state owned forest.</li> </ul>

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Management Plan (continued)				<p>Plans also should address non timber products, and explicitly consider protection of biodiversity, and archaeological and special ecological sites.</p> <ul style="list-style-type: none"> <li>• Management plans should be prepared and monitored by registered consulting firms for commercial concessions, and for communities by the collaborating organization (NGO, PVO).</li> <li>• Forest protection of the area is the responsibility of the concessionaire including controls of fires, access, deforestations, illegal extraction, boundary delimitation.</li> <li>• A performance bond is required to ensure compliance of contract.</li> </ul>	<ul style="list-style-type: none"> <li>• COHDEFOR has produced a technical manual for guiding development and assessment of forest management plans to provide standardization and improved enforceability. However, the manual lacks technical rigor and long term environmental principles.</li> </ul>	

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Annual Allowable Cut</b>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>	<ul style="list-style-type: none"> <li>Not defined under sustainable principles and ineffectively enforced</li> </ul>	<ul style="list-style-type: none"> <li>Not defined and ineffectively enforced</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>Not specified</li> <li>Not effectively enforced</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>Specified in the management plan and based on annual growth, cutting cycle (25 years), commercial species, existing volume and area. Still this a new concept for which no experience precedes in the PA.</li> </ul>	<ul style="list-style-type: none"> <li>Not effectively enforced</li> </ul>	<ul style="list-style-type: none"> <li>Specified under ADFOREST mandate but guidelines not available.</li> <li>No concession has been granted under this principle.</li> </ul>
<b>Transport licenses</b>	<ul style="list-style-type: none"> <li>All timber must be accompanied by waybill for transit outside of the licensed cutting area, rarely monitored.</li> </ul>	<ul style="list-style-type: none"> <li>License required to transport timber.</li> <li>Transportation during particular seasons is restricted.</li> </ul>	<ul style="list-style-type: none"> <li>Transport documents issued by the Forest Service required to transport wood products.</li> </ul>	<ul style="list-style-type: none"> <li>License required to transport timber</li> </ul>	<ul style="list-style-type: none"> <li>License is required to transport timber</li> </ul>	<ul style="list-style-type: none"> <li>License is required to transport timber</li> </ul>
<b>Diameter cutting limits</b>	<ul style="list-style-type: none"> <li>Minimum diameter required and differentiated for broadleaf and coniferous</li> </ul>	<ul style="list-style-type: none"> <li>Minimum diameter of 60 centimeters for most species or especified per species</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>Not specified</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>For caoba &amp; cedar 60 cm minimum DBH, others commercial species 45 cm with technical justification.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>
<b>Time limits on timber cutting permit</b>	<ul style="list-style-type: none"> <li>Time limits do not specify initiation of cutting, however because of problematic renewal there are strong incentives to harvest the maximum amount permitted.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>	<p>For NPA:</p> <ul style="list-style-type: none"> <li>Not specified</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>A minimum and a maximum volume is fixed to be cut per year with a +- 20% variation tolerance within a year but balanced within continues three years.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified in law but regulated by management plans</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>

<b>Forest Management Policies</b>						
	<b>Belize</b>	<b>Costa Rica</b>	<b>El Salvador</b>	<b>Guatemala</b>	<b>Honduras</b>	<b>Nicaragua</b>
<b>Quantity Limits without respect to time</b>	<ul style="list-style-type: none"> <li>Granted for specified volume</li> </ul>	<ul style="list-style-type: none"> <li>Granted for specified volume of trees</li> </ul>	<ul style="list-style-type: none"> <li>Granted for specified volume of trees</li> </ul>	<ul style="list-style-type: none"> <li>Specified volume of timber is established in management plan.</li> </ul>	<ul style="list-style-type: none"> <li>Specified maximum volume of timber is established in management plan.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>
<b>Restrictions, prohibitions and quotas</b>	<ul style="list-style-type: none"> <li>Cutting of protected species is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>Cutting of restricted species is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Agriculture has authority to impose prohibitions as necessary</li> </ul>	<ul style="list-style-type: none"> <li>Cutting of protected species is prohibited following internal and SITES criteria</li> </ul>	<ul style="list-style-type: none"> <li>Cutting of protected species is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>
<b>Reforestation requirements</b>	<ul style="list-style-type: none"> <li>Not specified in management plans</li> </ul>	<ul style="list-style-type: none"> <li>Reforestation or regeneration plan required.</li> <li>Deposit required but often forfeited.</li> </ul>	<ul style="list-style-type: none"> <li>Reforestation required by law. Government may require payment for reforestation from permit holders in lieu of direct reforestation</li> <li>The proposed law also requires concession holders to reforest.</li> </ul>	<p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>Reforestation of logged area required.</li> <li>Bank deposits required to ensure reforestation probably not sufficient to ensure follow-through.</li> <li>DIGEBOS do not have the capacity to monitor reforestation after planting to ensure success.</li> </ul> <p><b>For PA:</b></p> <ul style="list-style-type: none"> <li>Plans require natural regeneration management and completion reforestation if insufficient. System has not been tested but institutional weakness is a concern.</li> </ul>	<ul style="list-style-type: none"> <li>Reforestation of logged area is required.</li> <li>Concession holders must pay a deposit equal to 20% of the standing value of the timber to be extracted. (Too soon to perceive efficacy)</li> </ul>	<ul style="list-style-type: none"> <li>Not specified</li> </ul>

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Award Process Competitive Bid</b>	<ul style="list-style-type: none"> <li>• By law licenses for a single type of forest produce are to be advertised and granted to the highest bidder by the Chief Forest Officer. In reality, it is reported that concessions are awarded subject to political influence.</li> <li>• Licenses permitting harvest and removal of more than one species are subject to a tender procedure, but are also awarded at the prerogative of the Minister of Natural Resources and not necessarily to the highest bidder.</li> <li>• Award process is not subject to public scrutiny.</li> </ul>	<ul style="list-style-type: none"> <li>• Currently, no concessions exist. In the past, permits were administratively granted.</li> </ul>	<ul style="list-style-type: none"> <li>• Permits are granted administratively.</li> </ul>	<p><b>For both NPA &amp; PA:</b></p> <ul style="list-style-type: none"> <li>• Laws specify that concessions must be granted competitively through assessment of sealed bids. The process, however, has been tested only once in a PA.</li> <li>• Evaluation criteria are very broad including price, quality, time. This leaves room for administrative discretion and favoring large firms.</li> <li>• Laws do not provide guidance on sound weighting of evaluation criteria.</li> <li>• Evaluation committee could have substantial latitude in granting concession.</li> <li>• Firms must have 70% for NPA and 100% for PA of Guatemalan ownership.</li> </ul>	<ul style="list-style-type: none"> <li>• Concessions can be directly negotiated:                             <ol style="list-style-type: none"> <li>1. by executive decree;</li> <li>2. for Campesino groups, small producers (no more than 20 hectares), and small forestry companies for annual volumes less than 1,000 cubic meters of conifer and 200 cubic meters for broadleaves.</li> </ol> </li> <li>• The price for direct negotiation will be based on the price received by auction for similar types of wood in the same region in the prior year. The total amount of direct negotiations cannot exceed 2,000,000 lempiras (constant terms -1993) per year.</li> </ul>	<ul style="list-style-type: none"> <li>• Not specified</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Award Process Competitive Bid (continued)				<ul style="list-style-type: none"> <li>• Some of CONAP bid requirements include: characteristics of the bid and area, concessionaire requirements, performance bond or equivalent, type and method of payment, prior to signing of contract criteria to be followed by the evaluation committee, draft bid model and contract including management plan.</li> <li>• For PA CONAP has developed technical and legal norms for granting forest management concessions including guidelines for selecting concession sites, forest management plans, procedures for awarding concessions under public competitive bidding.</li> </ul>	<ul style="list-style-type: none"> <li>• All but one concession has been granted administratively.</li> </ul>	

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Granted Administratively	<ul style="list-style-type: none"> <li>Permits for forest products other than rosewood, chicle or crown gum can be granted by the Chief Forest Officer without competitive bidding if the estimated royalty does not exceed \$1,000 and the license period does not exceed one year.</li> <li>Petty permits for the extraction of timber or other forest produce from private or crown lands (NO OTHER TEXT HERE)</li> </ul>	<ul style="list-style-type: none"> <li>No concessions currently exist. In the past concessions were granted administratively.</li> </ul>	<ul style="list-style-type: none"> <li>Permits are granted administratively.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>		

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Forest Revenue Systems</b>						
<b>Charges on Concessions</b>						
<b>Charges based on Standing Timber</b>	<ul style="list-style-type: none"> <li>Royalties for standing timber based on stumpage values determined by the Forestry Department. No valuation system is in place.</li> <li>Rates are low in relation to the world market values.</li> <li>Fees do not accurately reflect variation in value among species.</li> <li>Royalties based on value indicated in management plan.</li> <li>The government does not have the capability to detect underpayment due to overcutting.</li> </ul>	<ul style="list-style-type: none"> <li>The Forest General Directorate (DGF) establishes the minimum stumpage values annually for four value levels of species from "very high value" to "little value".</li> <li>Concession holders must pay a tax equal to 10% of the stumpage value prior to extraction.</li> <li>Tax receipts are split among DGF (80%) municipal government (10%) and cooperatives and forestry corporations (10%).</li> </ul>	<ul style="list-style-type: none"> <li>No charges assessed on timber extraction on any form of concession or license except for mangroves, on a per tree basis.</li> <li>Proposed law specifies that concession holders must pay a tax corresponding to the stumpage value for each cubic meter of timber cut from mangroves only. For other species is not specified. The stumpage value will be fixed each year by the Forest Institute.</li> </ul>	<p><b>For NPA &amp; PA:</b></p> <ul style="list-style-type: none"> <li>The competitive bidding process calls for offerors to propose an amount and form of payment for standing timber, by species.</li> <li>Maximization of revenue is not guaranteed because revenue generation is only one of several evaluation criteria for granting award.</li> <li>Government's ability to compare proposed payments to actual stumpage value of timber inventory has never been tested.</li> </ul>	<ul style="list-style-type: none"> <li>Amount of payment for standing timber generally determined by competitive bidding process, subject to minimum values defined by COHDEFOR.</li> <li>COHDEFOR will publicize semi-annually the estimated values of standing timber by region taking into account tree quality and potential use. Valuation methodology is flexible.</li> </ul>	<ul style="list-style-type: none"> <li>The decree states that permit holders must pay the government for the value of the standing timber.</li> <li>The decree states that SFN will estimate and publicize regularly reference prices for standing timber, cut logs, and semi-processed logs for all types and species of wood including fuelwood. Prices have not been officially released.</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Charges based on Standing Timber (continued)				<ul style="list-style-type: none"> <li>Government probably does not have the capability of detecting underpayment resulting from overcutting or understating tree size in forest inventory.</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>For commercial concessions charges on timber harvested will be based on 100% of annual payment of standing timber stumpage value approved by CONAP &amp; DIGEBOS as minimum bid. Volumen will be based on annual allowable cut.</li> <li>Minimum base price was established by the Minister of Agriculture and it has not been revized since 1990.</li> <li>For community concessions charges on timber harvested will be based on 10% of minimum timber standing timber value approved.</li> <li>Charges could also be paid on bolume inventoried.</li> </ul>	<ul style="list-style-type: none"> <li>Amount of payment for standing timber for concessions negotiated directly (non-competitively) is based on the price obtained by competitive bidding in the prior year for similar forests from the closest area.</li> <li>Concession proceeds go directly to government treasury.</li> <li>Government probably does not have the capability of detecting underpayment resulting from overcutting or understating tree size in proposal inventory.</li> </ul>	<ul style="list-style-type: none"> <li>The decree law also states that permit holders must pay a tax of C\$10.00 and C\$ 15.00 per cubic meter of standing timber marked for extraction for broadleaf and pine species respec-tively.</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Annual Ground Rentals</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• For community concessions, a flat amount of 10 Quetzales per hectare is paid over a ten year period.</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Per Tree Charges</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Current law states that license holders must pay 2.50 colones per tree extracted from Mangroves.</li> <li>• Charges for other trees are not specified.</li> <li>• Proposed law charges for extraction of any species based on stumpage value.</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Charges on Timber Harvested from Private Lands</b>	<ul style="list-style-type: none"> <li>• License holders must pay a tax equal to one-half the royalty rates charged for extraction of timber from publicly owned lands.</li> <li>• No tax is charged for extracting timber from private land smaller than 100 acres for personal use.</li> <li>• Taxes do not accurately reflect variation in value among species and discourages use of lower value secondary species.</li> <li>• The government does not have the capability to collect charges and effectively detect underpayment due to overcutting.</li> </ul>	<ul style="list-style-type: none"> <li>• License holders must pay a tax equal to 10% of the stumpage value prior to extraction.</li> <li>• The General Forest Directorate (DGF) establishes the minimum stumpage values annually for four value levels of species from "very high value" to "little value".</li> <li>• Overcutting is common, effectively resulting in underpayment of tax.</li> </ul>	<ul style="list-style-type: none"> <li>• Current law states that license holders must pay 2.50 colones per tree extracted from Mangroves. Other charges are not specified.</li> </ul>	<p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>• Cutting timber on privately-owned land generally requires payment of a license fee to the government. This fee is equivalent to 10% of the value of standing timber and is based on a table of timber values by species and region published semi-annually by DIGEBOS. Table has not been revized since 1990.</li> <li>• Overcutting is common, so the actual amount paid has little relationship to the value of timber extracted.</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• The decree states that private land owners must pay a tax for cutting timber. The tax is C\$10.00 and C15.00 per cubic meter of standing timber for broadleaf and pine species respectively.</li> </ul>

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### Forest Management Policies

	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Charges on Timber Harvested from Private Lands (continued)				<p>For PA:</p> <ul style="list-style-type: none"> <li>• Timber extracted in commercial concessions annual payment equal to standing value of the average annual commercial volume for the concession area. Volume is based on annual allowable cut. Base bidding prices are subject to minimum stumpage values to be established by CONAP and DIGEBOS every two years. A minimum legal price being used was set by the Ministry of Agriculture and has not been revised since 1990.</li> <li>• For community concessions, annual payment is equal to 10% of standing value of the average annual commercial volume for the concession.</li> <li>• Volume payments can also be based on the yearly operational inventories.</li> </ul>		
Charges on Forest Product Production	• None	• None	• None	• None	• None	• None
Charges on Foreign Trade (Export Charges on logs and products)						
Charges on Productive Factors						
Charges on Companies				• Corporate income taxes are charged.	• Corporate income taxes are charged	

<b>Forest Management Policies</b>						
	<b>Belize</b>	<b>Costa Rica</b>	<b>El Salvador</b>	<b>Guatemala</b>	<b>Honduras</b>	<b>Nicaragua</b>
<b>Charges for Services</b>		<ul style="list-style-type: none"> <li>Municipalities generally charge a small fee per tree transported for road maintenance.</li> </ul>		<ul style="list-style-type: none"> <li>Municipalities often charge small fees for transit of timber on local roads or other payment arrangements with the concessionaire.</li> </ul>	<ul style="list-style-type: none"> <li>Municipalities may charge fees</li> </ul>	<ul style="list-style-type: none"> <li>The decree gives SFN the right to charge a fee to an exporter for verifying that a shipment for export corresponds to approved cutting permits.</li> </ul>
<b>Government Participation in Concessions, Harvesting and Processing</b>	<ul style="list-style-type: none"> <li>The government does not participate directly in the forest industry.</li> </ul>	<ul style="list-style-type: none"> <li>The government does not participate directly in the forest industry.</li> </ul>	<ul style="list-style-type: none"> <li>The government does not participate directly in the forest industry.</li> </ul>	<ul style="list-style-type: none"> <li>The government does not participate directly in the forest industry.</li> </ul>	<ul style="list-style-type: none"> <li>The government no longer participates directly in the forest industry.</li> </ul>	<ul style="list-style-type: none"> <li>The decree also states that ADFOREST may cut and process timber from state-owned land with its own resources or co-investment.</li> <li>The government does not participate directly in the forest industry.</li> </ul>
<b>Forest Industry and Export Policies</b>						
<b>Domestic Industry/Resource Protection Policies</b>		<ul style="list-style-type: none"> <li>Combined government tariffs, bans and precedures, substantially favors wood processing firms, limiting competition and not promoting higher efficiency</li> </ul>				

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Licensing Requirements	<ul style="list-style-type: none"> <li>• Most operating licenses for sawmillers are granted for only one year; longest license is for a 10 year period. Renewal of licenses is uncertain and often delayed.</li> <li>• Timber Industry Act suspended</li> </ul>		<ul style="list-style-type: none"> <li>• 1973 Forest Law states that restrictions on forestry industry were to be specified in regulations. The regulations were never written.</li> </ul>	<ul style="list-style-type: none"> <li>• All individuals or firms that extract, process, sell or export timber or other forest resources must register with DIGEBOS and CONAP and provide statistical information regularly about their activities.</li> </ul>	<ul style="list-style-type: none"> <li>• All individuals or firms that extract, process or sell wood or wood products must register in COHDEFOR. Annual operating licence is no longer required.</li> </ul>	<ul style="list-style-type: none"> <li>• The decree requires all sawmills to have a permit from the National Forest Service to operate.</li> <li>• To obtain a permit, sawmills must present a plan specifying sources of raw material and an environmental impact study.</li> <li>• Companies that process timber or logs must provide information on the volumes of timber received and processed, and wood held in inventory and sold, to SFN on a monthly basis.</li> <li>• Companies that purchase wood from sawmills or other businesses must have documentation, such as the transportation permit or endorsed sales invoice, to verify source of wood.</li> <li>• Processing or transporting of wood cut with chainsaws are prohibited.</li> </ul>

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Taxation</b>	<ul style="list-style-type: none"> <li>The Fiscal Incentive Act offers duty and corporate income tax holiday for up to 15 years depending on the product line, employment generated, export potential, and investment level. Process to obtain duty exemptions is cumbersome and not often exercised. Process to obtain tax holiday is also cumbersome, but exercised more often.</li> </ul>					
<b>Export Policies</b>	<ul style="list-style-type: none"> <li>Export of raw and semi-processed logs is prohibited.</li> <li>Export duties are applied to export of timber and wood products.</li> <li>All wood destined for export must be measured by a licensed, bonded wood measurer (scaler)</li> </ul>	<ul style="list-style-type: none"> <li>Export of raw and semi-processed logs and specific species prohibited.</li> <li>Export of specified wood products restricted, requiring public notice for three days without opposition.</li> </ul>	<ul style="list-style-type: none"> <li>Export of raw and semi-processed logs is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>Export of raw and semi-processed logs exceeding 21 x 21 centimeters for broadleaf species or 31 x 31 for coniferous species is prohibited. [Depresses value of raw material favoring processing industry]. Boards less than 11 centimeters thick regardless of width or length, pressure treated posts, poles or railroad ties, and wood products from forest plantations are exempted from this export ban.</li> </ul>	<ul style="list-style-type: none"> <li>Export of raw and semi-processed logs is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>Export of raw and semi-processed logs is prohibited, excepting cases where it can be shown that the specific type of wood cannot be processed domestically and that export produces an economic benefit for the country.</li> </ul>

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<b>Forest Management Policies</b>						
	<b>Belize</b>	<b>Costa Rica</b>	<b>El Salvador</b>	<b>Guatemala</b>	<b>Honduras</b>	<b>Nicaragua</b>
<b>Import Policies</b>		<ul style="list-style-type: none"> <li>Import tariffs are higher for processed wood products than for lower-value semi-processed wood products.</li> </ul>		<ul style="list-style-type: none"> <li>Import tariffs are higher for furniture or other products made of wood than for raw or semi-processed timber. [Simultaneous protection from imports of processed goods and depression of the price of raw materials reduces pressure to increase efficiency.]</li> </ul>		
<b>Direct Government Involvement in Forest Related Industries</b>	<ul style="list-style-type: none"> <li>Currently, the government does not participate directly in forest related industries.</li> </ul>	<ul style="list-style-type: none"> <li>Currently, the government does not participate directly in forest related industries.</li> </ul>	<ul style="list-style-type: none"> <li>Currently, the government does not participate directly in forest related industries.</li> </ul>	<ul style="list-style-type: none"> <li>Currently, the government does not participate directly in forest related industries.</li> </ul>	<ul style="list-style-type: none"> <li>Currently, the government does not participate directly in forest related industries. All government previous investments are supposed to be privatized.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed law also states that ADFOREST may cut and process timber from state-owned land with its own resources or co-investment.</li> <li>Currently, the government does not participate directly in forest related industries.</li> </ul>
<b>Price Controls</b>		None	None	None	None	None
<b>Forest Industry Structure</b>					<ul style="list-style-type: none"> <li>Most are private sawmills.</li> </ul>	

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Policies Affecting Tree Tenure and Private Forest Management</b>						
<b>Cutting Licenses</b>	<ul style="list-style-type: none"> <li>Permit is required to cut cedar or mahogany on private or state land for commercial purposes.</li> <li>No permit is required to cut cedar or mahogany tree that are under two meters in circumference at buttress height for the pursuit of land clearing for agricultural purposes (i.e. cannot be sold)</li> <li>Overcutting is common.</li> </ul>	<ul style="list-style-type: none"> <li>License generally required for cutting timber on privately-owned land.</li> <li>Overcutting is common.</li> <li>No license is required to harvest trees that have been planted.</li> </ul>	<ul style="list-style-type: none"> <li>A license is required to cut timber on privately-owned land that has forest aptitude.</li> </ul>	<ul style="list-style-type: none"> <li>License generally required by DIGEBOS &amp; CONAP for cutting timber on privately-owned land.</li> <li>No license required to cut timber for family use, defined as up to 20 cubic meters per year for fuelwood and 10 cubic meters per year for posts or rural construction.</li> </ul> <p><b>For PA:</b></p> <ul style="list-style-type: none"> <li>Long term contract is required by CONAP following guidelines approved to that effect.</li> </ul>	<ul style="list-style-type: none"> <li>A license and management plan is required to cut timber on privately-owned land that has forest aptitude. Land without forest aptitud is exempt from government forest regulations.</li> </ul>	<ul style="list-style-type: none"> <li>The law requires a permit to cut timber on privately-owned land.</li> <li>SFN officials must inspect site and mark trees for extraction. If fuelwood volume to be cut is greater than 10 cubic meters, a permit is required.</li> <li>To extract timber from areas planted with perennial crops, must present justification to the Ministry of Agriculture and Livestock.</li> </ul>
<b>Duration</b>	<ul style="list-style-type: none"> <li>Generally one year.</li> </ul>	<ul style="list-style-type: none"> <li>Generally one year.</li> </ul>	<ul style="list-style-type: none"> <li>Generally one year.</li> </ul>	<p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>No specified, generally one or two years.</li> </ul> <p><b>For PA:</b></p> <ul style="list-style-type: none"> <li>Up to 25 years.</li> </ul>	<ul style="list-style-type: none"> <li>Generally one year.</li> </ul>	<ul style="list-style-type: none"> <li>Permits are granted for one year and may be extended for an additional year at the discretion of SFN.</li> </ul>
<b>Authorization Process</b>	<ul style="list-style-type: none"> <li>Lenghty approval process may promote illegal cutting.</li> </ul>	<ul style="list-style-type: none"> <li>Lenghty approval process may promote illegal cutting.</li> <li>Timber mills or intermediaries often handle licensing steps.</li> </ul>	<ul style="list-style-type: none"> <li>Lenghty approval process may promote illegal cutting.</li> </ul>	<ul style="list-style-type: none"> <li>Lenghty approval procedures may promote illegal cutting</li> </ul>	<ul style="list-style-type: none"> <li>Owner of land may begin implementing forest management plan (i.e. extraction of resources) if COHDEFOR does not render judgement of proposed plan within 60 days of application.</li> <li>Quota system has not been implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Issuance of permits in accordance with annual cutting quotas by territory is implied. Permits are to be issued by government prior to October 30 each year.</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Conditions and Restrictions</b>						
<b>Management Plan</b>	<ul style="list-style-type: none"> <li>• Cutting plan prepared by a professional forester is required. Plans generally specify only number and species to be harvested; does not ensure sustainable management practices are followed.</li> <li>• All timber must be marked with a registered brand by owner according to cutting plan.</li> </ul>	<ul style="list-style-type: none"> <li>• DGF's approval of a forest management plan prepared by a registered, qualified forester is required. However, DGF's ability to effectively assess and monitor compliance with proposed plans is limited.</li> <li>• Work plans approved by the Forestry Service have been little more than cutting plans. They specify the volume and species of trees to be cut and little else. No complete sustainable long term forest management plan has been written much less being implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• For large areas (size is undefined), Forestry Institute's approval of a forest management plan is required. For small areas (size is undefined), a approval of a harvest plan is required.</li> <li>• Management plans are essentially simple cutting plans.</li> </ul>	<p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>• Licenses for parcels greater than 10 hectares require govt approval of a forest management plan prepared by a qualified, registered forester and based on a recent forest inventory.</li> <li>• The law does not specify criteria for determining whether a proposed management plan follows sustainable management practices.</li> <li>• Management plans approved by DIGEBOS are little more than cutting plans and recognition of the reforestation density of required by law. Steps to control erosion, cull diseased trees, etc, are not included.</li> </ul>	<ul style="list-style-type: none"> <li>• Government approval of forest management plan required.</li> <li>• COHDEFOR will produce a technical manual of sustainable management practices for guiding development and assessment of forest management plans.</li> <li>• The manual lacks the technical rigor to ensure sustainable management practices. Plans ignore environmental role of the forest.</li> </ul>	<ul style="list-style-type: none"> <li>• Issuance of a permit requires approval of a forest management plan and a plan to prevent and control forest fires.</li> <li>• Management plans approved by SFN are essentially simple cutting plans.</li> <li>• SFN has not completed a technical manual to guide in the development and assessment of management plans.</li> </ul>

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Conditions and Restrictions</b>  <b>Management Plan (continued)</b>		<ul style="list-style-type: none"> <li>One principle generally underlying management plans, that only 60% of the timber in an area is harvested, is often ignored.</li> <li>Overcutting is common</li> <li>Plans ignore environmental role of the forest.</li> <li>Only trees marked by forest service official can be cut.</li> <li>Best management guidelines need to be further developed (road design, felling,)</li> </ul>		<ul style="list-style-type: none"> <li>Government agencies do not have the capacity to monitor compliance with management plans.</li> <li>Overcutting is common.</li> </ul> <p><b>For PA:</b></p> <ul style="list-style-type: none"> <li>Only one plan (for a cooperative) has been approved under this mechanism. That plan follows sustainable management and environmental assessment principles. A collaborating organization is assisting in implementation and to CONAP in monitoring. Serious concerns exist about CONAP capability to monitor the plans.</li> </ul>		
<b>Transport Licenses</b>	<ul style="list-style-type: none"> <li>All timber must be accompanied by waybill for transit outside of the licensed cutting area, rarely monitored.</li> </ul>	<ul style="list-style-type: none"> <li>License required to transport timber.</li> <li>Transportation during particular seasons is restricted.</li> </ul>	<ul style="list-style-type: none"> <li>Transport documents issued by the Forestry institute required to transport timber and wood products.</li> </ul>	<ul style="list-style-type: none"> <li>License required to transport timber</li> </ul>	<ul style="list-style-type: none"> <li>License is required to transport timber</li> </ul>	<ul style="list-style-type: none"> <li>License is required to transport timber</li> </ul>

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<b>Forest Management Policies</b>						
	<b>Belize</b>	<b>Costa Rica</b>	<b>El Salvador</b>	<b>Guatemala</b>	<b>Honduras</b>	<b>Nicaragua</b>
<b>Fire Policies</b>		<ul style="list-style-type: none"> <li>• Regulated by forest management plans.</li> </ul>		<p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>• Obligation to report fires, to give assistance and access through private property to fight fires.</li> <li>• Prohibited to start fires to control forest areas without prior authorization from DIGEBOS, management plan required.</li> </ul> <p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>• Regulated by management plan including fire prevention and control; access, deforestation and illegal exploitation control.</li> </ul>	<ul style="list-style-type: none"> <li>• Regulated by forest management plans.</li> </ul>	
<b>Phytosanitary Policies</b>				<ul style="list-style-type: none"> <li>• Occupants of forest areas are obligated to adopt methods prescribed by DIGEBOS and CONAP to combat pest and disease.</li> <li>• DIGEBOS and CONAP can execute methods to combat pest and disease as necessary with funding from the Private Forestry Fund.</li> </ul>		

Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Reforestation Policies</b>	<ul style="list-style-type: none"> <li>• Reforestation plan is generally not included in management plan.</li> </ul>	<ul style="list-style-type: none"> <li>• Several reforestation incentives exist since 1979 for plantation development including tax deductions, subsidized credit, transferable bonds (CAF), Municipal Forestry Funds and a Forestry Development fund (FDF). Some concerns are their high fiscal cost, are not accessible to small land owners, are difficult to enforce by the government. The most recent incentive CAFMA, is aimed to help manage natural forests.</li> <li>• Cutting of timber requires reforestation of the cut area.</li> </ul>	<ul style="list-style-type: none"> <li>• Current and proposed laws require reforestation (through planting or directed natural regeneration) of an area equivalent to any area cleared of forest cover.</li> <li>• The regulations of the proposed law will also specify the forestation and/or reforestation requirements of agencies, individuals, or firms that utilize water for generating electricity or for other purposes.</li> <li>• The Ministry of Agriculture has the authority to expropriate land for reforestation if deemed necessary to protect the forest.</li> </ul>	<p><b>For NPA:</b></p> <ul style="list-style-type: none"> <li>• Cutting of timber requires reforestation of the cut area or one hectare of other land for every 150 cubic meters of timber harvested. Minimum initial density of reforested area is 1,000 trees per hectare. Natural regeneration may be approved by DIGEBOS if the area is populated with fertile trees.</li> <li>• The licensee must guarantee reforestation in one of four ways: 1. bank deposit or treasury bonds; 2. contract with company to reforest; 3. existing reforestation project between 1 and 5 years old; 4. payment to Forestry Development Fund.</li> </ul>	<ul style="list-style-type: none"> <li>• Reforestation of logged area required.</li> <li>• Permit holders must pay a deposit equal to 20% of the standing value of the timber to be extracted. (Too soon to perceive efficacy)</li> </ul>	<ul style="list-style-type: none"> <li>• Reforestation requirement is not specified by law.</li> <li>• Reforestations plans are generally not included in cutting plans.</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Reforestation Policies (continued)		<ul style="list-style-type: none"> <li>• Granting of licenses requires that a deposit of 20% of the stumpage value is paid before cutting as a to be refunded after reforestation</li> <li>• Deposit is often forfeited because the cost of reforestation is much higher.</li> </ul>		<ul style="list-style-type: none"> <li>• Agrarian development zones are required to maintain no less than 10% of the total area covered by forest for communal use.</li> <li>• Urban zones are required to maintain no less than 10% of total area covered by forest for communal use.</li> <li>• Government agencies do not have the capability to effectively monitor reforestation after planting.</li> <li>• Effectiveness of reforestation deposit is unknown</li> </ul> <p>For PA:</p> <ul style="list-style-type: none"> <li>• Guided under the forest management plan following natural regeneration with reforestation completion.</li> </ul>		

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Fiscal Incentives and Policies</b>	<ul style="list-style-type: none"> <li>Income Tax Act allows deductions for reforestation, however it is unclear whether such activity would be deductible as a production cost anyway.</li> </ul>	<ul style="list-style-type: none"> <li>1990 law provides exemption from property tax for reforested areas, income tax on timber harvested from plantations, and import duties on reforestation equipment. System has been criticized as not being cost effective, having lengthy procedures that discourage use, not well monitored and not effectively in reaching smaller farmers.</li> </ul>	<ul style="list-style-type: none"> <li>The current law calls for the state to establish fiscal incentives for reforestation as deemed appropriate. None have ever been adopted.</li> <li>Current law provides exemption from land tax for areas reforested or forested voluntarily (not to fulfill license obligation license) until harvesting of reforested area.</li> <li>The proposed law would establish a Forestry Development Fund to finance reforestation for small land owners (less than 10 hectares) within areas designated for Protection or Special Protection. The fund would provide credit for reforestation inputs, reimburse the land owner for 50% of the cost of reforestation and provide specialized technical assistance and training.</li> </ul>	<ul style="list-style-type: none"> <li>By law, eligibility period for fiscal incentives cannot exceed 10 years.</li> <li>Forest Investment Certificate entitles holder to an income tax credit of up to 50% of estimated fixed costs of reforestation over a four year period. Fixed costs of reforestation are estimated by DIGEBOS annually and specified by species and region.</li> <li>Credits have limited ability to influence behavior because land tax is rarely collected, and lengthy process to obtain certificate inhibits applicants.</li> <li>DIGEBOS will reimburse up to 50 % of estimated costs of reforestation for small land owners (forested areas less than 45 hectares) after 75 % of the area to be reforested has been planted.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed Reforestation Law would grant COHDEFOR the ability to bestow unspecified exemptions from tax and tariffs and other rights and incentives to land owners in exchange for obligations to reforest.</li> </ul>	<ul style="list-style-type: none"> <li>The decree does not include any specific fiscal incentives for reforestation, but grants SFN the authority to manage the National Forestry Fund and Special Funds for the development of the Forest Sector.</li> <li>A special forestry fund has been established with a \$1,000,000 grant from the Swedish government to provide credit and assistance to small land owners for reforestation. The fund is currently being pilot tested. It is too soon to perceive results.</li> </ul>

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Fiscal Incentives and Policies (continued)			<ul style="list-style-type: none"> <li>The proposed law would give the newly created Forestry Institute the responsibility for assisting firms producing seed for reforestation and for certifying quality of seed.</li> <li>The new law would allow estimated costs of reforestation (planting and maintenance for three years) to be deducted from any tax obligation through the issuance of Forestry Tax Notes. The Forestry Institute would estimate the costs of reforestation by hectare, by species and region. annually.</li> </ul>			

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Forest Management Policies						
	Belize	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
<b>Fines and Penalties</b>	<ul style="list-style-type: none"> <li>Fines and penalties are not significant and are not widely enforced.</li> </ul>		<ul style="list-style-type: none"> <li>The current and proposed laws specify ranges of fines and penalties to be imposed on a per hectare basis for failure to comply with management plans.</li> </ul>	<ul style="list-style-type: none"> <li>Fines and penalties exist for noncompliance with management plan but are probably not high enough to influence behavior. Absent experience with concessions, there is no data on effectiveness.</li> <li>Legal system has not been effective in enforcing penalties.</li> </ul>	<ul style="list-style-type: none"> <li>Extensive fines and penalties can be imposed at the courts' discretion (up to double the value of the illegally extracted timber or damage to the environment. The ability of COHDEFOR to monitor infractions or the courts to impose and collect fines is unknown.</li> </ul>	<ul style="list-style-type: none"> <li>Law identifies ranges of fines and penalties for license holders that fail to comply with restrictions stated in the forest management plan.</li> <li>The decree includes penalties for failure to comply with the law that include confiscation of timber obtained illegally, imposition of fines that double for repeat offenders and cancellation of licenses.</li> <li>Proceeds from the sale of confiscated wood will be shared equally between the relevant municipality and the National Forestry Fund.</li> </ul>
<b>Public Reforestation Projects</b>				<ul style="list-style-type: none"> <li>Donor funded reforestation projects to produce seedlings have not addressed forest management beyond planting.</li> </ul>		

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# Country Summary Analyses

# Belize Forest Management Policies

In comparison to other Central American countries, Belize is well endowed with forests and other natural resources. In 1987, approximately 1,012,000 hectares (44% of the total land area) of Belize was classified as forest or woodland (USAID, 1992). Similarly, despite Belize's notable economic growth in the 1980s, the annual rate of deforestation during that period was estimated at only 9,000 hectares per year (0.06% of total forested area annually). However, there is concern that the rate of extraction of valuable hardwoods such as mahogany over the past decade has exceeded the natural rate of regeneration. The widespread clearing of mangroves for housing and industrial development is also a concern.

## PRINCIPAL LEGISLATION

The use of forest products in Belize is governed by a multitude of separate laws. The most important piece of legislation — the Forests Act, Chapter 176 of the Laws of Belize 1980 — confers authority to the Ministry of Natural Resources to declare, alter, vary or revoke forest reserves, restrict use and export of forest products, impose royalties and penalties, regulate road construction and use, declare road easements, and seize unauthorized exploitation of resources. It grants the minister the right to adopt regulations for the protection of trees and forest products on Forest Reserves, Crown Lands, and private lands.

Forest product use is also influenced by the Crown Lands Act and the Park Systems Act, which together grant the government broad authority to classify (or declassify) public or private land as reserve land and thus make it subject to special regulation or protection. The zeal with which the government has chosen to exercise its authority to declassify reserve land in the past, with little consultation with the Forest Department, for purposes such as leasing forest land to private entities for agricultural uses or opening up forestland to concessions, has undermined the notion of protection that is connoted by the term "reserve." Forest product use is further governed by regular issuance of Statutory Instruments that set the levels of royalties and establish reserves under the National Park Systems Act.

Forest product use is also regulated by several minor or specialized laws. For instance, the Private Forests (Conservation) Act prohibits cutting of any mahogany or cedar tree on any land within Belize without a permit issued by the chief forest officer. Much of the above legislation is not fully enforced, however, either for political reasons or because there is a lack of adequate institutional capacity.

## CONCESSIONS AND LICENSES FOR THE USE OF PUBLIC TIMBER

The process for obtaining concessions to use timber and/or other forest resources that are on public lands is not open to public scrutiny. Concessions are reportedly often granted as political favors.

### Duration of Timber Concessions

Concession periods are not set by law, but most are one year in duration; the longest is ten years. The durations of timber concessions are generally established to allow for the extraction of a specific volume of trees that are ready for harvesting. The concession process does not grant future rights to cut trees that will be ready for harvest in the future (i.e., the next cycle of trees). Hence, the growth cycle of trees and, in particular, the length of time necessary for a forest stand to regenerate are not taken into account when determining the duration of the concession. Although concession holders may apply for renewal of permits to allow them to continue cutting timber in the same area, renewal of licenses is uncertain and fraught with bureaucratic problems.

Under such circumstances, concession holders have no economic incentive to follow management practices that maximize long-term yields or to use cutting practices that minimize damage to surrounding forest. Without such incentives, monitoring of the concession holder's compliance with established management plans becomes crucial to long-term sustainability of the forest.

Permits generally grant the concession holder exclusive rights to the specified area for the duration of the permit. Smith (1991) reported, however, that permits often limit the harvest volume to significantly less than the potential yield and/or the processing capacity of the permit holder. This process of limiting volume

(1991) noted that in 1991 the licenses at the time simply stipulated royalty paid in arrears.

The overall result is that the government does not receive adequate revenue for reforestation or forest management, the timber processing industry receives timber at a subsidized rates and thus is not encouraged to improve efficiency, and the forest is receding because the low domestic price encourages high demand and discourages private sector investment.

## **PRIVATE AND COMMUNITY FOREST MANAGEMENT**

To extract timber from private lands, license holders must pay a tax equal to one-half of the government-estimated royalty rates. This tax discourages private investment in forests, especially given the low domestic prices for timber and the low charges paid for timber from public lands. Private landowners (or their designates) pay a tax equal to half the cost of buying trees from public lands. Thus, in certain instances, it is probably more cost effective to buy timber from public lands than from private lands when the tax and all other costs of private forest management (e.g., planting, forest maintenance, and the opportunity cost of keeping land as forest) are compared with the royalty charged for buying public timber. Extraction of timber from parcels of 100 acres or less for private use are exempt from the tax.

As with concessions, the government does not have the capability to adequately enforce payment of taxes. Unauthorized cutting, overcutting, as well as undermeasurement are common.

## **FOREST INDUSTRY AND EXPORT POLICIES**

The government offers several incentives to promote domestic industry. The Fiscal Incentives Act grants the recipient firm exemption from payment of duty or corporate income tax for a period of up to 15 years. The duration of the exemption is dependant on the product line, the amount of employment generated by the activity, export potential, and investment level. The process for obtaining the exemptions, however, is burdensome. Whether these incentives are a cost-effective way to promote domestic industry is not clear. Indeed, lack of a secure supply of timber is considered the principal reason that forest industrial development is constrained in Belize.

To encourage domestic industry that adds value, the export of raw and semiprocessed logs from Belize is prohibited. This policy, in combination with others, has effectively depressed the value of timber below what it would be under a free-trade scenario. While this policy helps ensure that the local processing industry has materials available at low cost in the short term it also discourages investment in reforestation and encourages forest owners to switch to more lucrative activities.

The government requires sawmillers to obtain licenses to operate mill facilities. Licenses are generally authorized for one year at a time and the process for obtaining a renewal can be burdensome. The short duration of these licenses and the uncertainty associated with renewal discourage sawmillers from making long-term capital investments in equipment, and as a consequence, sawmillers in Belize tend to rely on outdated and inefficient equipment.

The long process for obtaining a renewal and the associated uncertainty together with the limited enforcement capability encourages sawmillers to operate without a license. The risk of getting caught operating without a license, in turn, may encourage perpetrators to adopt short-term strategies that undermine the long-term sustainability of the forest.

## SUMMARY

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

while granting exclusive rights has resulted in large areas being held out of production.

### **Conditions and Restrictions on Timber Concessions**

Concession licenses are supposed to be granted only where exploitation is consistent with "good forest management." Toward that objective, the primary conditions imposed on concession holders include prohibition of cutting protected species (e.g., breadnut, copal, and wild rubber) and minimum diameter requirements. The second condition, in combination with royalty rates that are inadequately differentiated by species and quality, effectively promotes cutting of the largest, healthiest trees with the highest value-to-royalty ratio (i.e., high-grading), leaving forest areas to regenerate with the less healthy, lower value trees, which diminishes the rate of growth and the future value of the forested area. Such selective cutting practices result in less than complete utilization of total forest potential, including use of lesser known species, and cause significant incidental damage to the surrounding trees.

Because the government's capacity to continually monitor all cutting of public timber is inadequate, compliance with licensing restrictions (e.g., minimum diameters and prohibition on cutting protected species) is monitored post facto primarily through spot checks of timber in transit. All timber that is transported outside the cutting area must be marked with a registered brand (i.e., property mark) and accompanied by a waybill. However, fraudulent waybills are common and there is ample opportunity for extortion or bribery.

### **Award Process for Timber Concessions**

The award process and the rights conferred vary with the amount and type of product to be exploited and the designation of the land. In general, the law states that the concessions for a single type of forest product are to be advertised and then granted by the chief forest officer to the party offering to pay the highest rate of royalty, subject to a minimum royalty rate for that species. If the highest bid is below the minimum royalty rate, then a license

must be authorized by the minister. Multiple product concessions must be granted by the minister. Although the action must be open for public auction, the minister is not required to award the permit to the highest bidder.

The chief forest officer can issue licenses on his own accord without public auction for forest products other than rosewood, chicle, or crown gum provided that the estimated royalty does not exceed Belizian \$1,000. These special permits are granted for one year and do not provide exclusive rights to the area designated.

In summary, the procedure for awarding concessions is not clear. Concessions at times are awarded as political favors which calls into question the capability of the award process to maximize revenue.

## FOREST REVENUE SYSTEMS

Concession holders pay royalties to the government to exploit timber or other forest products that are located on public lands. The amount of the royalties is ostensibly determined by public auction, and is charged against the volume of standing timber to be harvested as set forth in the concession permit.

In reality, however, it is likely that the royalties paid are well below the actual stumpage value of the timber harvested. In fact, the minimum royalty rates set by the government are far below world market values and do not adequately differentiate for species, quality, and location. The Forest Department does not have the means to collect forest charges, much less the capacity to detect underpayment that results from overcutting, underreporting, or improper measuring techniques (e.g., excessive bark allowance). Scalers who are supposed to spot-check the volume of timber harvested often do not have access to transportation to visit the mills, and hence, more often than not, royalty payments have very little relationship to the stumpage value of the trees harvested.

Royalties are supposed to be paid to the government in advance of harvesting in accordance with the estimated production schedule set forth in the management plan. If concession holders do not adhere to the production schedule, the prepaid royalty is forfeited to the government. However, the government does not have the capability to monitor and enforce prepayment. Smith

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.

## REFERENCES

Bradley, Theresa, et al. 1990. *Belize Natural Resource Policy Inventory*. USAID/ROCAP. APAP Technical Report No. 110.

Hartshorn, Gary, et al. 1984. *Belize: A Country Environmental Profile*. Robert Nicolait & Associates. USAID Contract No. 505-0000-C-00-3001-00.

Smith, Conrad F. 1991. *Economic Aspects of Forestry Management in Belize*. UNDP/FAO Project BZE/87/009.

Barrau, Enrique. Personal communication.

# Costa Rica Forest Management

Approximately 29 percent (1.3 million hectares) of Costa Rica is forested (World Bank, 1992). Although the percentage of forested land continues to decrease, the pace of deforestation has slowed considerably in recent years. During the period 1950–1970, an average of 50–60,000 hectares of forest cover were lost each year, resulting primarily from conversion of forestland to agricultural uses and pastureland. More recent estimates place the rate of deforestation at approximately 8,500 hectares per year (Lutz, 1992). Although the rate of deforestation has slowed, the percentage of total area under forest cover (29%) is still well below the optimal percentage of 65 percent suggested by land use capability studies (MIRENEM, 1993). Indeed, of the area deforested since 1966, 65 percent is estimated to be land that is better suited for forest uses. Only 250,000 hectares of undisturbed forest exist outside of protected areas.

## PRINCIPAL LEGISLATION

Management of private and public forests (except in protected areas) and extraction, processing, and export of forest products are governed primarily by Forestry Law 7174, adopted in 1990. Forest policy in Costa Rica falls into four main categories: (1) biodiversity reserves, (2) restrictions on private forest management, (3) total protection of forest industries, and (4) plantation subsidies.

Because of widespread concern that the Forestry Law was not effectively reducing deforestation and was actually inhibiting investment in reforestation, the government of Costa Rica adopted a new forestry policy in September 1993. The new policy was developed with significant private sector participation, and differs from the current law in several significant ways. The government will (1) shift emphasis in approach from command and control to promotion of sustainable use; (2) streamline licensing and other regulatory procedures; (3) focus resources on regulating areas with specific forest aptitude and decentralize regulating authority; (4) and ease restrictions on cutting timber in private forests. As of February 1994, the government had not written a forestry law to implement the new policy. Moreover, given the outcome of 1993 elections, it is not likely that a new forestry law will be written until after the change of government

in May 1994. Consequently, because it remains the official legislation, Forestry Law 7174 will be analyzed in this section.

## **CONCESSIONS AND LICENSES FOR THE USE OF PUBLIC TIMBER**

The Forestry Law stipulates that permits must be obtained to cut and/or extract timber from public as well as private land. Because most publicly owned land that is suitable for timber extraction (e.g., as national parks) is protected by law, and no concessions (licenses) for extracting timber from public lands have been granted for more than four years, nearly all timber harvested in Costa Rica comes from private land.

### **Duration of Timber Concession**

The duration of concessions is not relevant because no concessions are being granted. The law does not specify the duration of concessions and in the past durations have been established on a case-by-case basis. Permits were granted for a specific volume of existing timber and the duration of the concession generally was determined by the amount of time necessary to extract that volume. Because the nature and duration of a concession does not grant the concessionaire any rights other than to the actual timber extracted, there is no economic incentive for the concession holder to adopt harvesting and management practices for long-term sustainable production.

### **Conditions and Restrictions on Timber Concessions**

The conditions imposed on a permit holder vary with the amount of timber extracted, the size of the area, and the use capability classification of the land. Extraction of timber from natural forests in areas with forestland use capability requires a B2 permit. The concession holder must submit a management plan to the General Forestry Directorate (DGF) for approval. The plan must specify the type and number of trees to be cut and a plan for reforestation and management. Requests for cutting more than 5 hectares of natural forest areas or more than 40 trees in nonforest or mixed use areas also require completion of a forest inventory by a registered forester in accordance with DGF guidelines.

Trees must have a minimum diameter of 60 centimeters to be cut, except where technical criteria justify otherwise. Some species must be only 50 centimeters in diameter, while others must be 70 centimeters. Cutting of protected species (as determined by DGF) is also prohibited. The management plan and restrictions are intended to ensure that the extraction of timber and the subsequent care is in accordance with sustained management principles. One principle generally underlying management plans is that no more than 60 percent of the timber in a particular area can be harvested in the first cut. The second cut of the remaining 40 percent and other trees that have reached the minimum diameter requirements is supposed to take place ten years later. While this principle is intended to allow natural regeneration, the long-term impact is unknown. Furthermore, the objective of this principle is often undermined by overcutting.

In reality, management plans are little more than cutting plans. Plans for reforestation are generally only to plans to allow natural regeneration or recognition of the minimum replanting density specified by law. In both cases, maintenance of forested areas after planting or during regeneration is generally not addressed in management plans.

DGF, the government agency responsible for approving the management plans and monitoring compliance, has neither the technical nor the financial capacity to perform either responsibility well. As mentioned previously, management plans approved by DGF are little more than cutting plans "for the purpose of obtaining permits to carry out extraction" (Lutz 1992). The plans generally do not include the "real technical fundamentals" that ensure sustainable yield of the forest. Moreover, the low pay of local forestry officers who inspect the areas and approve the plans invites the possibility of soliciting illegal payments in exchange for approval of plans.

The DGF and local authorities also do not have the ability to monitor compliance with the management plans, and the actual volumes cut often exceed the authorized amounts. Loggers reuse transport permits and tags for the excess logs with impunity and/or transport the logs at night and on weekends, when the roads are less effectively monitored. Without adequate management plans that are effectively enforced, the licensing process has become a bureaucratic formality that has resulted in few, if any, positive results.

Depending on the volume of the timber to be extracted, permit holders must pay a deposit equal to 20 percent of the stumpage

value of the timber before cutting. The deposit is held in trust and returned only after the obligation to reforest is fulfilled. Permit holders often intentionally forfeit reforestation deposits because the amount forfeited is generally less than the cost of reforestation. In fact, the deposit takes on the characteristic of a tax. Another effect of the requirement that the deposits be paid prior to cutting is that it discourages small landowners from applying for permits.

## **PRIVATE AND COMMUNITY FOREST MANAGEMENT**

For the most part, the Forestry Law does not differentiate between timber that is located on private land and timber that is located on public land. Landowners who wish to extract timber must apply for a license and comply with the same conditions and restrictions as mentioned above, including payment of reforestation deposits, transportation permits, prohibition on cutting particular species, minimum diameter requirements, preparation of management and reforestation plans, and depending on the size of the land and amount of the extraction, a forest inventory prepared by a registered professional forester.

As with concessions, the adequacy of and compliance with management plans is a critical issue. Cutting trees in excess of the number specified in the management plans is common, and transportation spot checks are easily circumvented by reusing required tags and transportation documents. Failure to follow through with reforestation is also common. Perhaps more important, however, is that the long, burdensome process of obtaining permits and the relatively high taxes and fees associated with harvesting trees encourages landowners to cut trees without authorization, thereby eliminating the opportunity for disseminating improved forest management techniques through management plans. Moreover, landowners often will choose reduced revenue in exchange for having independent loggers manage the application process, further reducing landowners' incentives to invest in private forests.

## **FOREST INDUSTRY AND EXPORT POLICIES**

The combination of tariffs, bans, and procedures that regulate trade of timber and forestry products into and out of Costa Rica substantially favor firms that process timber into wood products. Prohibition of exports of raw logs (and, until 1993, semiprocessed

logs) in conjunction with other policies has effectively depressed the value of cut timber to roughly 30 percent that of world market values. This policy helps ensure that the local processing industry has materials available at low cost in the short term, but it discourages investment in reforestation and encourages forest owners to switch to more lucrative activities.

At the same time, the government imposes high import tariffs on processed wood products (e.g., 100% on plywood imports) to protect the local processing industry from foreign competition. These high import tariffs in concert with the difficulty of obtaining import permits provide high levels of protection for the wood-processing, thus limiting competition and reducing the pressure on firms to improve efficiency and reducing costs.

In addition to the high level of protection granted to the wood-processing industry, particular segments of the industry are dominated by only a few firms, which further undermines the possibility of obtaining beneficial effects from competitive pressures. The plywood industry, for example, is controlled by a single firm.

## **FOREST REVENUE SYSTEMS**

Charges payable to the government for extraction of timber from public land are the same as charges for extraction of timber from private lands. Prior to extraction, concession or license holders must pay a tax equal to 10 percent of the estimated stumpage values, which are established by DGF annually for four value levels of species, from "very high commercial value" to "low commercial value."

Even if the estimated stumpage values were close to the actual stumpage costs (i.e., the cost of growing the tree), the 10 percent tax does not pay the government close to the actual cost of replacing the trees harvested. Moreover, studies have shown that the estimated stumpage values fixed by DGF are generally well below actual market stumpage values (Solorzano and Echeverria, Stewart, 1990). Hence, the 10 percent tax is far below the actual stumpage value and recovers substantially less of the cost of replacing the tree than is readily obtainable. The low structure also encourages demand in excess of the sustainable supply and results in a net transfer from the government's capital base to the private lumber processing industries' short-term incomes. The readily available public timber at relatively low cost to users

contributes to lower returns to private forestry, hence discouraging private sector investment in forestry.

Other complaints about the stumpage fee system include lack of appropriate differentiation of charges for different species, quality, and location of the trees. Some trees are favored, which can promote highly selective cutting and the waste and incidental damage that accompanies it.

Application of the same fee structure to private landowners is also detrimental to the environment. When imposed on private landowners, the fee is essentially a tax on private forestry, which discourages further private investment in forest areas. Moreover, as long as the option of obtaining timber from public lands is available for the same fee, there are very few reasons other than wood type for users of timber to invest in private forests. In recent years, suspension of concessions and widespread recognition of the rapid depletion of national and private forests has encouraged increased investment in private forests.

Loggers must also pay a contribution for road maintenance to municipalities and in some instances, they must pay community development organizations before a cutting permit is issued. The way in which these charges are assessed varies by municipality and community. The municipal road tax has been assessed on a per tree basis and on a per kilometer basis. The community tax has been assessed on a volume basis and on a per truck basis.

## REFORESTATION

In addition to the reforestation requirements imposed for extracting timber, the government has offered several types of incentives to promote private sector reforestation. Firms that establish private plantations are allowed to deduct the estimated cost of planting and maintenance from income tax. Similarly, the 1990 law granted exemptions from property taxes, import duties on reforestation equipment, and income tax on wood harvested from plantations.

The tax exemptions were granted through issuance of transferrable bonds (*certificado de abono forestal*) for every hectare of plantation established. The certificates can be used to pay any tax or can be sold on the open market. This system of incentives has been criticized for not being cost effective and for favoring large investors. The total cost of forest subsidies

accounted for almost 9 percent of the government fiscal deficit in 1989, although this percentage has declined in recent years. Tax exemptions provide no incentive to reforest for the majority of farmers, who do not pay income taxes; and large farmers may not need the incentive since commercial plantations are reportedly highly profitable.

A similar system was established to target small farmers who want to establish plantations of less than 25 hectares, but who lack the initial investment. This program differs from the other bond system in that the exemptions are offered on an accelerated basis. The cost effectiveness of this incentive program has also been questioned.

The government has a very limited capacity to monitor maintenance of reforestation efforts after trees have been planted and the incentives have been disbursed. Moreover, several cases of fraudulent claims for exemptions have been reported.

## **SUMMARY**

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.

## REFERENCES

- Barrau, Enrique. USAID/Costa Rica. Personal communication.
- Lutz, Ernst, and Herman Daly. 1990. *Incentives, Regulations and Sustainable Land Use in Costa Rica*. Environmental Working Paper No. 34. Washington, D.C.: World Bank.
- Ministerio de Recursos Naturales. 1993. *Politica Forestal para Costa Rica*. Government of Costa Rica.
- Padilla, Richard, et al. *Analysis Sobre el Control de Tala y Transporte de Madera en Costa Rica*.
- Solorzano, Raul, and Jaime Echeverria. 1992. *Distortions in Timber Markets*. Tropical Science Center.
- World Bank. 1993. *Costa Rica: Forestry Sector Review*. Report 11516-CR. Washington, D.C.: World Bank.

# El Salvador Forest Management

Deforestation in El Salvador is particularly severe. Studies estimate that 98 percent of El Salvador's original forest has been cut. As of 1993, only 327,000 hectares (12 %) of the total area of El Salvador remains under forest, including mangroves. Most of the deforestation is the results from conversion of forested land to agriculture, but deforestation due to fuelwood consumption is also a concern. Deforestation, in turn, has contributed to widespread soil erosion, exhausted aquifers, and loss of biodiversity.

## PRINCIPAL LEGISLATION

Forestry policy in El Salvador is in a state of flux. The principal legislation is the Forestry Law adopted in 1973 (Decree 268). However, the law is largely ineffective and unenforceable because of subsequent organizational changes (decentralization) in the government and regulations that are crucial to the implementation of the law were never written.

Another important piece of legislation that affects forestry in El Salvador is the ban on timber harvesting in El Imposible Forest (Decree 59, ban adopted in August 1985). In addition, Decree 418 (passed in July 1986) raised the fee to extract timber from mangroves from a nominal 0.25 colones per tree to a still nominal 2.50 colones per tree.

A new Forestry Law, drafted in July 1993, is expected to be presented to the legislature for consideration in 1994. The proposed law creates a new authority, the Forestry and Natural Resource Institute, for regulating forests in El Salvador. Other aspects of the law that reflect a shift in policy include: (1) privately owned forests that are not located in Protected Areas or Areas for Special Protection are not regulated; and (2) regulations to control resource use are complemented by fiscal incentives to encourage a desired resource use. Like the previous law, favorable outcomes from the proposed law in many areas are dependent on detailed regulations that will not be drafted until after the law is adopted.

## LAND USE CLASSIFICATION AND RESERVED LAND

The current law essentially does not distinguish regulation of privately owned forestland from publicly owned forestland. It does, however, distinguish land suited for forest cover from land without forest aptitude, the former being the focus of all forest regulation. However, a land use capability system has not been established, and hence, implementation of this critical part of the law has been inconsistently applied.

Similarly, the law also grants the government the authority to declare land as forest reserves or parks in order to protect the forest regardless of whether the land is publicly or privately owned. The law grants the government the right to expropriate privately owned land if necessary to protect the reserve or area. However, in contradiction to the underlying premise of protection, the law allows the Forestry Service to extract forest products from parks and to authorize extraction of forest products from reserve areas by other entities. Perhaps more important, the Forestry Service has not clearly delineated protected areas from adjacent privately owned land and does not have the capability to effectively defend the protected areas from unauthorized incursion.

## CONCESSIONS AND LICENSES FOR THE USE OF PUBLIC TIMBER

There is little merchantable timber in El Salvador located on government-owned land other than in parks, such as El Imposible, which are protected and closed to logging concessions. The few productive timber areas that exist tend to be located on private property. Currently, there are no concessions for extracting timber from public lands.

The law grants authority to the Forestry Service to authorize extraction of timber from public lands in accordance with sustainable management practices, but several aspects of the law (discussed below) are not consistent with sustainable management practices. Authorizations, which are actually referred to in the law as extraction permits, in no way embody the principles underlying forest management concessions.

In the law, extraction of timber from mangroves is discussed separately from timber extracted from other public lands. However, the wording of the law and the lack of supporting

regulations leave little distinction between regulation of mangroves and regulation of other forested land.

### **Duration of Timber Concessions**

Concessions can be granted for a duration of one year and may be renewed for additional one-year periods provided that the restrictions and conditions of the management plans are followed. The short duration of the concessions does not provide incentive for the concession holder to use sustainable management practices. Because the concession holder is not ensured of continued renewals and thus of access to future cycles of timber, the primary economic incentive is to maximize timber extraction in the current concession period while minimizing cost. Thus, there is an underlying incentive for the concession holder to adopt cutting practices that overlook incidental damage and to selectively cut timber, which undermines the forest's long-term sustainability.

### **Conditions and Restrictions and Timber Concessions**

The law states that to extract timber from public lands, the concession applicant must submit a management plan to the Forestry Service for approval. The regulations and technical norms that, by law, were supposed to guide forest management, have never been written.

As in most Central American countries, the management plans are essentially simple cutting plans that specify the volume of timber to be extracted. The short-term nature of concessions in El Salvador does not allow for implementation of sustainable management practices other than by restricting the rate of timber extraction.

The depletion of public forests, including mangroves, since the law was adopted in 1973 raises concern over the capability and will of the Forestry Service to effectively assess the rates of extraction proposed in the management plans and subsequently to monitor and enforce compliance with approved plans.

## **Award Process for Timber Concessions**

Licenses for extracting timber from public lands have been granted administratively (i.e., without competitive bidding), and this lack of scrutiny in the award process raises concerns about the possibility of corruption and about licenses being awarded without the objectives of conservation, maximum government revenue, or long-term sustainability in mind.

## **PRIVATE AND COMMUNITY FOREST MANAGEMENT**

As mentioned above, the law focuses regulation on areas considered to be better suited for forest cover than for other uses. However, the Forestry Service has not fulfilled its mandates to study and propose division of the country into forest regions and to develop a General Forestry Management Plan. Consequently, classification of land as forest area is not applied consistently.

Extraction of timber from areas that are designated as having forest aptitude requires authorization from the Forestry Service. To obtain authorization, applicants must submit to the Forestry Service for approval a forest management plan based on a study of the area. The law states that the forest management plan must include a plan for reforestation of the area or of a similar area as determined by the Forestry Service. The law also states that authorizations for extraction are to be granted in accordance with the General Forestry Management Plan and that management plans are supposed to follow the technical norms and regulations. Without legal and technical guidance, however, management plans approved by the Forestry Service are simple cutting plans.

The government may cancel authorizations for extraction if the forest is not managed in accordance with the obligations specified in the management plan and/or the technical norms and regulations. However, authorizations are rarely canceled because the Forestry Service does not have the resources or will necessary to effectively monitor and enforce compliance with the management plans or sustainable management practices.

The law also authorizes using transport permits as a means to monitor unauthorized cutting. The details of transport permits were supposed to be delineated in the subsequent regulations.

## **FOREST REVENUE SYSTEMS**

Concession holders must pay a nominal fee of 2.50 colones for each tree extracted from mangroves. This fee, which is substantially below market stumpage values, encourages demand in excess of sustainable supply, does not reimburse the government for the true cost of regenerating the mangrove forests, and by reducing the market value of timber discourages private investment in forests. The law does not specify charges for extraction of timber from other areas.

## **FOREST INDUSTRY AND EXPORT POLICIES**

Article 76 of the law delegated responsibility for governing the forest industry, including implementation, requirements, and preferred locations, to the subsequent regulations. Consequently, there is no law regulating the forest industry.

## **REFORESTATION POLICIES**

The law provides for fines if entities that extract timber from public or private land fail to reforest the area in proportion to the amount harvested or, at the discretion of the Forestry Service, to reforest a similar area based on a fixed quota established by the Forestry Service. Fines are rarely collected, however, and are not significant enough to deter noncompliance with reforestation requirements anyway. In addition to obligatory reforestation in exchange for authorization to extract timber, the law also grants the Ministry of Agriculture and Livestock the authority to require planting and conservation of forest on public or private land as deemed necessary by the General Forestry Management Plan. It is unclear to what extent this aspect of the law has been exercised.

To encourage voluntary tree planting, the law states that private landowners who are reforesting or foresting their land are exempt from paying taxes on that land until the planted area starts producing income. The incentive, however, is ineffective in promoting forestation to the majority of landowners because most do not have to or avoid paying taxes on land in the first place. In other Central American countries, similar laws have not been cost effective in that they drain government revenue without commensurate benefits. The extent to which large landowners have been granted this incentive is not clear. In addition, the law

states that the government will establish fiscal incentives, subsidized credit, or other incentives to encourage voluntary reforestation or forestation, but no laws have been adopted to that effect.

## SUMMARY

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.

## REFERENCES

Government of EL Salvador. 1973. *Forestry Law, Decree 268*.

Government of EL Salvador. 1993. *Anteproyecto Ley Forestal*.

Nunez, Ruben, et al. 1990. *El Salvador Natural Resource Policy Inventory*. USAID/ROCAP RENARM Project. APAP II Technical Report No. 113.

# Guatemala Forest Management

Approximately 35 percent of the total area of Guatemala is forested, roughly 38,285 km<sup>2</sup> (PAF, 1990). However, extensive colonization of forested areas, due in large part to population growth, has contributed to a rapid rate of deforestation. The rate of deforestation is estimated at 38,000 hectares per year in the northern part of the country, the Peten, which contains the majority of forested area, and in the Verapaces. The government's ability to protect forested areas is hindered by limited financial resources and a policy to promote frontier settlements as a solution to increasing population pressures.

## PRINCIPAL LEGISLATION

Public and privately owned forestlands are regulated primarily by the Forestry Law adopted in 1989 (Decree 70-89) and the Protected Areas Law adopted in 1989 (Decree 4-89).

## CONCESSIONS AND LICENSES FOR THE USE OF PUBLIC TIMBER

Public lands that are designated as protected areas and concessions for extracting resources from protected areas are governed by the Protected Areas Law under the jurisdiction of the National Council for Protected Areas (CONAP). Nearly all publicly owned forest in Guatemala that has timber production potential falls into this category. Forest resources on nonprotected public lands are governed by the Forestry Law and come under the jurisdiction of the General Directorate for Forests (DIGEBOS).

Only one concession has been granted in Guatemala since the current legislation was adopted. The concession area is located within a designated protected area and as such is governed by the Protected Areas Law and falls within CONAP's jurisdiction. Lack of institutional ability and political support to initiate the concession process are commonly cited as the principal obstacles to granting concessions in Guatemala. Initiating a concession requires the contracting institution to: (1) have the technical and financial ability to identify public land appropriate for a concession, (2) conduct an inventory of the forest resources, (3) accurately assess the value of those resources, (4) develop

technical criteria for evaluating proposals, (5) publicize a request for proposals, and (6) assess all applications in view of the evaluation criteria. DIGEBOS has not yet identified the areas of nonprotected public land that are appropriate for concessions. CONAP has initiated opening up parts of the Peten to timber and nontimber concessions.

### **Duration of Timber Concessions**

For nonprotected areas, (Decree 70-89), Article 11 states that concessions cannot exceed ten years, but the conventional wisdom is that ten years is too short. The concession period should be longer than one cutting cycle to provide an incentive for the concessionaire to follow cutting and management practices that promote longer-term sustained production and conservation of biodiversity. If other restrictions on the management of the concession are applied, however, the length of the concession may become less important.

Concessions in nonprotected areas can be revoked by the governing agency at any time if the concessionaire varies from the terms without government authorization; transfers the concession rights to another entity; or if the firm with the concession rights, due to a change in ownership, does not meet explicit national ownership requirements (70 percent Guatemalan ownership). A concession may be transferred only upon death of the concessionaire. Because concessions have not been awarded, it is not known if the government's ability to revoke the concession provides sufficient incentive to comply with sustainable management practices.

In contrast, concessions in protected areas can be established for up to 25 years in accordance with norms approved by CONAP in March 1994. Concessions in protected areas can be renewed at CONAP's option, and CONAP may revoke concessions if: the concessionaire does not comply with the terms of the contract, which includes the forest management plan; does not have sufficient operating capacity; interrupts operations without just cause; is legally restrained from continuing operations; or if bankruptcy is legally declared.

## Conditions and Restrictions on Timber Concessions

The conditions and restrictions vary slightly with the size of the concession and the land use capability.

The Forestry Law and the Protected Areas Law require a concession applicant to submit a forest management plan, which is the primary means for imposing conditions and restrictions on the concession. Management plans are intended to document that concession holders will use sustainable cutting and forest management practices. The plan identifies the concession area, describes the type and class of the forest, defines the area and volume of timber to be extracted, and includes a reforestation plan, including time frame after cutting.

For concessions in nonprotected areas, DIGEBOS is responsible for approving all management plans and regularly monitoring compliance. The law, however, does not provide guidance on what constitutes acceptable management plans, except that they must be written by a registered forestry specialist who also will oversee implementation of the plan.

The capability of DIGEBOS to effectively assess a management plan is suspect. DIGEBOS has minimal technical staff and has not written any technical specifications for ascertaining whether management practices proposed in a plan will promote sustainable production. Indeed, management plans that DIGEBOS has approved for extraction of timber from private lands are little more than cutting plans. With the exception of plantations established under government reforestation programs, plans for reforestation are merely recognition of the minimum tree planting density required by the law; the plans generally do not address maintenance after planting.

The capacity of DIGEBOS and CONAP to monitor and enforce restrictions imposed by the management plan is also questionable. There are few field staff members and they have limited capability to monitor relatively simple management plans for private land, let alone the plans of more complicated forest management concessions on public land.

Penalties and fines for infractions are too small to provide an effective deterrent to prohibited behavior, and it is uncertain whether the government's right to cancel concessions for lack of compliance with management plans could be exercised effectively.

According to the law, the concession holder has 30 days in which to respond and rectify failure to comply with the management plan. Also, concession holders can easily sidestep the provision that prohibits them from seeking a new concession once a concession has been revoked.

In all cases, cutting protected species is prohibited. The Committee for Protected Forest Species, composed of representatives from DIGEBOS, CONAP, and CONAMA, revises the list of protected endangered species every two years.

For protected areas, CONAP has developed technical and legal norms for managing forest concessions, selecting concession sites, developing forest management plans, and awarding concessions under open bidding principles. According to the technical norms, all forest management plans in protected areas must be guided by sustainable management principles, respecting biodiversity and the local population, and include an environmental impact assessment (EIA). Management plans must address nontimber as well as timber products, and must explicitly address the issues of protection of biodiversity and archaeological and special ecological sites in the concession area. Management plans must be written and monitored by registered forest consulting firms or collaborating NGOs or PVOs and be revised every five years.

Concessions in protected areas that are granted to communities differ slightly, in the rights and obligations, from concessions granted to other parties. Communities are granted use of all resources in the concession area, including the right to continue to farm existing agricultural land. In exchange, communities are required to protect the concession area against unauthorized extraction and immigration. Commercial concessions may be granted for an area up to 35,000 hectares, and can overlap with concessions for other forest products, such as chicle and ornamental palm (xate). Because only one concession has been granted, CONAP's ability to settle disputes between holders of overlapping concessions has not been tested.

More important, CONAP's ability to properly monitor management plans has also not been tested. CONAP's chronic institutional weakness suggests that it will have to rely heavily on the technical abilities of consulting firms or collaborating organizations to effectively monitor management plans. The Protected Areas Law also establishes a formal procedure for resolving disputes between CONAP and concession holders, which has also never been tested.

## Award Process For Timber Concessions

By law, concessions must be awarded competitively for forest resources in state-owned nonprotected areas. Chapter 4 of the Forestry Law Regulations outlines these procedures. DIGEBOS must identify the area available for concession, estimate the value of the forest resources, and examine relevant forest characteristics before publishing in the *Diario Oficial* an invitation to bid on the concession. Parties interested in the concession must first register with the government (i.e., be listed in the Concessionaires Register) to be considered. The regulations state that proposals must identify the area; include a plan for managing the area; outline the general financial, operational, and organizational characteristics of the interested party; describe the entity's technical qualifications to implement the management plan; contain a study of the concession's estimated profitability; and propose an amount and form of payment for the standing timber by species and nontimber resources.

According to Article 9, a three-member commission composed of a lawyer and auditor from DIGEBOS and a delegate to be selected by the director of DIGEBOS will evaluate the proposals and award the concession. Article 14 states that proposals will be evaluated according to seven specific criteria and any other criteria previously established by the commission and published in the invitation for proposals. The assessment criteria listed in Article 14, however, are broad and the law does not offer guidance on the relative importance of the criteria in the overall evaluation. Consequently, the commission appears to have substantial latitude in selecting the best offer. Because no concessions have been granted, it is not known if the award process will be implemented competitively as stated by law.

In the protected areas, CONAP can award concessions in the multiple-use and buffer zones only. Forestry concessions can be granted only to Guatemalans, and are awarded through public bidding to communities, commercial firms, and institutions. Award mechanisms have been developed for communities and commercial firms, but no award mechanism yet exists for institutions.

The concession process begins with preliminary area selection by CONAP in accordance with the Master Plan for the protected area. CONAP then holds public hearings to allow local communities and municipalities an opportunity to object to the

proposed concession. If negative responses are received within 30 days of the hearing, CONAP must weigh all points of view in determining whether to continue the concession process.

CONAP must openly specify the bidding requirements (Bases de licitacion), which include the concessionaire requirements; general and specific concession characteristics; list of required documentation; performance bond requirements (Garantias); type and methods of payment; location, date, and hour to receive and submit the bid; legal statement certifying the bidder is not prohibited from entering into business with the government; payment prior to signing of the contract; criteria to be followed by the evaluating committee; and a draft bid model and draft contract (which includes the forest management plan).

To qualify for a community concession: (1) the mayor of the municipality must certify that the community exists; that the majority of its inhabitants live permanently in the community, and that the community is organized under a Proimprovement Community Committee; (2) the community must submit a legal declaration stating that the community is not prohibited from entering into business with the government, post a performance bond for 1 percent of the total bid, and be registered with CONAP; and (3) the community must provide evidence that it receives technical and managerial assistance from an accredited NGO or PVO, and prove its capacity to manage funds.

To qualify for a commercial concession, the bidder must be technically and financially capable of completing the requirements of the concession, must be registered with CONAP and DIGEBOS, and must submit a legal declaration statement that it is able to carry out business with the government.

CONAP is responsible for establishing a registration file of all communities, organizations, NGOs, PVOs, and natural and corporative commercial firms that are authorized to win concessions or that can provide supervisory and technical services to CONAP.

## **FOREST REVENUE SYSTEMS**

For protected areas, the amount charged for the concession is determined by the competitive bidding process. However, because revenue generation is only one of several criteria for evaluating

proposals and awarding concessions, maximization of revenue is not guaranteed by this process.

The law also does not state exactly how charges will be negotiated and applied, or how payments will be collected. The regulations state only that proposals for concessions must suggest an amount and form of payment for the standing timber by species and non-timber resources.

The outcome of this charge system is dependent on valuation and pricing methods agreed to by the government. To maximize government revenue and promote efficient utilization of forest resources, charges must closely resemble true market stumpage values and be differentiated by species, quality, and location of the trees. In Central America and throughout the world, undervaluation of stumpage values charged by the government and lack of differentiation is common. This results in lower government revenues and promotes unsustainable rates of utilization. Undervaluation of forest resources also discourages private reforestation and does not encourage efficient use of the resource.

Moreover, effective implementation of this type of charge system requires frequent inspection and monitoring of the harvest area to guard against overcutting. In Central America, where overcutting is common, charges collected often severely undervalue the resources extracted because charges are based on planned rather than actual harvest.

For timber extracted from private or nationally owned protected areas, two types of charges are collected. For commercial concessions, concession holders must make annual payments equal to standing value of the average annual commercial volume for the concession area. The volume is based on the management plan forest inventory and a 25-year cutting cycle for trees greater than 45 or 60 cm in diameter, depending on the species. Bidding prices are subject to minimum stumpage values established by CONAP and DIGEBOS every two years. A minimum legal price has been set since 1990 by the Ministry of Agriculture.

For community-held concessions, the annual payment is equal to only 10 percent of the standing value of the volume of commercial species. As controls improve, a provision is included to allow payments based on the yearly operational inventories of commercial species. "New" species will be incorporated into commercial and restricted lists. Community concessions are also

charged a flat 10 quetzales per hectare, paid over a ten-year period.

## PRIVATE AND COMMUNITY FOREST MANAGEMENT

Cutting timber on private lands requires a license issued by DIGEBOS with one exception: no license is required to cut timber for family use, defined as up to 20 cubic meters per year for fuelwood and 10 cubic meters per year for posts or rural construction.

Licensing requirements, however, are not implemented in a way to achieve the primary stated objective: sustainable resource management. Applications for licenses to cut more than 100 cubic meters of timber over five years from forested areas greater than 10 hectares must include a management plan prepared by a registered professional and must be based on a recent inventory of the forest resources. As mentioned previously, however, DIGEBOS has not developed criteria for assessing management plans. Consequently, most management plans approved by DIGEBOS are essentially simple cutting plans. Generally, the plans do not attempt to reconcile cutting rates with rates of regeneration (i.e., sustainable yields). Similarly, reforestation plans are often simply recognition that the landowner will replant the minimum density of trees required by law.

Cutting timber without a license or in excess of the authorized amount is common. The long process for obtaining a license—reportedly substantially longer than the maximum 90 days mandated by law—encourages illegal cutting. As in many Central American countries, DIGEBOS does not have the financial and human resources necessary to effectively monitor and enforce licensing requirements.

Cutting timber on privately owned lands generally requires payment of a license fee to the government. The fee is equivalent to 10 percent of the value of the standing timber and is based on a table of timber values by species and region that is published semiannually by DIGEBOS. Overcutting is common, so the actual amount paid has little relationship to the value of the timber extracted. Most timber on private land, however, is cut without proper licenses—as much as 83 percent—and thus without payment of fees.

In any case, collection of fees for cutting timber on private land or payment of bribes to avoid government requirements decreases the value of land for forest production in relation to other uses, such as agriculture. Consequently, once land has been cleared, owners have little incentive to reforest.

## FORESTRY INDUSTRY AND EXPORT POLICIES

The forest law requires all individuals or firms that extract, process, sell, or export timber or other forest resources to register with DIGEBOS. These firms are required to maintain records on inputs and outputs at all times for examination by DIGEBOS on request. Firms are also subject to spot inspections by DIGEBOS officials to verify that they are obtaining forest resources properly. Whether this aspect of the law is effective in detecting unlicensed cutting is highly uncertain because DIGEBOS does not have the institutional resources necessary to monitor all firms involved in processing.

Export is prohibited for raw and semiprocessed logs or lumber exceeding 21 by 21 cm for nonrestricted broadleaf species or 31 by 31 cm for coniferous species. Boards less than 11 cm thick (regardless of width or length), pressure-treated posts, poles and railroad ties, and timber from forest plantations are exempt.

While the intent is to promote value-added processing, the ban has other implications for forest utilization. Limiting the sale of raw timber to domestic markets reduces the overall demand for forest resources. By limiting the demand for raw timber, the ban also effectively depresses the value of forest resources. The lower value of raw timber, in turn, discourages privately funded reforestation. The processing industry also has less incentive to develop and adopt more efficient processing techniques. Thus, more timber is wasted in processing and less area is reforested than would be the case if such a ban were not in place.

To support the development of local domestic furniture and wood processing industries, import tariffs are higher for furniture and other processed wood products than for raw or semiprocessed timber. Similar to the export policies, the import policies that protect the processing industry from foreign competition reduce the pressure for industry to adopt more efficient processing techniques. Allowing the import of raw timber at relatively low tariff rates also ensures that the value of domestic timber is low.

Restrictions on the use of controlled fires to manage forest cover are not enforced evenly and are ineffective in reducing the frequency of fires used to clear forestland for agriculture and other purposes.

Occupants of nonprotected forest areas are obligated to adopt methods prescribed by DIGEBOS to combat pests and diseases that can endanger the forest. DIGEBOS, however, does not have the capability to effectively impose and monitor pest and disease control methods throughout the country. The law also specifies that, if a landowner does not implement a plan to combat disease, DIGEBOS can take the necessary steps with funding from the Private Forestry Fund. This last article provides a means for the government to protect against the spread of disease, and also provides opportunity for corruption and abuse.

For protected areas, community or commercial concessionaires are responsible for the protection of the designed permanent forest as stated in the concession contract and the forest management plan. This includes controlling immigration to the management unit, land use change (deforestation), and illegal produce extraction. Management plans also require a permanent surveillance system to assure effective protection. Concession holders must clearly delimit physical boundaries, permanent forest, and areas of special interest, so that the land use plan can be readily identified in the field and followed according to the management plan.

## REFORESTATION POLICIES

In nonprotected areas, cutting timber requires subsequent reforestation of the cut area or 1 hectare of land in the same general area for every 150 cubic meters of timber harvested. The specific steps for reforestation are supposed to be indicated in the management plan; but, as mentioned above, reforestation plans are generally just affirmations of the minimum initial density of the reforested area—1,000 trees per hectare—required by law. DIGEBOS may approve natural regeneration instead of planting of trees if the area is sufficiently populated with fertile trees.

In any case, DIGEBOS does not have sufficient human and financial resources to effectively conduct annual inspections for all licensees for each of the four years after planting, as mandated by law. The government's ability to enforce reforestation requirements is further hindered by an ineffective legal system and the willingness of some government officials to accept bribes.

To obtain a cutting license, the licensee or concessionaire must guarantee reforestation in one of four ways: (1) bank deposit or treasury bond; (2) contract with a company to reforest; (3) proof that the licensee has fulfilled a reforestation obligation within the last five years; or (4) payment to the Forestry Development Fund. The effectiveness of the reforestation deposits to ensure reforestation in Guatemala is not known. In other Central American countries, license holders often choose to forfeit reforestation deposits rather than fulfill the reforestation obligation because the amount of the deposit is less than the actual costs of reforestation.

The law also provides fiscal incentives for reforestation. Landowners who choose to reforest their land may apply to DIGEBOS for Forest Investment Certificates, which are valid for four years and entitle the holder to take a credit against income tax or vehicle registration fees up to 50 percent of the cost of reforestation. Fixed costs of reforestation are estimated by DIGEBOS annually and are specified by species and region. DIGEBOS will also reimburse up to 50 percent of the estimated costs of reforestation for small landowners (forested areas less than 45 hectares) after 75 percent of the area to be reforested has been planted. In contrast, no reforestation incentives exist for protected areas.

Both incentives have had limited success in encouraging reforestation. Land taxes are rarely collected so the exemption for land tax provided by the Forest Investment Certificate offers little motivation. The process for obtaining an Investment Certificate or reimbursement for reforestation (small landowners) is lengthy and cumbersome, so many feel that the benefits are not worth the trouble.

## SUMMARY

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.

## REFERENCES

Bradley, Theresa, et al. 1990. *Guatemala Natural Resource Policy Inventory*. USAID/ROCAP RENARM Project. APAP Technical Report No 108.

CONAP. 1994. *Normas de Adjudicacion de Concesiones*.

Government of El Salvador. 1990. *Regulations to the Forestry Law—Acuerdo 961-90 (September 28)*.

Government of El Salvador. 1990. *Forestry Law—Decree 70-89*. 1990.

Government of El Salvador. 1989. *Protected Areas Law—Decree 4-89*.

Guillen, Abraham. USAID/ROCAP/ONARM. Personal communication.

Synnott, Timothy. 1994. *Concesiones de Manejo Forestal para la Reserva Biosfera Maya, Peten, Guatemala*. USAID/Guatemala. Tropical Forest Management Trust.

Tschinkel, Henry. USAID/ROCAP/ONARM. Personal communication.

three months after submission of the management plan to COHDEFOR.

### **Award Process for Timber Concessions**

Concessions are supposed to be awarded by a competitive process or in certain instances administratively. The regulations delegated responsibility to COHDEFOR for producing a manual that specifies the competitive bidding procedure and criteria for granting awards.

Concessions may be granted administratively (without the competitive process) by COHDEFOR to small farmer groups, small producers (no more than 20 hectares), and small forestry companies, for annual volumes less than 1,000 cubic meters of conifer and less than 200 cubic meters of broadleaf. Concessions can also be awarded administratively by executive decree, but the total value of administrative awards cannot exceed 2 million lempiras (constant terms-1993) per year.

In reality, only one concession has been awarded competitively, all others have been awarded administratively. Because the process has not been open to public scrutiny, there are concerns that the process may be susceptible to corruption and that concessions may be awarded for purposes other than maximizing government revenue, conserving forest reserves, or ensuring long-term sustainability of forest resources.

### **FOREST REVENUE SYSTEMS**

To extract timber from public land, concession holders must pay the government the stumpage value of the timber designated for cutting in the management plan. For concessions that are competitively awarded, the assessed stumpage values are set by the competitive bidding process, although they are subject to minimum stumpage values established by COHDEFOR. The minimum values of standing timber are differentiated by region and are supposed to take into account tree quality and potential use. The law allows COHDEFOR to select the valuation methodology in order to maximize income. In reality, however, minimum stumpage values are substantially below world market prices and are reportedly a fraction of the what could be attained in open competition. For administratively awarded concessions,

the law states that charges should be equal to the stumpage values obtained by competitive bidding in the prior year for similar trees in the same area.

In either case, the fees actually paid and the underlying justifications are not open to public scrutiny, which raises further concerns that the payments for public timber may not closely approximate market stumpage values. It also appears that the government does not have the capability to detect and prevent the underpayment that results from overcutting or understating tree size in the proposal inventory. Hence, it is likely, that the effective per volume charges substantially understate the true stumpage value of the trees extracted. Charges that are lower than true stumpage values encourage demand that exceeds the rate of regeneration, does not adequately compensate the government to regenerate the tree, and by depressing the market value of standing timber discourages private investment in forests.

## **FOREST INDUSTRY AND EXPORT POLICIES**

All individuals or firms that extract, process, or sell wood or wood products must register with COHDEFOR, a process that is relatively free of bureaucratic constraints. Under the new law, no annual operating license is required. This is a significant change from the previous law in which the approval process for operating permits greatly restricted the level of competition. The increase in the number of firms competing in the market has contributed to the notable rise in the market value of timber.

There is a prohibition on the export of raw and semiprocessed logs, which is intended to support the domestic wood-processing industry and encourage the development of industry that adds value to exports. However, by limiting the market for raw and semiprocessed logs, the ban also depresses the value of domestic timber and thereby reduces the incentive for private sector reforestation. Prices of processed wood products are not controlled.

## **PRIVATE AND COMMUNITY FOREST MANAGEMENT**

The new forestry law is very different from the previous law in its management of private forests. Land that is not categorized as having forest aptitude is exempt from all government forest

# Honduras Forest Management Policies

Between 1964 and 1989 forested land in Honduras decreased by 2.3 million hectares, according to the Honduran Forestry Corporation (COHDEFOR). The area covered with broadleaf forests decreased 35 percent while the area covered with pine forests decreased by almost 50 percent. This rapid rate of deforestation has contributed to extensive soil erosion, receding watersheds, reduced water accessibility, sedimentation of riverbeds, increased frequency of flooding, loss of hydroelectric and irrigative capacity, and reduced supply of urban water.

## PRINCIPAL LEGISLATION

Use and protection of forested lands are governed primarily by the Law for the Development and Modernization of the Agricultural Sector (Decree 31-92), which was adopted in March 1992, and the subsequent forestry regulations, which were adopted in July 1993 (Acuerdo 1093-93 and 1088-93). The Reforestation Incentives and Forest Protection Law (Decree 163-93) was adopted in September 1993, but has not been published officially and consequently has not been implemented. The reasons for the delay are not clear. Reportedly, the implementing agency, COHDEFOR, may be delaying publication because of the severe impact the law would have on COHDEFOR's budget. Forest management is also influenced by the Protected Areas Law.

## CONCESSIONS AND LICENSES FOR THE USE OF PUBLIC TIMBER

Concessions for the use of timber and nontimber products from public lands are granted by the State Forestry Administration (AFE) through COHDEFOR or by the president of Honduras. The duration of a concession is not specified by law, but is supposed to be determined on a case-by-case basis in accordance with the nature of the extraction and the principles of protection, conservation, and reforestation. However, concessions that have been granted under the new law have been essentially authorizations to cut a specified volume of existing timber; they have not granted the concession holder any rights to a future cycle of trees. The short duration of concessions and the lack of

rights to future cycles of trees do not provide an incentive for concession holders to practice sustainable forestry techniques.

By law, concessions must take into account historical use rights of current occupants and users of the forest (e.g., small foresters, indigenous communities, or campesino organizations), but allowing current occupants to have open or uncontrolled access may lead to use rates that exceed the rates of forest regeneration. This will depend on community structure and their uses of the forests. Non-exclusivity may undermine the incentive for concession holders to use sustainable practices.

Concessions can be revoked for noncompliance with management plans, but this rarely occurs.

### **Conditions and Restrictions on Timber Concessions**

Concession applicants must submit to COHDEFOR for approval a forest management plan, an environmental impact assessment, and a reforestation plan prepared by registered professionals. The forest management plan is intended to ensure that concession holders follow sustainable management practices, but the law does not specify the sustainable practices. The law delegates responsibility to COHDEFOR for producing a technical manual for guiding development and assessment of forest management plans to provide standardization and enforceability. COHDEFOR has produced a manual, but the manual lacks the technical rigor necessary to be effective. Forest management guidelines have been developed mainly for pine forests; little is being done about broadleaf forests. More important, most management plans that have been approved by COHDEFOR in accordance with the manual are in actuality simple cutting plans that merely specify the volume of timber for extraction.

Approved management plans for public concessions and the process for assessing management plans are not open to public scrutiny. Thus, there is concern that approval of management plans as well as the concession award process are susceptible to corruption. It is also reported that COHDEFOR has been lax in ensuring compliance with management plans and reforestation requirements. Also by law management plans are automatically approved if COHDEFOR does not respond to the applicant within

management regulation. That is, owners of land that is designated as not having forest aptitude may cut trees on that land at their own discretion. Theoretically this law allows the government to focus regulatory enforcement where it is most needed, critics of this aspect of the law claim that the criteria for determining forest aptitude have not been consistently applied. In addition, the process is not open to inspection, which raises concerns that land classification may be open to corruption.

To extract timber from privately owned land that is designated as having forestry aptitude, it is necessary to submit a management plan developed by a registered forester to COHDEFOR for approval. As mentioned above, however, management plans approved by COHDEFOR generally are simple cutting plans that merely specify the volume of timber to be extracted. Moreover, COHDEFOR is reportedly very lax in monitoring compliance with management plans and reforestation requirements. Overcutting is common.

## REFORESTATION POLICIES

Concession and permit holders must pay a deposit equal to 20 percent of the stumpage value of the timber to be cut as a guarantee that the area or a similar area is reforested after extraction. The deposit is refunded after the reforestation commitment is fulfilled. Reforestation deposits are not effective guarantees of reforestation, however; they are frequently forfeited because the amount of the deposit is often less than the actual cost of reforestation.

As mentioned above, the Reforestation Incentives and Forest Protection Law, adopted in September 1993, has not been published officially, and consequently has not been implemented. It is reported that COHDEFOR is delaying publication because of the severe impact the law will have on COHDEFOR's budget. Hence, the government currently provides no fiscal incentives for reforestation.

Should the Reforestation Law be implemented, it will grant COHDEFOR the authority to enter into contracts with landowners, cooperatives, and other farmer associations for the purpose of promoting reforestation and forest protection. Through these contracts, COHDEFOR will be able to bestow tax and tariff exemptions and other rights and incentives in exchange for

obligations by the contracting entity to reforest and/or adopt specified forest management practices.

For private landowners willing to adopt a forestry management plan, the government will develop the management plan at no cost to the landowner and will provide technical assistance for three years or *paratechnical* assistance for up to five years. In return, the landowner is granted absolute rights free of taxation to firewood and wood for rural construction or fence posts produced on the property. The landowner is also granted free of taxation absolute rights to oils, latex, and forest seeds for home use or commercial sale.

Landowners who invest in protecting forestland that is regenerating or that is newly planted from fire, disease, or pests may, without entering into a management plan, depreciate 50 percent of the costs of protection in accordance with a protection plan. Similarly, owners of areas that have been deforested may depreciate 50 percent of the cost of reforestation. The law also will establish a Forestry Development Fund to subsidize establishment of tree plantations for commercial use (the fund will pay 50 percent of the estimated cost of planting) and establish firewood plantations or forestation projects in multiple use areas (the fund will pay 100 percent of the estimated costs of planting). The law applies only to land areas larger than five hectares.

Another aspect of the law is that private land that is managed in compliance with the obligations established in reforestation or forest management contracts with COHDEFOR will be protected against expropriation under the agrarian reform law.

Entities that enter into contracts to reforest land that is publicly owned will be guaranteed use of the land in accordance with the specifics of the contract for an undetermined amount of time. Specifically, the beneficiary will be granted rights to 50 percent of the volume of timber harvested. Entities that invest in protecting public forests (i.e., from fire, disease, pests) without entering into management plans can depreciate 100 percent of the annual cost in accordance with the investment program of an agreed upon protection plan.

The impact of these incentives will not be known until the law is implemented, but similar arrangements in other countries have not been cost effective. Tax exemptions provide no incentive to the majority of landowners who do not pay taxes. In several countries, it appears that the larger tax-paying entities that

benefit from the tax exemptions would have planted trees anyway or had already adopted sustainable management practices prior to establishment of the incentives. In such instances, tax exemptions drain the government budget without providing additional benefits. Similarly, for the planting subsidies to be cost effective, compliance with management plans after planting must be strictly enforced.

## SUMMARY

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.

## REFERENCES

Alvarez, Ramon. COHDEFOR. Personal communication.

Government of Honduras. *Acuerdo 1039-93, Forestry Regulations for Decree 31-92.*

Government of Honduras. 1993. *Decreto 163-93, Reforestation Incentives Law.*

Johnston, George, et al. 1990. *Honduras Natural Resources Policy Inventory*. USAID/ROCAP RENARM Project. APAP Technical Report No. 111.

Trapido, Paul. Inter-American Development Bank. Personal communication.

# Nicaragua Forest Management

Between 1960 and 1980, Nicaragua suffered the highest rate of deforestation in Central America, losing approximately one-third of its forest cover. Since then, severe economic conditions and the return of refugees following the end of the civil conflict have contributed to increased pressure on Nicaragua's natural resource base. According to Swedish forestry advisors, roughly 200,000 hectares of forest (net) were cleared during the 1990-1991 dry season alone, and the annual rate of deforestation was estimated at 150,000 hectares per year. The predominant cause of deforestation is clearing of forestland for agricultural uses and grazing, although gathering fuelwood also presents a significant threat to the forest cover. In 1991, 35 percent of Nicaragua (4,302,000 hectares) was under forest cover.

## PRINCIPAL LEGISLATION

The Interim Forestry Decree (Decree 45-93), adopted in November 1993, is the principal legislation regulating forest area and the use of forest products. This emergency decree is a selective compilation of previous forestry legislation and is intended to regulate extraction and use of forest products until a permanent law is established.

## CONCESSIONS AND LICENSES FOR THE USE OF PUBLIC TIMBER

The State Forestry Administration (ADFOREST), a parastatal organization that reports to the Ministry of Natural Resources and the Environment (MRENA), is responsible for the administration and management of state-owned forestland. ADFOREST has authority to enter into contracts for use of forest resources from state-owned land in accordance with technical norms established by the National Forestry Service within the Ministry of Natural Resources and the Environment (SFN/MRENA). ADFOREST also has the authority to extract and process timber from public lands with its own resources or by means of joint venture arrangements. The decree does not use the term "concessions"; it refers to contracts and extraction permits.

Because the decree was adopted so recently (November 1993), no contracts have been awarded and no permits to extract timber from public lands have been authorized. The only exceptions

have been permits granted to individuals to salvage hurricane-damaged timber on the Atlantic Coast. The interim decree does not develop completely the mechanisms for granting concessions, nor has the SFN developed the capability to undertake the necessary steps to award concessions. In addition, the SFN has not completed the inventory of state-owned forest resources that is necessary for the development of management plans. More important, granting of concessions is forbidden by the constitution. A working draft of a forestry law that will address these issues has been produced, but is far from finalized.

### **Conditions and Restrictions on Timber Concessions**

The decree delegates the responsibility to ADFOREST through SFN to develop and implement forest management plans that ensure conservation and sustainable production of forest products for all state-owned forestland. However, the SFN lacks guides that specify the technical norms for development of forest management plans and environmental impact assessments. SFN's capability to develop and monitor effective management plans has not yet been tested because no concessionary contracts have been granted.

Timber extracted from public or privately owned land cannot be processed with chain saws. Logs that are transported must be marked with a registered symbol of the permit holder, the permit number, the dimensions of the log, and the consecutive number of the log in the shipment. The logs must be accompanied by a transportation permit, and permit holders must also carry Registration and Control Books that have been stamped by the appropriate authorities.

### **Award Process for Timber Concessions**

The decree does not specify the process for granting concessions; that is, it does not state whether concessions will be granted administratively or awarded competitively (i.e., through an open bidding process). The government has received solicitations from several firms that wish to enter into agreements for extraction of public timber and reportedly is responding by preparing forest inventories for the areas of interest. An SFN official estimates

that it will be at least one year before any concessions are awarded. Again, the process has yet to be determined and the constitutionality of granting concessions is still in question.

## **FOREST REVENUE SYSTEMS**

The decree states that permit holders must pay the government for the value of standing timber to be extracted from public land. Payments will be based on reference prices for standing timber as well as for cut timber, processed logs, and fuelwood. These prices will be published regularly by SFN, although the exact means SFN will use to estimate reference prices has not been finalized. For timber that is internationally traded, SFN will reportedly base the reference prices on world market prices and make adjustments for transportation and other costs to the local site. As of May 1994, no reference prices have been published.

The value of the standing timber on private land accrues to the landowner, and therefore no stumpage fee payment to ADFOREST is required.

Apart from stumpage fees, permit holders must pay a tax to the government for each tree marked for harvest whether the tree is located on public land or private land. The tax is 10 colones (C\$10.00) per cubic meter of standing timber for broadleaves and 15 colones (C\$15.00) per cubic meter of standing timber for pines. Although the tax is not large, application of any tax to privately owned timber discourages private investment in forests and thereby effectively encourages alternate land uses, such as agriculture or livestock grazing.

## **PRIVATE AND COMMUNITY FOREST MANAGEMENT**

Although the interim decree essentially establishes the concept of a privately owned forest by allowing the value of the forest to accrue to the landowner, a permit is still required to extract timber from privately owned lands. To obtain a permit, a landowner or designate must submit a written request to SFN that indicates the volume and number of trees to be extracted (broken down by species and hectare), the total area and location of the forested land, and the name and address of the landowner. Representatives of SFN subsequently inspect the proposed harvest area in accordance with SFN's technical norms and administrative dispositions and mark each tree approved for

harvesting. Permits are granted for one year and can be renewed for an additional year with SFN's approval.

SFN, however, does not have the capability to inspect all sites and effectively assess the solicitations in the context of sustainable forestry. Consequently, the licensing procedure is primarily an administrative process to obtain taxes; it does not effectively ensure that sustainable management practices are used.

Harvesting perennial crops also requires approval by the Ministry of Agriculture. For harvesting fuelwood, an inspection by SFN is required only for volumes greater than 10 cubic meters.

After harvesting, permit holders must notify SFN, which then inspects the harvested site and confirms that trees were harvested in accordance with the stipulated norms. SFN, however, does not have the capability to track implementation of all harvest permits or to inspect all harvested areas. Thus, overcutting and unauthorized cutting is common.

The decree also states that prior to October 30 each year, SFN must establish quotas of harvestable timber by territory. The quotas are reported to be based on technical and economic criteria, and take into account conservation principles and ADFOREST's plans for extracting timber from public lands. The quota system has not been established yet. The decree does not specify how regional quotas would be apportioned to applicants if demand exceeds the yearly allocation.

A license is also required to transport harvested timber (Guías Forestales de Transporte). The original transportation license must accompany the shipment to its ultimate destination. Copies must be kept by the extraction permit holder and submitted to the SFN office that granted the extraction permit.

## **FOREST INDUSTRY AND EXPORT POLICIES**

The decree states that cutting and/or processing firms must maintain and carry Registration and Control Books that are properly stamped by the relevant authorities. The firms also must submit detailed monthly reports of the sources and use of raw materials to SFN, and must keep proper documentation to confirm that the raw materials were obtained legally.

Export of unprocessed logs is prohibited. All other wood products can be exported with proper documentation.

## REFORESTATION

The decree does not include reforestation requirements for extracting timber from public or private land, nor does the decree include any fiscal incentives for reforestation. A fund has been established, with a \$1-million grant from Sweden, to provide credit and to partially reimburse landowners for reforestation costs. The fund is in the pilot project stage, the results of which are not yet clear.

## SUMMARY

In 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.

## REFERENCES

Araquistain, Roberto. Servicio Forestal Nacional. Personal communication.

Castenejas, Guillermo. World Wildlife Fund. Personal communication.

Conley, Ralph. USAID/Nicaragua. Personal communication

IRENA. 1992. *Emergency Forestry Regulations, Draft.*

IRENA. 1992. *Forestry Action Plan for Nicaragua.*

IRENA. *Nicaraguan Forestry Policy with Sights on the Year 2000.*

Servicio Forestal Nacional. *Una Estrategia para el Desarrollo Forestal.* Not dated.

# Rapid Analysis of Forestry Legislation: Applied Examples

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<b>Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua</b>	
<b>Articles</b>	<b>Observations/anticipated impact</b>
XI-51. IRENA's technical and administrative norms will establish which classes of permits will require management plans and impact studies.	- This should be based on the land use classification system and standardized
XI-52. SFN will elaborate and disseminate the guides for elaborating plans and give final approval	- Without sufficient technical and financial resources this will create a bottle neck that may invite corruption
XI-53. SFN will elaborate and disseminate the guides and instructions for Industrial Forest Plans EIS, which must evaluate compatibility of forest exploitation with conservation, protection, and sustainability.	
<b>XII Exportation</b>	
XII-54. Authorized permission to export wood requires receipt of sale or a copy of the Permiso de Aprovechamiento and a copy of export documents.	- Without barcoding every tree and a complete barcode-based tracking capability, tracking individual logs is impossible and imposes tremendous costs.
XII-55. Prohibits log exports except when the wood by its nature or destination cannot be processed in country.	<ul style="list-style-type: none"> <li>- Higher export taxes on logs than on lumber and plywood are superior to bans and quotas on log exports. Export taxes furnish whatever degree of protection is desired, raise government revenues, and also make redundant any income tax or credit incentives for sawmills and plymills.</li> <li>- Log bans or quotas are established with the goal of increasing value-added and protecting the diminishing resource.</li> <li>- Log export bans and other policies designed to increase domestic log processing may have only short-term effects because local industries are often inefficient and governments provide logs even when demand is low [See Costa Rica]</li> <li>- These policies depress the value of the resource, thereby inducing more waste and less conservation.</li> <li>- In some cases bans or quotas have been circumvented by over and under invoicing or illegal exportation.</li> <li>- Unless these policies are supplemented with effective enforcement and forest management, they are unlikely to reduce deforestation.</li> </ul>
XII-56. SFN can solicit verification from IRENA that the exported cargo coincides in quantity, quality, and species with that specified in the permit.	
<b>XIII Establishes taxes and fines</b>	

Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua	
Articles	Observations/anticipated impact
IX Restrictions on the primary transformation industry	<ul style="list-style-type: none"> <li>- Restrictions such as these have lead to inefficient and overproduction of the industry in Costa Rica.</li> <li>- Because the market does not reflect the true value of forest resources, market mechanisms must be supplemented with regulatory ones, such as:                             <ul style="list-style-type: none"> <li>- well enforced land use capability system</li> <li>- secure titling of private land</li> <li>- fiscal incentives to keep private land in first stand forest over as "investments" for the future.[conservation easements; favorable tax rates, management by conservation NGOs]</li> <li>- good management of reserved and protected areas on public land.</li> <li>- self-sustaining funding sources for management and protection.</li> <li>- long-term forest management will not be cost effective until the industry utilizes forest resources more efficiently. This will require vertical integration and a wider range of products</li> </ul> </li> <li>- Policy can begin to further these industry requirements. Some possibilities include:                             <ul style="list-style-type: none"> <li>- more secure access to timber including purchasing forests</li> <li>- stumpage fees that reflect world prices.</li> <li>- joint ventures between forest owners and sawmills.</li> </ul> </li> </ul>
X-47. Prohibits cutting & clearing within 200 m of rivers, lakes, and permanent water sites.	<ul style="list-style-type: none"> <li>- Process for enforcement unclear</li> </ul>
X-48. Permit holder must elaborate and implement a fire prevention and control plan and combat forest fires.	<ul style="list-style-type: none"> <li>- This applies to state land and will be largely solved by a system of secure land titles for private lands.</li> </ul>
X-49. Prohibits changing land use patterns out of forest uses except for projects in the national interest approved by SFN/IRENA and accompanied by an EIS.	
X-50. After harvesting, the landowner is responsible for protecting against invading agriculturalists and fires.	<ul style="list-style-type: none"> <li>- This applies to state land and will be largely solved by a system of secure land titles.</li> </ul>
XI Guide for developing management plans	

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**Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua**

Articles	Observations/anticipated impact
XIII-57. Payments for logs will be made to landowner in case of private property and to ADFOREST in case of state lands	- This is part of a total economic incentive package and should be treated in integrated fashion
XIII-58. Payments for technical services, fines, auction and sale of confiscated forest products, donations, and so on, will go to Fondo Forestal Nacional	- Same as above
XIII-59. Permit holders on statelands will pay ADFOREST a use rate in accordance with prices set annually by IRENA on behalf of SFN	<ul style="list-style-type: none"> <li>- See Forest revenue systems in taxonomy Revenue Systems</li> <li>- This is a complex policy area and general guidelines should probably be specified in the law, such as concession lengths, bidding procedures, and charge systems.</li> </ul>
XIII-60. Values for volume of wood by foot will be established by cubic meter annually by IRENA on behalf of SFN for all types and species of wood including leña. Prices will be published regularly by SFN.	
XIII-61. Permit holders must pay a charge of C\$10.00/cubic meter [pine forests] and C\$ 15.00 per cubic meter [broadleaf forests]	- Fees should reflect world market value and therefore be tied to a formula for determining them, not specified in the law.
XIII-62. Volumes of wood extracted as noncommercial thinnings are not subject to taxes or service charges	- Commercial uses for thinnings should be developed because it will improve the return on managed forests.
XIII-63. Processing plants and sawmills will pay annual charges for services of supervision established by IRENA established in 63 a-f	<ul style="list-style-type: none"> <li>- The distinctions specified in the are not about services</li> <li>- The OSHA of the United States is a good model here with opening for private sector provision of inspection services.</li> </ul>

# Rapid Analysis of Forestry Legislation: Applied Examples

## RAPID ANALYSIS

The techniques for carrying out a rapid analysis illustrated in this chapter are applied to three specific examples of proposed forestry legislation; however, they can be adapted easily to other situations. For example, they can be used to: (1) identify the differences between two proposed laws and assess the likely impact of those differences; (2) understand how a new policy will interact with existing policies in other sectors or other countries; or (3) analyze policy-based barriers to implementation. Whatever the primary concerns are, a rapid systematic analysis of the policy context will promote more efficient targeting of an organization's or stakeholder's efforts.

All decision-making about policy arises because someone believes a problem exists. They want to improve their situation or someone else's situation. The resulting policies form a set of incentives that determine the way people use forest resources. Those incentives are established by the interaction of explicit and implicit policies that appear in many different sectors. That set of policies creates opportunities for some people and imposes limitations on others. When one group benefits from taking advantage of those opportunities, another group's welfare may be reduced, sometimes considerably. This phenomenon occurs among different geographical areas and within and between generations.

Consequently, to develop a set of policies that establishes incentives that will result in sustainable use of natural resources, policymakers must be able to: (1) assess the impact of implicit and explicit policy on the way people use forests; and (2) meaningfully include the actual and potential users in the policy formulation and implementation process.

The techniques illustrated in this chapter can help to (1) identify the opportunities and limitations that are created by an existing policy or by a proposed change in policy; (2) better understand the concerns of those who will take advantage of these opportunities or experience the limitations; and (3) direct attention to some of the impacts that arise from the interaction among policies that exist in other policy sectors.

The results of the analysis can help: (1) identify questions that need to be answered before a decision is made; (2) alert and coordinate stakeholders to support or oppose specific parts of a proposed policy change; (3) design a program activity to mitigate an unfavorable impact or to take advantage of new opportunities created by the changes; (4) develop a community education program to inform people about the opportunities and limitations created by the new policy; and (5) attempt to reform other policies and/or institutions that act as barriers to implementation of the new policy.

## Methodology

The basic methodology used in the case studies provided here is to: (1) systematically identify all of the separate policy objectives and tools that appear in a law or series of laws, regulations, and technical specifications; and (2) create a table that organizes them into categories. Different categories may be chosen depending upon what the analysis is intended to achieve. For example, forest charges can be structured to achieve management objectives. Usually economic incentives, however, are scattered throughout the forestry legislation, and they interact with incentives that are established by legislation in other policy sectors. It is much easier to understand their interactive cumulative impact if they are grouped together under a heading of forest revenue in the table. The total incentive package can then be explicitly evaluated in terms of impact on behavior and whose interests are served in the long and short term.

The cases in this chapter are based on three draft forestry law documents. They illustrate approaches to three different analytical questions. In Case 1 the analysis is concerned with quickly understanding whether or not the proposed policy tools will achieve the general objectives stated in the law. The table has two columns. The first column lists the articles in the order that they appear in the law, the second column briefly states observations and anticipated impact.

In Case 2 the analysis is concerned with identifying the differences between the existing law and a proposed draft law, and the likely impact of making those changes. This table has four columns. Column 1 lists the articles from the proposed law and column 2 provides a brief commentary on its impacts; the last two columns highlight the differences between the proposed law and existing law.

In Case 3 the analysis is designed to identify how well the proposed law reflects the basic design considerations that were identified by the analyses presented in Cases 1 and 2. Column 1 lists the menu of policy tools that appear in the taxonomy; column 2 sorts the articles into these categories; and column 3 identifies the implications and questions that the analyst might want to consider.

The format is flexible and depends on the questions that are being explored. The analysis can be structured around a specific concern, such as invasion of a protected area by landless peasants. In that case, one would identify the policy tools in the proposed forestry law that create incentives for using (or not using) the resources within the area, and then identify policy tools in other sectors such as agriculture, land tenure, and macroeconomics that may exert an influence on resource use in the same area. The analysis would attempt to describe their interactive or cumulative impact.

## **Getting Started**

This section provides a summary of the steps necessary to create rapid analysis tables of the types shown in Tables 1-3. Depending on the time available and the availability of information, completing all steps may not be possible or useful.

### **Step 1: Problem Identification.**

Begin by provisionally stating the problem or problems of concern. These may be biophysical concerns such as soil erosion in an important watershed or escalating rates of deforestation and loss of habitat; socioeconomic concerns such as migration into a buffer zone around a protected area of importance for biodiversity conservation; or institutional concerns such as promoting administrative ease or grass-roots participation, gradually shifting policy away from command-and-control approaches toward market-based incentives; or concerns about intra- and inter-generational equity. In most cases there will be interest in a variety of issues.

### **Step 2: Policy Identification.**

Forest policy determines how people use forest resources. It does that explicitly through policy tools specified in legislation, regulations, and technical specifications. Such tools include concessions, licenses, fees, taxes, and so on. The policy taxonomy

in the Source Book provides a large number of these tools organized into categories of incentives. These categories of incentives are provisional; that is, they can be restructured or expanded to meet analytical needs as more is learned about a particular situation.

In column 1 of the table, list specific provisions in the law and specific policy tools that are relevant to the question being asked by the analysis. In column 2, by referring to the Source Book, summarize what is known and not known about the general impact of the tools listed in column 1, then expand the analysis with interviews and site visits if possible.

### **Step 3: Institution and Stakeholder Identification and Assessment.**

Forest policy is also created in a much less obvious way through implicit policies that exert their influence through values about forest resources; attitudes about the rights and responsibilities of the users, and about the role of government; and institutional relationships that are more responsive to the preferences of some groups than others.

The manner in which actual and potential present and future users of the forest resource can register their preferences in the policy formulation process is also a powerful source of implicit policy. A policymaking process that is influenced by personal relationships or that is centralized and obscured from public view favors some groups at the expense of others. Including an assessment of the major implementing institutions and stakeholders is important if the analysis is interested in implementation issues, policy dialogue, or in developing field-based activities. Sources of implicit policy function interdependently and usually lead to logical policy outcomes. In this step, try to identify the implicit policies that may have an impact on the way the tools listed in column 1 influence behavior. Add these observations to column 2. Some examples are provided in the box below to illustrate how the analyst might address these less obvious but often powerful influences.

**IMPACT OF IMPLICIT POLICIES: SOME ILLUSTRATIONS**

- A belief that forests are an unlimited resource leads to the assumption that because forests are not scarce they have no value. The implicit policy is that trees, water, soil, and wildlife are "no cost" items, with the consequences that: (1) economic development plans often do include forest productivity; (2) erosion control is overlooked; (3) there are no incentives to maintain watersheds or to view trees as a crop. The institutional consequence is that budgets are insufficient to develop, monitor, and enforce management plans or to enforce existing laws that protect forests.
- An implicit policy that price is not the vehicle for allocating uncleared land produces the basis for an explicit policy that encourages colonization. An implicit policy that poor people have a right to use land encourages homesteading on undeveloped private land, which in turn encourages owners to clear land to demonstrate ownership. Combined, these two implicit policies create an environment that promotes invasion of protected areas by squatters, nonenforcement of existing laws, and separation of authority from responsibility to enforce forestry law.
- A belief that protecting forests competes with rural and urban development is an implicit policy that biases macroeconomic policy in favor of industrial, commercial, and urban development. A belief that forests are "idle" and should be "put to work" leads to policy sets that contain no incentives to preserve forests or to reforest after harvest.
- A belief that natural resources are unrelated and independent components leads to an implicit policy about how resources should be managed that in turn leads to divided responsibility, unclear authority, no coordination in policy development, and little inter-institutional effort to develop a coordinated effort to deal with natural resource problems.
- A belief that forests (or natural resources) are the property of the state leads to a top-down command-and-control policy; that is, no distinction among public, private, municipal, and communal lands; no requirements for detailed management plans, cutting licenses, transport licenses, and milling licenses; and no monitoring and enforcement at every stage of the process. The consequence of this approach has been the diversion of scarce government resources, corruption, illegitimate appropriation of rents, and loss of confidence in government.

#### Step 4. Analysis

This step tries to answer the question, "What implication does the commentary in column 2 have for: (1) the major stakeholders? (2) the probability of successful implementation? (3) meeting the design criteria established by policymakers? (4) achieving the general objectives established in the legislation or national agenda? (5) supporting rather than undermining the general objectives in other sectors? (6) balancing national concerns for growth, welfare, and conservation? The focus and specific questions addressed depend on the purpose of the analysis.

The synthesis of forest policies provides an overview of the dynamic and interactive nature of forest policy; however, in many cases the policies driving the use of forest resources are established by policy in the agricultural sector, tenurial policy, and by macroeconomic policy that in a variety of ways lowers the return from forest management in comparison with other land uses.

#### Guiding Principles

Central American governments are becoming more concerned about sustainable use of forests in a context of increasing rates of deforestation, rapid population growth, and a trend toward eliminating protectionist policies and participating in interdependent global markets in which global prices often do not reflect local scarcity value. Analysis of the forest legislation presented in these three cases suggests some guiding principles for developing policy in this new global context in which explicit policy, as established in laws, regulations, and technical specifications, must be examined as an interactive system that also includes implicit and explicit policies in other sectors and in other regions of the world. The following principles can be used to guide the analysis and development of forest and natural resource policy:

- Administrative ease—government enforcement is minimized.
- Local participation—existing and potential users of the resource participate in assessing and monitoring impact and in formulating policy.
- Transparency—the policy assessment and formulation process is open to public view.
- Accountability—policymakers are held accountable in the political process and policy can be modified with new information about impact, new values, and new participants.

- Equity—the distribution of costs and benefits within generations and between generations is not extremely biased in favor of or against any one group.
- Economic efficiency—private costs of timber use/extraction are equal to the social costs. The concept of "social costs" disguises "who's" costs are being estimated. Usually someone is made better off and someone else is made worse off either in the present or in the future. Whether or not all preferences are included in the assessment depends on the extent to which the criteria of participation, transparency, and accountability are met.

To promote forest policy that supports these guiding principles, policymakers must: (1) examine policy systematically in a larger interactive context and (2) assess how policy tools that work both independently and in combination with others support or undermine the guiding principles and criteria.

For example, if one's interests will be served by implementing a land use capability system, then decisions about responsibility and authority given to government, to communities, and to individuals will affect the choice of policy tools and have implications for the guiding principles. To illustrate, if government gives the rights to access, management, exclusion, and sale of forest resources on private land to the landholder, then economic incentives can be used to motivate appropriate land use and promote administrative ease. The underlying assumptions, however, are that land tenure is secure and that functional land markets do exist. Alternatively, establishing the rights of access, management, exclusion, and sale of timber resources on private land will help to create a demand for secure land tenure and functional land markets.

If capturing resource rents for the government is desirable because it will reduce windfall profits and result in more sustainable use of forests, then administrative ease and transparency are very important guiding principles because an overburdened administrative system (lack of administrative ease) hidden from public scrutiny (lack of transparency) encourages corruption. Depending on how revenue is distributed, equitable economic growth and economic efficiency with respect to long-term national sustainable development strategies may also be promoted. Charges on forest products from private land, however, increase revenue but at the cost of administrative ease and promoting market incentives for appropriate use.

If the guiding principles place great importance on administrative decentralization, local participation, transparency, accountability, or equitable economic growth, then the total policy package must also provide accessible remedies, legal relief backed by the full power of the government, and the possibility for citizen suits (usually brought by NGOs on behalf of the unrepresented victims of unenforced regulations and laws).

If the guiding principles emphasize government enforcement and market mechanisms over command-and-control mechanisms, then forestry laws and regulations must put in place key policy conditions that support and promote institutional changes elsewhere in the policy arena (e.g., clear demarcation of protected areas, secure tenure to forest resources on private land, land use capability systems, and a revenue system that collects resource rents and invests them in management and protection of state lands). Such conditions in the forestry sector set the stage for the marketing information services, banking system support, and legal instruments (contracts, mortgages, credit, etc.) that are necessary to promote responsible private sector investment.

These illustrations provide a sense of the interactive impact that policy tools can have and suggest the kind of observations that might appear in column 2. The information in column 2 is the basis for developing an agenda for action and an implementation strategy.

### Three Illustrative Cases

The rapid analyses provided in the following three cases were selected from analyses of early draft versions of forestry legislation from Nicaragua, Guatemala, and El Salvador. The analyses are not meant to be complete nor to provide definitive statements about the utility of any one specific policy tool or about the validity of the draft documents that served as their basis. Rather they are meant to illustrate the range of useful observations that can be easily organized and presented to provide feedback to the drafters of legislation and to policymakers as the basis for a participatory policy formulation process that includes the major stakeholders. Analyses of this type are vehicles for identifying and exploring the anticipated and unanticipated impacts of the interaction of policy tools and for assessing the extent to which the policy tools in combination support overall objectives or meet design criteria.

## **CASE 1: RAPID ANALYSIS OF A DRAFT OF THE EMERGENCY FOREST LAW IN NICARAGUA<sup>1</sup>**

The analysis in Table 1 suggests that it is probably impossible to implement the combination of policy tools given the financial, institutional, political, and geographical realities of Nicaragua, and that even if implemented, they would not result in the behavior desired by its drafters.

To summarize the comments in column 2, of Table 1 the draft version of the Forest Law:

- Inefficiently treats all users and land types as if they required maximum oversight and control (i.e., it is not based on land use capacity).
- Does not require the government to determine the extent and location of desirable permanent forest cover, nor does it specify relationship to protected areas.
- Requires an unrealistic level of technical support and control that cannot be supplied by the government.
- Attempts to regulate behavior that, in fact, cannot be policed.
- Imposes tremendous information and management costs on both users and regulators, which provides a fertile opportunity for corruption that would effectively transform public resources into private gain.
- Confounds general legal guidelines with detailed regulatory specifications better handled in the "regulations" to the law.
- Does not succeed in converting economic rents into economic incentives that encourage self-regulating sustainable use.
- Does not treat forest revenue for the government as an integrated system.
- Does not provide incentive for reforestation as a business interest; treats reforestation only indirectly under management plans and has only a brief mention of penalties.

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<sup>1</sup> Based in part on memo February 3, 1993. *Analysis of the Borrador Reglamento Forestal de Emergencia Para Nicaragua*. H. Lorraine, Policy Research Advisor (RENARM) and H. Tschinkel, Regional Forestry Advisor (RENARM).

The political and social philosophy underlying the law is that behavior must be controlled by detailed government specification; and experience to date indicates that this approach does not achieve the desired objectives. To remedy these weaknesses the drafters might consider the following:

- Establish the level of oversight and control according to a land use capability classification system.
- Distinguish among public, private, and communal lands in terms of level and type of control and regulation.
- Concentrate oversight and control capabilities on state lands. Minimize control on private lands except for important ecological areas and provide secure tenure for traditionally managed communal indigenous lands (including secure rights of access, management, and exclusion, but not sale).
- Control should be aimed primarily at preventing development that is inappropriate under the land use classification.
- Require a coherent forest revenue system for the government and a mechanism for revising it regularly.
- Explicitly address reforestation and management of natural forests as a business investment on private land, and establish reinforcing and realistic fiscal incentives.

Although outside the scope of the present law, long-term sustainable use of forests on private land will eventually require:

- An efficient land titling system so that private properties can be traded easily on the market with secure rights for indigenous communal lands.
- A land tax system that encourages use appropriate to the land use capability system.
- A forest resources accounting system to track depletion; and eventually development of a national natural resources accounting system.

## **CASE 2: RAPID ANALYSIS OF THE PROPOSED GUATEMALA FOREST LAW<sup>2</sup>**

In Case 2, the rapid analysis in Table 2 explores the impact that proposed changes to the Guatemala Forestry Law may have on the ability to achieve three general policy objectives supported by donor organizations: (1) resource conservation and maintenance of biodiversity; (2) strengthening democratic institutions; (3) participation of historically disadvantaged population groups in the generation of benefits of rapid and sustained economic growth. The rapid analysis treats the proposed law in isolation and does not take into account the impact of other sources of legislation that control the decentralized agencies (e.g., the Ley de Compras y Gastos) and that may provide some of the elements that are missing in this analysis. In fact, many comments identify issues that require further investigation and debate, rather than provide definitive and conclusive answers.

The existing Forest Law [Law 70-89] was developed through a lengthy participatory process, funded largely by A.I.D. in 1989, that included most of the major interest groups. However, many of the compromises made during the process and incorporated into the law hinder faithful implementation of policy objectives. In addition, the Forestry Department (Dirección General de Bosques, DIGEBOS) has been plagued by systemic institutional failure.

The proposed changes to the Forest Law are intended to remedy these legislative and institutional weaknesses by creating an independent and more agile administrative body, clarifying the distribution of authority among government agencies, providing incentives for reforestation, and increasing the deterrent capability of the penalty system. The proposed changes, however, create a complex web of interrelated provisions that address administration, revenue generation, fiscal and nonfiscal incentives, regulation and monitoring, and enforcement. These provisions are spread throughout the law in ways that may create incentives that interact in perverse ways.

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<sup>2</sup> Based in part on memo dated May 12, 1993. *Analysis of Proposed Guatemala Forest Law*. H. Tschinkel, H. Lorraine, and A. Guillen. RENARM Project USAID/G-CAP.

Summary of the commentary in Table 2, column 2 indicates that the proposed Forest Law, if enacted, would:

- Replace an existing law that, although flawed, was developed through a broadly participatory process with a still flawed law developed through a less participatory process.
- Systematically create a nonrepresentative decision-making process, controlled by a small group of people that is not subject to external oversight, which opens the process to promotion of special interests.
- Not provide a viable mechanism for realistically including local interests.
- Provide large fiscal and nonfiscal incentives combined with tax relief that favor the economically advantaged and will have huge opportunity costs in terms of lost government revenue to provide social services that could have more power to reduce environmental degradation.
- Specify penalties that are not fairly related to the severity of the offense nor to the expected return from noncompliance; nor would it include a coherent system of administrative and judicial remedies, which allows capricious enforcement against the disadvantaged.
- Attempt to regulate behavior that, in fact, cannot be policed. This in turn, diverts scarce resources away from the implementing agency's primary objectives, which are to implement economically and ecologically sound management plans, monitor their implementation, and enforce compliance.
- Impose tremendous information and management costs on both users and regulators, providing a fertile opportunity for corruption.
- Probably shift the authority to approve activities in the protected area from CONAP (National Commission of Protected Areas) to INAB (National Forest Institute), depending on how existing legal ambiguities are resolved.

The administrative structure described in chapters 2 and 3 of the proposed law creates a Board of Directors for the proposed National Forest Institute (INAB) consisting of seven members, none of whom forcefully represent conservation values or long-term interests. The Minister of Agriculture presides over the

group and all decisions are made by majority rule. The members' terms of service can be renewed, but there is no specified process for relieving them of their duties. The Junta selects the Gerente and Subgerente of INAB, also for an indefinite period of time, and can remove them at their discretion.

The Junta's responsibilities and powers include: approving forest policies and developing regulations to implement those policies, promoting activities that support policy objectives, distributing and administering incentive packages, and managing two funds. There appears to be no external oversight specified in the law, no conflict of interest provisions, and no mechanism for establishing criteria for distributing the incentives.

Such a management structure is conducive to displacement of goals and filtering of information, two commonly observed behaviors that will promote loyalty to the Gerente and Junta that because of its structure and selection process, may be driven by a very limited perspective and the potential for tremendous personal gain. These concerns may evaporate once this law is examined in conjunction with other laws and regulations that govern decentralized agencies of this type.

With respect to efforts to strengthen democratic institutions, regularly replacing the administrative body when organizational failure occurs perpetuates a system in which there can be no long-term commitment to improving the institutional and professional base for delivering government services. This commitment requires the gradual and systematic implementation of modern reforms that establish management incentives that make "excellence" and "quality control" and "professional development" more profitable than the benefits to be gained through perpetuating a system of corruption and inefficiency. Regularly redrafting legislation (i.e., changing the rules frequently) also has a chilling effect on the development of a forestry sector with a long-term investment horizon.

The proposed law addresses the distribution of responsibility and authority between CONAP and INAB, but the result is ambiguous because the Protected Areas Law and its regulations [Decreto 4-89] gives to the National Council for Protected Areas (CONAP) the following powers:

- Article 18 requires that all protected areas have management plans approved by CONAP.

- Article 19 gives CONAP the power to authorize *concesiones de aprovechamiento* in protected areas.
- Article 21 requires an environmental impact study for all road construction approved by CONAP.
- Article 69 gives CONAP the authority to elaborate conservation policy and strategy for national patrimony; approve allocation of concessions for use and management in protected areas of SIGAP, and authorize concession contracts for harvesting and management in protected areas of SIGAP approved by the Consejo.

The proposed draft law in Article 7 states that CONAP will be responsible for establishing directives for compliance and supervision that INAB will execute, and Article 132(t) overrides all laws, regulations, and dispositions that the proposed law may oppose. The impact of these combined provisions depends on whether CONAP retains the power to approve INAB activities as provided in Decree 4-89.

In conclusion, the proposed law appears to shift the locus of action from CONAP to INAB. Under Decreto 4-89 CONAP approval was required for all forest development activities in the protected areas. CONAP has a much broader representation than INAB, so theoretically that approval process (or veto power) may represent a better safety net in terms of expressing conservation and long-term investment values. Under the proposed law INAB could limit or completely neutralize CONAP's influence by failing to implement CONAP directives. What was intended as a means to strengthen implementation capabilities may have been achieved at the cost of limiting CONAP's ability to adequately represent and advocate the long-term perspective required to strike a balance between private and public interests.

Many of the weaknesses identified in the rapid analysis can be corrected by implementing some of the following recommendations:

- Require and implement a land use capability classification system.
- Establish the level of oversight and control required according to the type of land based on the land use classification system.

- Concentrate regulation on state lands and minimize regulations on private lands. Exceptions would be made for private lands in important ecological areas.
- Control resources through management plans based on the land use capability system and through consistent effective and transparent monitoring for compliance, backed by realistic fairly applied sanctions and clear administrative and judicial remedies.
- Management plans should specify all required actions, including responsibilities for reforestation.
- Require the government to determine the extent and location of desirable permanent forest cover, and specify the forests' relationship to protected areas.
- Create a coherent set of fiscal and nonfiscal incentives that are consistent with the land use capability system to control forest use on private land.
- Calibrate reforestation incentives to achieve desired results at the least cost and create a procedure to establish criteria for allocating and revising incentives given limited financial resources.

### CASE 3: RAPID ANALYSIS OF A DRAFT OF THE PROPOSED FORESTRY LAW IN EL SALVADOR<sup>3</sup>

The proposed draft legislation in Case 3 identifies more clearly than in the preceding cases the problem the legislation seeks to address, its objectives, the design criteria used to structure the legislation, and the role of the state. These features are summarized in the table below.

<b>Problems</b>	EL Salvador is almost deforested. Deforestation is causing the degradation of other natural resources. Population growth is very high.
<b>Objectives</b>	Encourage cultivation of trees to satisfy the need for forest products. Conserve protected areas. Protect soil and water resources.
<b>Criteria used to structure the legislation</b>	Use regulatory measures to control activities only within protected areas or fragile zones. Concentrate control actions to conserve resources in the most ecologically important areas; all other land subject to growth policy. Develop clear policy for establishing, managing, and harvesting trees.
<b>Role of the state</b>	Regulate and promote private forestry activities. Provide secure use rights within a regulatory framework. Justify state intervention mainly through incentives.

Table 3 groups the law's provisions by the taxonomy categories from the Source Book, provides a brief analysis based on the Source Book, and identifies some questions that should be addressed. This rapid analysis focuses on the extent to which the draft law meets its stated criteria and the design considerations identified in Cases 1 and 2—administrative ease, local

<sup>3</sup> Based in part on a 1993 Analysis of a Draft of the Proposed Forestry Law in El Salvador H. Tschintel, Regional Forestry Advisor RENARM, and summary table for El Salvador, Tom Wittenberg.

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participation, transparency, accountability, equity, and economic efficiency.

In contrast to the draft laws in Cases 1 and 2, this draft legislation is more consistent with administrative ease and transparency and the promotion of economic efficiency through incentives rather than command-and-control capabilities.

Article 7 creates a system of national protected areas that, combined with Zonas Frágiles y Bosques Saltados, will constitute the national forest estate (also see Art. 19). These state lands, once clearly defined as Areas for Special Protection (ASP), will be managed by Forestry and Natural Resource Institute (DIGEFAP) under restricted use zoning. All remaining private forested lands will be subject only to market-based management incentives. This is a significant improvement in policy; however, elements of uncertainty are introduced in Articles 8-14 as described below.

Article 8. New protected areas may be established by executive decree and private areas in or around them can be acquired. Articles 11-13 provide for voluntary acquisition, and Article 14 provides for involuntary acquisition. The *anotacion preventiva* has the force of law for two years, which when combined with insufficient funds to purchase acquisitions in a timely way may encourage landowners to mine the natural resources on their land in anticipation that their land will be classified as a protected area and thus "acquired" by the government without receiving compensation.

The process of declaring areas "protected" or "fragile" and the subsequent state management of private land within those areas could easily become controversial, with the following consequences. Significant environmentally important areas might never be declared by the executive; which would undermine two of the law's key objectives—conservation of protected areas and protection of soil and water. Overenthusiastic administrations could declare excessive areas, number of which would create insecurity among forest owners that their land will be included in the ASP. This would overburden and dilute DIGEFAP's administrative capabilities. This also is not consistent with the law's main design criteria: that (1) regulatory measures be used only to control activities within protected areas or fragile zones; (2) actions to conserve resources be concentrated in the most ecologically important areas; (3) a clear policy for establishing, managing, and harvesting trees be established.

The combined impact of these provisions may undermine the role of the state, which is to provide secure use rights within a regulatory framework and to intervene primarily through incentives. A less political, and more easily implemented solution would be to use a land use capability classification system that could be applied on a site-specific basis.

Articles 11-14 in combination with Article 16 (which give the executive the discretion to declare fragile zones) may create unintended incentives to rapidly clear land. Landowners will implicitly calculate their anticipated costs associated with two scenarios: (1) If their land is declared part of a protected area they will be eligible for compensation and bear no long-term management costs, but they lose their use rights. (2) If their land is declared part of a fragile zone, they are not eligible for compensation and must bear increased management costs and restrict their short-term gains. This uncertainty will encourage some landowners to rapidly mine the natural resources on their land. Much of this uncertainty could be eliminated by an objective land use classification system combined with well-targeted tax and fiscal incentives.

Article 15. Without clearly specified tenure rights and titling, Article 15 will lead to the gradual erosion of the protected area through immigration and population growth. Except in the case of communally held indigenous lands, tenure rights should be granted for minimum size specific parcels of land. Rights should be granted for access, management, exclusion, and transfer only through inheritance, but not for sale except to the park.

Article 17 establishes the criteria for declaring fragile areas. The process for declaring fragile lands and the use restrictions that might follow are unclear and will lead to anticipatory mining of the natural resources. See comment on Articles 11-14 and 16 above.

Article 18 states that in fragile zones the owner cannot change the land use except when DIGEFAP provides a permit to exploit a specific renewable natural resource. In combination with the provision to provide forest incentives, this permit/incentive package may convert ecologically stable and environmentally productive secondary growth stands into plantation eucalyptus at the opportunity cost of improving forest cover in more important areas. Additionally there is a high administrative cost associated with designing, monitoring, and enforcing the management plans.

Article 19 states that the forest estate will include state forests and *bosques salados* and be administered by DIGEFAP in accordance with objectives of protected areas and fragile zones depending on where they are found. Capitulo IV (Las Zonas Fragiles, Arts. 16-18), however, does not address administration of fragile zones. DIGEFAP declares and delimits fragile zones and gives permits to change land use at the owners' initiative. Given the law's design criteria, it would be better to clearly establish land use capability criteria for fragile areas, tax or fine uses not in compliance (or buy conservation easements), and provide technical assistance and financial incentives to promote sustainable forest management that is in compliance.

Articles 19 and 20 treats mangrove areas separately from fragile zones and protected areas. Mangrove areas should be protected, given their contribution to fisheries and their inability to regenerate rapidly. Treating mangrove areas separately also has the advantage of administrative ease and transparency.

Article 21 increases the administrative burden, makes it impossible to enforce the prohibition of new human settlements in the mangrove forests, and opens the door to corruption. Most important, it does not specify who bears the burden of proof that the intended activity threatens the long-term conservation of mangroves; consequently it does not support one of the major objectives of the law (to conserve protected areas and protect soil and water resources).

Article 23. While tying forest revenue to agricultural minimum wage is a good concept, the larger question of whether these activities are the best long-term use of these resources should be addressed. Charges can be used to discourage these uses and encourage more sustainable exploitation of forest products elsewhere.

Chapter 10 appears to be far too complex and consequently will be open to discretionary and capricious implementation and will not promote the transparency criterion. It would be better to establish a formula for imposing fines that could be applied to any case. Fines could be based on new ways for evaluating natural resources. For example, the fine for an illegal act carried out on protected or fragile lands within areas for special protection could be established by using a standard conversion formula such as 2 times the global market value of the resources removed plus 2 times the restoration or replacement costs for returning the land to its original productivity.

This brief analysis, although not exhaustive, illustrates how new legislation can be assessed in terms of how well it meets its intent and other design criteria that policymakers may identify as important.

**Table 1: Rapid Analysis of a Draft of the  
Emergency Forestry Law in Nicaragua**

Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua	
Articles	Observations/anticipated impact
<p>I-3 Applied equally to private and public land</p>	<ul style="list-style-type: none"> <li>- Regulates private behavior that can be more efficiently controlled through economic incentives and well-directed penalties.</li> <li>- Does not calibrate or tailor level and type of regulation to permissible uses or expected environmental costs of misuse.</li> <li>- Does not directly focus on the kinds of abuses that occur on state lands.[e.g., politically motivated inappropriate development; concessions not competitively bid; colonization; industrial development near protected or park areas]</li> </ul>
<p>I-4 Objectives:</p> <ul style="list-style-type: none"> <li>· assure sustainable use of forest resources</li> <li>· guarantee a fluid supply of materia prima for industry</li> <li>· generate foreign exchange</li> <li>· stop destruction of remaining forests</li> <li>· restore forests on lands suitable for forestry</li> <li>· avoid erosion and degradation of ecosystems</li> <li>· avoid deterioration of watersheds</li> <li>· improve quality of water</li> <li>· avoid loss of biodiversity</li> <li>· guarantee efficient and adequate use of soils and forest lands</li> </ul>	<ul style="list-style-type: none"> <li>- None of these objectives have been achieved in Central America (CA) under similar policy conditions proposed in the law.</li> <li>- The law appears to be a "collection" of policy tools borrowed from other legislation in CA with no attempt to establish a basic set of legal principles and incentives that will appropriately motivate private and public behavior.</li> </ul>
<p>I-5 Implementing institutions</p> <ul style="list-style-type: none"> <li>· Consejos Forestales Locales</li> </ul> <p><u>Purpose:</u> Involve local population, landowners, and industry in decision-making; ensure that local population is primary beneficiary; ensure access to adequate technology and financial assistance; encourage participation of women and indigenous groups; protect rights of landowners to forest resources; prohibit illegal extraction.</p>	<ul style="list-style-type: none"> <li>- In general, local councils have not been successful; for them to have influence the following conditions must exist:</li> <li>- mechanism to channel benefits of forests [proportion of sales, concessions, taxes, etc.] to local communities</li> <li>- prior notification of development on private and public land along with some kind of veto power in the case of large development projects or concessions on state land</li> <li>- local authority to enforce sanctions provided for violation of law</li> <li>- fines and proceeds from sale of confiscated wood returned to communities</li> </ul>
<p>I-6 Terms</p> <ul style="list-style-type: none"> <li>· Department Delegates</li> <li>· National Forest Service Departmental Coordinator</li> <li>· Forest Inspectors</li> </ul>	<ul style="list-style-type: none"> <li>- Law can create institutions (councils, agencies, etc.) but specification of positions and function is misplaced precision that may hinder implementation. This should be treated in the regulations.</li> </ul>

<b>Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua</b>	
<b>Articles</b>	<b>Observations/anticipated impact</b>
I-6-p Special Forestry Rule (contract between landowner and National Forestry Service (SFN) to manage forest)	<ul style="list-style-type: none"> <li>- Sustainable utilization depends on management capabilities of SFN.</li> <li>- The owner (not ADFOREST) is responsible for protecting the land from invasion and fires and there are no penalties for failure to do so.</li> </ul>
II-7 Creates Servicio Forestal Nacional (SFN/National Forestry Service) assigned to Instituto de Recursos Naturales y del Ambiente (IRENA/Natural Resources and Environment Institute)	<ul style="list-style-type: none"> <li>- The relationship of SFN to the administration of state forests is not clear.</li> </ul>
II-8 SFN implements Forestry Action Plan; will propose a Reglamento Interno de Funcionamiento approved by the Director of IRENA Director of IRENA names the Director and Subdirector of SRN	
II-9 SFN functions: <ul style="list-style-type: none"> <li>- oversee rational and sustainable use of forests</li> <li>- propose policy to IRENA</li> <li>- authorize land use changes, in coordination with other authorities</li> <li>- execute law to control erosion and conserve soil</li> <li>- propose to IRENA technical norms and regulations for conservation, rational exploitation, industrialization and commercialization</li> <li>- sign contracts with landowners [Regimen Forestal Especial]</li> <li>- promote development of forestry industry and private forestry sector</li> <li>- authorize use permits and establish conditions for authorization and duties of permit holders</li> <li>- manage the Fondo Forestal Nacional and Fondos Especiales to encourage the development of the forest sector.</li> <li>- establish the guidelines for management plans, approve them, and make sure that they comply with technical and administrative norms.</li> </ul>	<ul style="list-style-type: none"> <li>- This is an extensive and diversified set of tasks. Successful implementation will require large financial and technical resources.</li> <li>- Use permits should be tied to land use capability system</li> <li>- No need to authorize land use changes except in cases where the new use is not consistent with the land use capability classification system.</li> <li>- Control of erosion and soil conservation are assumed to result from the system of permisos and penalties proposed. They are not explicit parts of the law, and would be better served by efficient control tied directly to a land use classification system.</li> </ul> <p>Depending on the source of revenue, management of the fund may provide incentives for overuse.</p>
III Functions and powers of ADFOREST	
III-10 Creates ADFOREST [the Administración Forestal Estatal] within IRENA to manage and administer state forestlands	

**Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua**

Articles	Observations/anticipated impact
<p>III-11 attributes and functions of ADFOREST:</p> <ul style="list-style-type: none"> <li>- identify, delimit, and record state lands and take possession of them [in coordination with other national, regional, and municipal authorities]</li> <li>- elaborate and implement management plans for different types of forests that promote protection, expansion, and sustained harvest.</li> <li>- promote forest technologies that improve yield and are compatible with their management and conservation</li> <li>- sell and export forest products</li> <li>- construct and maintain forest access roads</li> <li>- sign harvest contracts with the previous approval of SFN.</li> <li>- industrially process wood using private sector resources or co-investments.</li> <li>- promote use of nontraditional forest resources.</li> <li>- establish forest plantations and develop their systems of management.</li> <li>- contract credits with the national or foreign banks.</li> </ul>	<ul style="list-style-type: none"> <li>- Government parastatals involved directly in timber production, marketing, and processing have been inefficient [and often corrupt] and many have been divested or closed.</li> <li>- Direct government involvement in these activities is often subsidized from other revenues. Government is able to capture some of the economic rent and excess profits from resource exploitation, but they are not converted into long-term economic benefits. This approach has short-term employment and revenue benefits but at the cost of both short-term and long-term resource depletion.</li> <li>- Constructing and maintaining access roads should not be exclusively in the domain of ADFOREST. It is a subsidy that will lead to overutilization of forest resources. Method of financing and oversight will determine impact.</li> <li>- Contract credits with national or foreign banks is another kind of subsidy that will skew investment decisions and should be more clearly specified.</li> </ul>
<p>IV Functions and powers of the Delegados Departamentales de IRENA and Coordinadores del SFN.</p>	
<p>IV-12 Delegados represent IRENA and implement its policy.</p>	

**Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua**

Articles	Observations/anticipated impact
<p>IV-13 Functions of the coordinator of SFN:</p> <ul style="list-style-type: none"> <li>- represent the national forest service and perform functions of regulation, control, and promotion of forest resources</li> <li>- identify, delimit, promote, and oversee use of forest areas in accordance with the use categories established by IRENA such as areas of production, protection, reserve, etc.</li> <li>- promote and coordinate local projects to improve and rehabilitate forests and promote reforestation programs and projects.</li> <li>- promote the formation of the Consejos Forestales and their integration into all forest sector activities</li> <li>- apply the laws decrees, ordinances, and administrative and technical norms</li> <li>- extend technical assistance and training on sustainable management and soil conservation.</li> <li>- register, control, and track the extraction, transport, and industrial transformation of forest resources and facilitate these activities.</li> <li>- extend use permits.</li> <li>- register, control, and track authorized use permits.</li> <li>- deliver the forest guidelines for the transport of leña and logs to permit holders</li> </ul>	<ul style="list-style-type: none"> <li>- No one organization can do all these things without being functionally differentiated, decentralized, and well funded.</li> </ul>
<p>V Permits for forest inventory [Permiso de Reconocimiento] Authorization for owner to investigate the status of available forest resources</p>	<ul style="list-style-type: none"> <li>- Bureaucratic barrier imposing unnecessary costs on users and regulators.</li> <li>- Should be eliminated on private land, focused on state lands, and function primarily as a part of the system of prior notice for the Consejos Forestales Locales.</li> <li>- Unauthorized investigation is already provided for under V-17.</li> <li>- Unauthorized non-SFN activity on private land belongs in the criminal court system.</li> </ul>
<p>V-15 in case of private land is extended to owner of the land, and in case of state land to ADFOREST</p>	<p>See above</p>
<p>V-16 Activities must be carried out in accordance with respect for private property and conservation of forest and environment. Damage caused by survey must be paid to the owner of the forest.</p>	
<p>V-17 The state via SFN may carry out forest inventories and evaluation without a permit but in accordance with respect for private property and conservation.</p>	

**Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua**

Articles	Observations/anticipated impact
<p>VI Permisos de Aprovechamiento— authorize harvesting by volume on a given area of specific classes of wood for one year, extended for only one year.</p>	<ul style="list-style-type: none"> <li>- One year limitation will result in short-term economic and employment gains at cost of long-term diminution of resource base because of urgency to harvest and huge bureaucratic costs associated with obtaining the permit.</li> <li>- Selective cutting practices of any kind require monitoring by professional foresters.</li> <li>- Most selective cutting systems result in heavy incidental damage. If the stand is creamed and not opened sufficiently, regeneration will be inadequate.</li> <li>- When enforcement is lacking, short-term economic incentives will condition behavior.</li> <li>- Time limits are designed to prevent hoarding and increase short-term revenues for the government, but probably are inconsistent with sustained resource use.</li> </ul>
<p>VI-18 SFN will establish annual permissible harvests according to technical, economic, and conservation criteria established by IRENA and taking into account ADFOREST plans. These volumes, established for each territory, will be published before October 30 each year.</p>	<ul style="list-style-type: none"> <li>- Permissible annual harvests specify timber offtake; however, inadequate growth data makes accurate calculation difficult.</li> <li>- The details of the plan can either discourage or encourage the use of secondary species. Often, high-grading or creaming valuable species will occur.</li> <li>- Restrictions, prohibitions and quotas of endangered or valuable species are difficult to enforce, and are a source of corruption.</li> </ul>
<p>VI-19 Only permits issued by SFN will be valid</p>	
<p>VI-20 Permits will be given to landowner or to the person the owner has given written use rights</p>	
<p>VI-21. Permits are valid for one year and renewable only one time when for justifiable causes the permissible quantity was not extracted.</p>	<ul style="list-style-type: none"> <li>- Cutting permits without management plans have no meaning. The plan should specify the harvest procedure and timetable.</li> <li>- Time limits are designed to increase short-term revenues for the government, but will be inconsistent with sustained resource use.</li> </ul>

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<b>Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua</b>	
<b>Articles</b>	<b>Observations/anticipated impact</b>
<b>VII Process for obtaining Permiso de Aprovechamiento</b>	
<p><b>VII-22. Must present:</b></p> <ul style="list-style-type: none"> <li>- written request indicating the volume and quantity of trees of the species to be extracted per hectare, total area in the site, area that will be worked on, name of owner, and location of property.</li> <li>- original and copy of the Titulo de Dominio or use rights.</li> </ul>	<ul style="list-style-type: none"> <li>- The need for request should be determined by land use system with emphasis on state lands and private lands in fragile or ecologically important zones.</li> </ul>
<p><b>VII-23 When requirements in Article 22 above are completed IRENA must:</b></p> <ul style="list-style-type: none"> <li>- inspect the site and produce a technical report in accordance with technical and administrative norms</li> <li>- issue an opinion on the request and on the quantity and species of trees to mark</li> <li>- mark the trees in accordance with the technical report, taking into consideration constraints</li> <li>- be certain that the permit holder has paid the 5 percent tax on the value per cubic meter of wood "in feet" estimated by SFN</li> </ul>	<ul style="list-style-type: none"> <li>- Inspections on private land have worked nowhere and create opportunities for corruption.</li> <li>- To the extent that these are desirable, much of it can be specified by area as determined by the land use planning system.</li> <li>- Inspection and technical assistance is more efficiently provided by private sector suppliers. The Government establishes standards and industry hires private sector consultants to verify compliance. This also drives employment and development of a technical service sector.</li> <li>- Taxes are disincentives for forestry and should therefore be judiciously applied. This is the first mention of %5 on value. The tax, and means for setting it, should appear formally as part of the law, and be integrated into the forest revenue section 4 below.</li> </ul>
<p><b>VII-24 Guias de Forestales de Transporte must accompany the shipment in order to transport the wood from gathering sites</b></p>	<ul style="list-style-type: none"> <li>- Issuing and tracking Guias will be inefficient, confusing, open to corruption, and not result in controlling forest harvesting.</li> <li>- A transport tax paid by the transporter tied to the world value of the shipment can be efficiently collected and will be passed back to the supplier. In combination with a land use system tied to land taxes this will result in a better distribution of uses.</li> </ul>
<p><b>VII-25 Upon termination of operations, SFN/IRENA must be informed and inspect the site. In cases of noncompliance or damages, a fine will be assessed, to be paid to the Fondo Forestal Nacional</b></p>	<p>See VII-23</p>
<p><b>VII-26 To obtain a permit in areas of perennial cultivation, must comply with VII-22; present a technical justification provided in the law; and the endorsement of the Ministerio de Agricultura y Ganadería and SFN.</b></p>	<ul style="list-style-type: none"> <li>- These areas are not specified.</li> <li>- Areas zoned for agriculture should be excluded from the permit process.</li> <li>- In these areas agroforestry should be treated as any other crop.</li> </ul>

**Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua**

Articles	Observations/anticipated impact
VII-27. To obtain permits to use fallen wood, must comply with Article 33 below	Creates costly barriers and is open to abuse.
VII-28. To obtain permits to collect leña must comply with Article 23 and make an inspection of the site if the permit is for more than 10 cubic meters.	<p>Cannot be enforced, and should be dealt with through enforcement of private property laws, education, and community wood lots.</p> <ul style="list-style-type: none"> <li>- Commercial supply of leña falls under any other extraction activity. It must be compatible with land use system.</li> </ul>
VIII Registration and control of cutting, transport, and processing of wood products	
VIII-29 The extractor and transporter are obligated to comply with all procedures for cutting, extraction, and transport of forest products and subproducts established under this law and the technical and administrative norms.	<ul style="list-style-type: none"> <li>- Should be treated in management plans.</li> </ul>
VIII-30. Transportation of forest products requires a Guía Forestal and a photocopy of the Permiso de Aprovechamiento	<ul style="list-style-type: none"> <li>- Difficult to implement and open to abuse; large bureaucratic burden</li> </ul>
VIII-31. Specification of number of copies of the Guías Forestales and how to process them	<ul style="list-style-type: none"> <li>- Difficult to implement and open to abuse; large bureaucratic burden</li> </ul>
VIII-32. Prohibits processing and transport of wood cut by chain saws, except for permits for personal use on fincas extended by the coordinator of SFN who will provide a corresponding Guía Forestal.	<ul style="list-style-type: none"> <li>- Requiring permits for personal use on private property will be impossible to implement.</li> </ul>
VIII-33. Transported logs must be marked clearly to identify the permit holder recorded in IRENA, the number of the permit, dimensions of the log, and its consecutive number.	<ul style="list-style-type: none"> <li>- See VII- 24</li> </ul>
VIII-34. Identification marks must be registered in the Dept de Aprovechamiento y Industriales at SFN or in the delegated territory of SFN/IRENA before extending the permit.	<ul style="list-style-type: none"> <li>- VIII-34 &amp; 35 is reporting for reporting sake needed for Guías de transporte [See VII-24].</li> <li>- Imposes huge information and coordination costs on the users and regulators, will not result in the policy objectives intended.</li> <li>- It is better to clearly specify how areas can be used and establish fiscal incentives and clear penalties.</li> </ul>
VIII-35. All permit holders must carry Libros de Registros and Control stamped by SFN at every gathering center.	<ul style="list-style-type: none"> <li>- same as above</li> </ul>
VIII-36. Saw mills or wood-processing plants must have Libros de Registros y de Procesamiento	<ul style="list-style-type: none"> <li>- same as above</li> </ul>

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<b>Table 1: Analysis of a Draft Emergency Forestry Regulations for Nicaragua</b>	
<b>Articles</b>	<b>Observations/anticipated impact</b>
VIII-37 All companies and sawmills must provide the technical information on production that IRENA requires to normalize, regulate, and control their activity. They must also provide free access to the mill and records during work hours.	
VIII-38. Permit holders must provide monthly operations reports indicating volume cut and transported by species and number of trees by bringing the stamped Libros Registros y Control to SFN	- See comment VIII-34
VIII-39. Companies that process timber or logs must provide monthly reports indicating volume received, processed, wood on hand, and wood sent from the plant	- Reporting at the processing stage can be useful for policy-making; however, it will be biased if it is used to assess taxes.
VIII-40. Businesses that use cut wood provided by sawmills or commercial companies must have the Guía Forestal or a corresponding receipt, signed and stamped by the supplier to demonstrate the source.	- Tracking requirement is impossible to implement faithfully and imposes tremendous costs on businesses.
VIII-40 Each year IRENA will establish tariffs, by volume in trunk, not for cut volume.	<ul style="list-style-type: none"> <li>- Taxing wood on private land is a disincentive to managed forestry.</li> <li>- The topic of fiscal incentives, whether used to generate revenue or modify behavior, should be treated as a coherent unified package, not ad hoc in different parts of the law.</li> </ul>

**Table 2: Rapid Analysis of the Proposed  
Guatemala Forest Law**

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**Table 2: Rapid Analysis of the Proposed Guatemala Forest Law**

Article	Observations/Expected impact	Art.	In relation to Law 70-89
TITLE ONE On the Purpose of the Law			
CHAPTER I General Dispositions			
1 purpose to promote forest development, to put value on forests and to promote the socio-economic development of the country based on conservation, utilization, management and increase of forest resources of the country; as well as the improvement of life quality and national environment.  ...will support, promote the private sector and communities towards production, commercialization, industrialization and conservation of forest resources according to their biological and economic potential.	Adequate importance is not given to the value of environmental services and conservation of environmental values or to sustainable management.  Social and political philosophy implied in the Law is that the behavior must be controlled by detailed government regulations. Experience to date indicates that this philosophy has not achieved the objectives mentioned in Article 1.	1	Modified; Promote/incentivate the private sector and the communities
2 will be applied to forest lands and lands appropriate for forest use with or without a forest.	This article is vague and impossible to apply objectively in the field since "appropriate for forest use" has not been defined clearly. (see comments on Art. 49 and note on "the importance...").	2	Identical
3 Reforestation and conservation of forests is declared of national urgency and of social interest.		3	Modified; Eliminates paragraph on special protection of forests, vegetation and river creek.
4 No empty fields or lands inappropriate for forest use are considered.		4	Identical
5 Fields appropriate for forest use must be covered with forest or some type of cover...These fields must be classified as such and be registered by the INAB.	This is not enough. A land use capability classification system is required.  It is impossible to classify and register all the fields appropriate for forest use through INAB. Land titling and registering capability does not exist at the national level.  There are more effective methods to influence the use in private land, such as conditioning the technical and financial assistance according to a system for classification of land use according to capacity.	5	Identical
6 For forest conservation and rational use and reforestation of the country...in the ways defined by the Constitution of the Republic of Guatemala.	It repeats that the Constitution will be obeyed. The Forest Action Plan has a menu of projects and describes the forest policies, specifying priorities, which was developed under a broad process of public participation, therefore the Forest Action Plan expresses a public mandate and provides the basis for political support.	7	Identical

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**Table 2: Rapid Analysis of the Proposed Guatemala Forest Law**

Article	Observations/Expected impact	Art.	In relation to Law 70-89
<p>7 The sustainable utilization of forest resources, including ... will be granted by concession if relating to national or municipal forests or land, or autonomous or decentralized entities, as well as licenses in the case of private forests or land.</p> <p>CONAP sets the guidelines and INAB is in charge of supervision and control of any handling of forest resources in protected areas.</p>	<p>The proper way to handle public land may be through concessions. Nevertheless, on private land excessive control by the State through licensing requirements, has rarely had the desired effect and presents serious limitations in management and control, promoting corruption.</p> <p>Concessions for nontimber products need to be better defined because of their great social/economic importance for the rural population and the multiple use of the forest.</p> <p>In general, it is never a good idea to separate authority from institutional responsibility. It is possible that the guidelines issued by CONAP are not implementable by INAB. In addition, the article indicates that only INAB will be in charge of supervision and control.</p> <p>It seems that funds, generated by forest activity in protected areas, will be collected by INAB, leaving CONAP with very little operational capacity. It is necessary to define, in more detail, the role of CONAP in multiple use areas.</p> <p>The distribution of responsibility and authority between CONAP and INAB seems to change, however the result is ambiguous. The impact depends on whether CONAP takes on the specified responsibilities in article 18, 19, 69, Law Decree 4-89.</p> <p>Article 7 of the proposed Law establishes that CONAP shall be responsible to set the guidelines, and INAB will execute CONAP's directions, and article 132 (t) establishes that all laws, regulations, and dispositions that are contrary to present law, will be revoked. It is not clear whether this elimination includes the following articles in the Law of Protected Areas (Decree 4-89):</p> <ul style="list-style-type: none"> <li>- Article 18: Requires that all areas protected by SIGAP are covered under management plans approved by CONAP.</li> <li>- Article 19: That CONAP is empowered to issue concessions for utilization of protected areas under its administration.</li> <li>- Article 69: That CONAP be empowered to approve concessions for the use and management of SIGAP protected areas and authorize concession utilization contracts and/or management of SIGAP protected areas?</li> </ul> <p>If Art. 132 (t) revokes these provisions of Decree 4 - 89, the impact may be unfortunate. In this case, INAB only has to not implement CONAP guidelines, to limit, or completely veto, the influence of CONAP.</p>	8	<p>Change: In protected areas of forest management of CONAP forestry resources, CONAP will only set guidelines and INAB will be in charge of supervision and control and execute guidelines. INAB will issue concessions in protected areas. It eliminates which concessions will be issued through public bids.</p>
<p>CHAPTER II Definitions</p>			
<p>8 Definitions</p>	<p>Some definitions are impractical, ambiguous, and various important terms are not defined, and others are not used in the text of the Law. Special attention must be given to items in relation to forestry areas and forestry land, that are critical under present Law. It may be appropriate to place definitions in an appendix.</p>	6	<p>Change: New terminology various</p>

**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observation/Expected impact	Art.	In relation to Law 70-89
<p><b>TITLE TWO</b> On the agency in charge of the enforcement of this Law</p>			
<p><b>CHAPTER I</b> On the establishment of the National Forest Institute INAB</p>			
<p>9 The National Forest Institute is established (INAB)</p>	<p>A new governmental agency is not a guarantee that much of the same personnel and the same capacity for corruption may exist. The attributes of the present Law, combined with the proposed administrative structure, are conducive to such a result.</p> <p>Has there been a study of some comparative analyses of advantages and disadvantages of restructuring DIGEBOS, compared with the establishment of INAB? It may be that the solution is based on administrative determination and moral fortitude, and not on a change in the institutional structure. The field of public administration offers good alternatives to overcome many of the DIGEBOS failures. Also, it is important to develop administrative incentives to make corruption less lucrative. See "Controlling Corruption" by Robert Klitgaard, Hans Seidel Foundation, La Paz, Bolivia, 1992.</p>		<p>New: Establishment of INAB, competent authority in the field of forestry</p>
<p>10 ..."autonomous, administrative independence"</p>			<p>New: INAB: autonomous State entity, decentralized, incorporated, with its own patrimony and administrative independence.</p>
<p>11 "INAB will be the only party responsible to assure the operation of planning and formulation mechanisms and processes for policies that reflect the requirements of society and allow the sustainable use of resources..."</p> <p>The conformation and execution of forest policies at the national level, will have the purpose ...</p>	<p>In addition, articles 10, 11, 12, and 13 could have the following effect: 1) inadequate external public supervision over the Board of Directors and Management. Potentially, the seven members can reach an agreement and authorize actions contrary to those in the public interest, in the long term. 2) The make-up of the Board is too narrow, which makes it practically impossible to represent the interests of environmental and conservation NGOs, that tend to be very impotent in the country. Perhaps it would be possible to find a Board that, in a balanced manner, represents all the interests of society in the long term, which requires an impartial outside mechanism, to achieve the necessary control. The possibility whether other laws and regulations provide adequate control has not been analyzed.</p> <p>The Law does not specify which and where forest policy is written that is frequently referred to. The PAFT Guatemala is one of the concerted, political expressions; which others exist?</p> <p>In combination with Art. 12, INAB can issue forestry policy without the latter being representative of the interests of society. Policies should be issued through an appropriate democratic and participative process, suitable to be executed by INAB. It is a dangerous situation when seven individuals, some with conflicts of interest, determine the policies that govern the national forestry patrimony.</p>		<p>New: INAB: only agency responsible for the planning and formulation of forestry policy.</p>

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	-Observations/Expected Impact	Art.	In relation to Law 70-89
<p>12 INAB attributes</p> <p># a) to project forestry policy in accordance with the intent of this Law</p>	<p>It will be difficult for an single institution in Guatemala handle the wide range of activities defined in the attributes. Development of forest conservation programs at the national level is the current responsibility of CONAP. It is necessary to clarify which role it will play in the article referred to.</p> <p>Leaves out public representation and control. It would be a license to facilitate abuse and corruption.</p>		<p>New: Description of INAB attributes</p>
<p>13 INAB will be provided and deal with the technical, scientific, and administrative units, necessary and appropriate for its efficient management</p>			<p>New: INAB - Superior Organ: Board of Directors, Administrator.</p>
<p>CHAPTER II The Board of Directors</p>			
<p>14 The Board of Directors has seven members</p> <p>An agenda is established for meetings...</p>	<p>It is not defined how the representative of a, b, c, d is elected. For Item "a" it would be better that the representative be nominated in the same manner as in industrial forestry, which could include the Forestry Association, the Association of Furniture Manufacturers, and others. At least two of the members represent short term economic interests (conflict of interest).</p> <p>There is a risk that conservationist values and sustainable management for the long term do not receive the required support. It is also notable that representatives of traditional non-wood product users, such as xateros, chicleros (gum collectors), pepper producers, and others. These activities are of great social and economic importance for this population.</p> <p>It is understood that the Board set the agenda for their sessions. This gives rise to the possibility of extremely generous agendas.</p>		<p>New: Integration of the Board of Directors</p>
<p>15 ... mandates of six years, with re-election or re-nomination...</p>	<p>The proposed period seems long, which will not allow frequent rotation of mandates.</p>		<p>New: Length of Board of Directors mandate and their nomination</p>

**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	-Observations/Expected Impact	Art.	In relation to Law 70-89
<p>16 Attributes of the Board of Directors</p> <p>a) Approve and follow-up forestry policies, established to comply with this Law</p> <p>b) Nominate the INAB Administrator and assistant administrator</p> <p>e) Produce regulations for this Law (90 days)</p>	<p>a) policies should be issued as a result of a democratic process and not be up to the Board of Directors, which should be limited to executing the policies.</p> <p>b) See comments article 19.</p> <p>e) If regulations are written and approved by the Board, the opportunity for abuses exists. This risk is reduced by requiring that regulations be approved through an external and impartial agency (CONAMA, CONAP, others). According to experience, the deadline of 90 days is short.</p>		<p>New: Board of Directors attributes.</p>

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Article	Observation/Expected impact	Art.	In relation to Law 70-89
<p>17 The meetings (of the Board of Directors) will be presided by the President of the Board, who will always be the Minister of Agriculture, Livestock, and Food Supply...</p> <p>Decisions shall be made by majority vote...</p>	<p>It is important that the agricultural sector not expand at the cost of the forestry sector to which the highest priority should be given, to avoid irreversible damage to Guatemalan forestry resources.</p> <p>Nothing is specified about substitutes for the Board of Directors.</p> <p>This mechanism allows the Board to make decisions, even if contrary to the interests of the State, since the State only has three of the seven representatives.</p>		<p>New: Board of Directors, Sessions, Decisions</p>
<p>CHAPTER III The Administrator</p>			
<p>18 The Administrator is the superior in charge of INAB personnel</p>	<p>The structure proposed is standard, however, in combination with articles 10, 11, 12, 13, 19, 20, the organization will not be able to incorporate or tolerate viewpoints contrary to those of the Board, without external public supervision of the members. The Board can reach a consensus, and authorize actions against the public interests in the long term. INAB personnel will not have an organizational structure to allow them to oppose such actions. The structure and manner of selecting the Board and Administrator, guarantees that INAB will execute the Board's objectives directly. If these objectives end up being personal instead of public, there is no organizational process under this law to stop it, neither are civil penalties specified, under Law, against those responsible. To what degree do other laws provide the required protection?</p>		<p>New: Administrator's attributes</p>
<p>19 The Administrator as well as his assistant will be nominated for an indefinite period and may be removed when the Board of Directors decides it to be convenient.</p> <p>The Assistant Administrator will be nominated by the Board of Directors, and elected from a list proposed by the Administrator</p>	<p>This structure is typical of a political nomination that may subordinate the Board's interests to the interest of the State. The suggested nomination does not mention how to select candidates.</p> <p>The selection will be linked directly to the Administrator and thus, to the Board. It should be recommended that this be a public choice, which should also apply to the Administrator.</p>		<p>New: Nomination of the Administrator and Assistant Administrator, qualifications</p>
<p>20 The Board of Directors and the Administrator are responsible for the proper performance of INAB, which will be measured in terms of efficacy in attaining the goals set and the efficiency in the use of resources.</p> <p>In this sense they may, at the will of the Board of Directors, contract activities from the private sector, without this implying a lack of compliance in the accomplishment of INAB objectives and</p>	<p>Who sets the goals? Are they based on law, the Board, the Government? Who measures the level to attain goals? For example, if the Board sets excessively modest objectives, or for its own benefit, who will oppose this?</p> <p>This goes back to the problem of lack of public control and the need to count with an outside entity to approve the objectives and evaluate progress. See article 16</p> <p>The efficiency in the use of financial resources has nothing to do with sustainability. Being efficient and reaching a wrong goal could be damaging.</p> <p>It is dangerous that the Administrator and the Board can contract INAB activities to be executed by the private sector, without a definite public bid. The possibility is that the Board will gain from this, since it decides whether the activity can decrease compliance in the attainment of INAB objectives, and because the Board elaborates policy and regulations and their implementation. This can really generate a great amount of corruption. Do other laws offer adequate control?</p>		<p>New: contracting of activities from the private sector and involving communities in forestry policy; regulation in 90 days by the Board of Directors.</p>

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Article	Observations/Expected Impact	Art.	In relation to Law 70-89
<p>...will be compelled to involve the communities, as much as possible, in the execution, planning, of forestry policy, as well as personnel, and the institution itself shall undergo a decentralization process.</p> <p>The other attributes...will be regulated by the Board of Directors within 90 days.</p>	<p>This article promotes the same commercial activity in which Board members may be involved, constituting conflict of interest, since the Board and the Administrator can contract activities from the private sector and even issue loans for their execution.</p> <p>There is no real mechanism to involve communities. It is necessary to place more emphasis on this aspect, given the large rural population that could participate in the benefits of sustained forest management.</p> <p>This activity also does not seem feasible by the Board in 90 days, given that they will have to produce regulations of the Law during the same period.</p>		
<p>CHAPTER IV State forestry councils</p>			
<p>21 State forestry councils will be established, in charge of supporting INAB and the enforcement of this Law and its regulations, but councils will not be decision-making entities in any case.</p>	<p>They will not have any power to influence decisions. INAB can completely ignore the proposals by Councils. In general, local councils have not had much success, unless they benefitted from the following conditions:</p> <ol style="list-style-type: none"> <li>1) A voice and voting in the decision-making process.</li> <li>2) Mechanisms to allow local communities to obtain and channel forest benefits (part of sales, concessions, taxes, etc.)</li> <li>3) The power of veto in the case of being affected by large projects and concessions on State land.</li> <li>4) The local authority to enforce sanctions, resulting from the transgression of Law.</li> <li>5) Revenues and fines are received by local communities through the sale of public forests or timber confiscated by the State.</li> </ol>		<p>New: Establishment of State forestry councils, without decision-making powers, only support.</p>
<p>22 State forestry councils will be integrated by a representative of the state municipality, private initiative, the Ministry of Agriculture, INAB, and the community, elected by representatives of each municipality.</p>	<p>The idea of involving local communities is proper but the mechanism proposed herein does not assure that their interests will be taken into account. Representation reflects partiality on the part of INAB, since representatives of the Mayor's office, private sector, Ministry of Agriculture, INAB, are elected, compared to only one community representative. Restructuring shall be necessary if local interest are to be represented effectively.</p> <p>We must consider that regions with dense forests have greater influence in decisions than those who have almost no forests.</p>		<p>New: Integration of State forestry councils, Nominations.</p>
<p>23 For the integration of State forestry councils, the INAB Board of Directors shall call for elections of members, or their nomination, whenever necessary.</p>			<p>New: Integration of State forestry councils, Nominations.</p>



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Article	Observations/Expected impact	Art.	In relation to Law 70-89
<p><b>DEADLINE:</b></p> <p><b>AREA:</b></p> <p><b>MANAGEMENT PLAN:</b> INAB will present the management plan as a base for public bid and as part of the procedures</p> <p>The regulation of this Law should contain the procedure for public bids...</p> <p><b>CONCESSIONAIRES:</b> Considering the same conditions, INAB will disclose why the granting of concessions to organizations it favors...</p> <p><b>COLLATERAL:</b></p> <p><b>NON-COMPLIANCE:</b> In the case where, through monitoring or any other means, it is found that the concessionaire has not complied with the Management Plan and has abused natural resources, the concession will be immediately terminated and the collateral will be held...</p>	<p>It would be less ambiguous if a new title of "Concession Granting" were established, as follows: Concessions will be granted through public bid, the procedure of which will be specified in the regulations of this Law.</p> <p>The environmental impact assessment factor is presented as a weak requirement in the plan.</p> <p>Conditions will almost never be the same. A process should be specified on how concessions and community groups will be selected and monitored. Perhaps public hearings would be the appropriate forum.</p> <p>When and how is the collateral recovered, and how is it adjusted in terms of evaluation, inflation, and interest rates?</p> <p>Nobody accepts these conditions and there will be a tendency of having to change concessionaires frequently, which is not desirable for either of the parties.</p>	15	<ul style="list-style-type: none"> <li>- Eliminates the adjustment for devaluation and inflation.</li> <li>- Change: Cancels the concession for non-compliance with the Management Plan.</li> <li>- New: Forest by-products to be explored by the community.</li> </ul>
<p><b>CHAPTER II</b> On concessions in Areas without Forestry Coverage</p>			
<p>28...State entities.... are compelled to inform INAB about areas under its jurisdiction, with the objective that once these are established as falling under forestry, they shall be granted to individuals, for the purpose of forestation or re-forestation, depending on the case. Ownership of areas</p> <p><b>AREA:</b></p> <p><b>CONCESSIONAIRES:</b> Once the second cycle has been complied with, the State entity in charge of land will deliver this land to the community base...</p>	<p>This type of concession seems promising in view of the increasing world interest in reforestation to compensate for CO<sub>2</sub> emissions.</p> <p>Why limit the area? Perhaps it may be desirable to establish larger nuclei, so that plantations can be a lucrative and commercial investment.</p> <p>What happens with the areas that were not adjudicated to communities?</p>		<ul style="list-style-type: none"> <li>- New: The concession of unforested national land to individuals, for reforestation, including protected areas, requires the authorization of Municipalities, CONAP.</li> <li>- Maximum area conceded for reforestation: 500 hectares. Opportunity of granting land to communities.</li> <li>- No need for collateral, extension for a time equal to the original, for a total of two times.</li> </ul>

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Article	Observations/Expected impact	Art.	In relation to Law 70-89
29...land granted under concessions cannot be the object of supplementary title transfer,	Contradicts article 28 about the granting of property to the community. This article removes the incentive of sustainable production plantation on deforested State land. Why not allow, under certain conditions, the acquisition of property titles to compensate for the risk of having established plantations on State land that is not used currently? What better use, if any, could the State make of this land?		New: No possibility of turning conceded land into property.

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Article	Observations/Expected impact	Art.	In relation to Law 70-89
30 Forestry activities within the system of concessions, on land without forest coverage, are only eligible for 50% of forest incentive benefits (Art. 90)	The system of incentives should be treated as an integrated whole. Thus, it would be more appropriate and clear to include this article in the chapter of incentives.		New: Unforested land can receive up to 50% of forestry incentives.
31 Forest resource exploration may not take place on State land...without previous collateral...  Public workers or employees in charge...will be responsible, under the penal Law, for non-compliance.	How is the amount of collateral established and how is it executed? This article belongs to areas with forest coverage.	13	Change: Amount and make-up of collateral before the beginning of exploration, except for communities Public employee responsible under penal Law.
33...causes to revoke concessions		16	Change: Decreased requirements
34 At the end of the concession period, the concessionaire shall...leave the land with forest growth, as under the Management Plan, and must have reforested...	These conditions are already established in Art. 28. In addition, the reference to areas with forest coverage is out of place in this chapter. This article could be eliminated to avoid confusion.  Collateral could be at least the amount required to establish a new plantation.		New: Duty of leaving an established forest after the concession runs out.
35 Concessions granted under the category of forest coverage will pay for the value of standing trees from production obtained under the Management Plan.  ...while in unforested areas, it is 12% of standing trees of the plantation established at the time of harvest, according to article 92...  ...the amount of 50% will be given to the municipality(ies) of the jurisdiction, as specific funds to be re-invested by the municipality, in reforestation programs...  The cost for granting concessions shall be no other than that established in this article.	The reference to areas with forest coverage is out of place in this chapter.  As indicated in article 66, 92, any procedure requiring a high intensity of measurement of standing timber or at logging plants would be too complicated to manage and would imply a high probability of promoting corruption. The Law should leave the possibility open of paying a tariff per concession area unit.  These payment will incur enormous administrative difficulties; there are more streamlined mechanisms to attain the same objective.  Ambiguous. What happens if other costs arise?  This strictness eliminates the possibility of developing a more appropriate mechanism, based on the experience obtained over time.	13	Change: Cost for granting of concessions for forested and unforested areas. 50% of amount to Municipalities and the rest to INAB.
36 Rates...shall become part of INAB private funds	Does this mean that all income received from concessions will go to the private fund? If so, it is an extremely important condition that should be covered under a separate article, part of a chapter relating to government revenue. The history of forestry in Honduras shows the danger for forest sustainability in allowing that forestry entities finance themselves by selling the forests of the country. This can result in negative incentives, promoting over-exploitation of resources.		New: Fees for administrative services.

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Article	Observations/Expected impact	Art.	In relation to Law 70-89
<b>TITLE FOUR FORESTS AND THEIR PROTECTION</b>			
<b>CHAPTER I Forests</b>			
37... protection, conservation, and rehabilitation of Mangrove forests. The use of trees from these ecosystems will be the object of special regulation. The change of use of land in these ecosystems is prohibited.	This overlaps with protected areas. Other than the Mangroves, there are forest ecosystems that could be considered "in the national interest" and that require special regulation (Spruce fir-tree, dark, genetically important, etc.) forests. Perhaps it would be more effective to integrate these forests into the system of protected areas? Once a land use capacity classification system is established (see comment art. 49) the legal limitations for use will be determined by this classification and will not require additional regulation.	21	Identical
38 The cutting of trees of this protected species is prohibited...contained in International Conventions...		22	Identical
<b>CHAPTER II Protection of forests and Forestry land</b>			
39 INAB will take the necessary measures to prevent...	Eliminate this article because it has no specific significance.	23	Identical
40...report forest fires...		29 30	Identical
41 Civil and military authorities and the population are obliged to provide the required assistance...to prevent and fight forest fires...		30	Change: Civil, military duty to fight forest fires
42...Obliged to allow access...		31	Identical
43 INAB shall take the necessary precautions to avoid fires on land adjoining forests before authorizing the practice of burning. Transgressors shall be reported by INAB to the competent judicial authorities and shall be sanctioned according to Law.	Where is authorization on neighboring land mentioned? This is not realistic administratively. It is almost impossible to require authorization from the thousands of neighboring farmers, who burn their land on an annual basis. It is more effective to make the transgressor, who lets the fire spread, responsible. He can be sanctioned according to the article corresponding to this Law.	32	Identical
44 Those who are obliged to inform INAB of any pest or disease...		34	Identical
45 It is INAB's responsibility to take the necessary measures to provide assistance to the owner...adopt measures to protect the forest affected by forest pests or disease...	Before including these powers in the Law, it would be proper to perform an analysis on the impact in the United States, where USDS and the Forest Service implemented similar requirements with mixed, and sometimes unfortunate results.	35	Similar
46...INAB shall produce a health action plan...		36	Identical

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Article	Observations/Expected impact	Art.	In relation to Law 70-89
47 INAB will elaborate the required dispositions, preparing and executing pertinent actions to eliminate pests to save the forest		37	Change: Land owner's duty to pay for health protection. Involves funds
48 Forested areas, where destroyed or eliminated without a corresponding license can only be destined to forest use. The owner or holder of any title, in addition to sanctions under Law, shall replant the land under ...		33	Change: Duty of reforestation reduced from 5 to 2 years.
49 INAB, in coordination with institutions in charge, shall perform and assess studies on land use capacity, to determine areas for forest activities.	This article should be placed at the beginning (Art. 2) where the land use capacity is mentioned and should be changed as follows: INAB, in collaboration with the Ministry of Agriculture, shall institute a land use capacity classification system. This is to become official by a declaration of the Ministry to cover Government activities related to land use.	24	Identical
50 Forestry areas shall be for the integrated use and management of natural resources...the National Institute for Agrarian Transformation...with the opinion...  Consequently, all of the State patrimony consisting of land for forestry, and that is not yet destined for specific use, shall be managed by INAB, which will be compelled to establish mechanisms to streamline the granting of concessions for these areas...	Although the opinion will be made by an educated engineer, as under current Law, it will not have any objective and quantifiable basis on the decision whether the parcel in question is for forestry activity. A legally declared system of land use classification has not been developed (see comment Art. 49).  Even if the classification suggested above is followed, there is the danger of introducing colonists in areas dominated by forests, with the consequent fragmentation and destruction of the forest. One way to avoid this problem is to require an environmental impact study before INAB grants the land, and that INAB approve this study.  There are other mechanisms to manage land than through concessions. It would be useful if the Law left open the possibility of other mechanisms through which INAB takes care of, or manages these forests.		New: Forestry areas to be destined as such. Before INTA adjudicates land, professional technical opinion is required to certify that it is not forestry land.
51...establishment of permanent tree planting	Permanent tree planting leaves open the establishment of coffee, rubber, cocoa, fruit trees, etc., which should not be allowed if it is really forest land. Land use capacity should include a category for this type of permanent tree cultivation.		New: Use of national reserve forest land
52 INAB shall provide incentives for those who use land for agriculture or livestock, to convert it into forests, through measures contained in this Law.	In view of the State's financial limitations, it would be more realistic to orient artificial reforestation to situations where this would be a lucrative investment and, at the same time, of environmental benefit.	40	The same

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Article	Observations/Expected impact	Art.	In relation to Law 70-89
53 Forest areas or areas to be reforested should be maintained in agricultural development areas, in the following proportions:...	Impossible to manage. It would be more appropriate to include this in the zoning of land use at the local level. An intention to control this type of requirement would deviate the scarce resources that should be directed to control government land use and perhaps certain critical private land, such as high water basins. It also does not consider small areas where these proportions are not feasible.	38	Change: Proportion of forest areas compared to agricultural development zones
54 The following applies to maintain water supply in urban centers and to improve the quality of life of the population:...	Urban area regulations do not belong in this Law. They are more appropriate in urban zoning ordinances. They could not be controlled or monitored and would deviate scarce administrative resources from the main goal, which is to manage and monitor national land activities. Eliminate this concept from the Law.	39	Change: Obligations for the establishment of urban development areas
55 It is declared to be in the national interest to restore degraded areas...	Without the financial and fiscal incentives, this article will not have any impact. It is better to include it in natural resource development plans and in priorities defined by the Government, to attract donations.	43	Identical
56 For any change in land use, the interested party shall present a study, signed under oath, by an agricultural engineer, for approval by INAB, to assure that land covered by forest is proper for economically sustainable agricultural production. By choice, the party will pay the Private Forest Fund, or reforest an area equal to the one transformed, in the jurisdiction where the change in land use took place...	The article does not make clear whether it refers only to the change of use of forestry land. Does it also refer to the change from corn to coffee? One supposes that it refers to the change of forest land to non-forestry use.  Concerning private land, this is a behavioral regulation that would be unrealistic to apply equitably in the entire country. It affects most of the cultivators in the country and opens the opportunity for corruption and abuse.  It would be more effective, based on land use classification, to identify priority regions of the country and concentrate control resources in these areas. Control should be stricter, for example, in bumper zones of protected areas or in high water basins that generate drinking water.  This article tries to regulate private behavior, which could be controlled more efficiently through well-directed incentives and sanctions. For example, coordinating the capacity of land use with road development, social infrastructure, credit, and technical assistance.	41	Identical
57 Forest products of any nature that resulted from the change of authorized land use can be used or marketed by the user, through payment according to Law.	As in the comment above, one supposes that this refers to the change of forest land into non-forestry use.		New: The use of products resulting from authorized land use change.

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Article	Observations/Expected Impact	Art.	In relation to Law 70-89
58 Land use change is prohibited in the high parts of hydrographic water basins covered with forests, especially those located in areas that serve as water sources, that are especially protected, and that should have priority in the forest incentive program for the small land owner... in the case of deforested areas in important water supply zones, state land, municipal or private, special regeneration and rehabilitation programs should be established.	As mentioned before, a land use capacity classification system would determine the areas where the conversion of forest land for other uses can be performed.  Without a precise definition of the high parts of the water basin, this article would not be a guideline.  Possibly, the responsibility for high and low water basins should be contained in the Law on water and this Law should be in harmony with the current one to be more effective.	44	Change: Wide ban on change of land use in water basins
TITLE FIVE Forest use, management, transport, and industrialization			
CHAPTER I Forest use and management			
59 Any use of forest wood or other wood products, except for family consumption and from random forests, is subject to licensing by INAB.	Licenses have proven to be one the greatest factors against incentives to forest management and to be among the main sources of corruption. It would be appropriate to find other, more effective, means of control. Once a management plan is approved, there should not be a need for another authorization to use wood. It would be better to concentrate control on field inspections to confirm if the plan is complied with. Agricultural products do not require such licenses. Why are they needed for wood?	47	Identical
60 Requests for forest use...will not be allowed if not accompanied by the Management Plan...	See the comment above. The approved management plan should be sufficient control to follow its intent. Requiring a license to execute each step of the plan invites corruption, increases control costs of the State, and operational costs for the cultivator, while both have the skills to implement the required tree growing management plans.	48	Identical
61 The Management Plan shall be the basic instrument of control  .....in a maximum of 90 days. If not completed within this time, the Management Plan will be considered approved.	Excellent. If the Management plan is really the basic instrument, licenses, transport authorizations, reforestation obligations, and other inefficient control methods are no longer required. The logical consequence would be to develop a monitoring system for the execution of these plans in the field, perhaps through a sampling system.  Such a strict limit for the State to approve management plans will result in the approval of many inadequate plans, automatically, in 90 days, for lack of administrative capacity by INAB. Therefore we suggest the organization and supply of the resources needed, so that INAB priorities be directed toward quality control of the plans and their execution.	49	Change: the management plan will be considered approved in 90 days
62...the Management Plan can be elaborated and sworn to, under oath, by...		50	Identical

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Article	Observations/Expected Impact	Art.	In relation to Law 70-89
<p>63 Establishes the function of a Forest Ranger, who will be a technician or professional...and will be responsible, along with the land owner for proper execution of the plan... The license for forest use... may not be negotiated in any way...</p>	<p>Opens the door to abuse and the establishment of a monopoly by forest rangers. What happens if the owner himself is highly qualified and interested in management? There should be an alternative for those who desire self-management. The immediate consequence would be an increase in the cost of preparing management plans, especially for small areas, that will have great difficulty in financing the same</p>	<p>63  51</p>	<p>New: Forest ranger mandatory for forest usage over 10 m<sup>3</sup>/year.  Similar</p>
<p>64 Products...exempt from licensing for forest use...Transport of products derived from this use will require a transportation document, issued by INAB, without any other requirements than visual inspection to verify volume of the same.</p>	<p>See comment 59. Licenses are not required for the transportation of sugar cane or other agricultural products. Why punish wood?</p>	<p>52</p>	<p>Similar</p>
<p>65 Municipalities will issue licenses for cutting trees located within their urban perimeter, for volume under 50 cubic meters per year. For higher volume, licenses will be issued by INAB</p>		<p>53</p>	<p>Change: Municipalities issue licenses to fell trees for volumes under 25 to 60 m<sup>3</sup> per year.</p>
<p>66 To establish the mandatory extension for reforestation ... the licensee may chose: a) to reforest the area felled  b) to plant one hectare for each 150 cubic meters felled  Exceptions to these commitments of reforestation are...those forests where the volume of usage corresponds to the volume of growth during the same period.</p>	<p>It is not clear who has the duty.  It is not realistic to try and legislate reforestation obligations. This is a decision that should be made at the level of the management plan because it depends on local factors. If a management plan is really used as a control instrument, as specified in Art. 61, a separate duty should not be necessary.  b) It is administratively impossible to verify and control obligations such as indicated in this article. Technically, there is no unique duty that justifies the commitment of one hectare for every 150 cubic meters, since returns from natural forests are variable and cannot be treated the same.  The most basic principle of forest management is that the volume of usage not exceed the volume of growth in the forest. This should therefore be part of any management plan INAB approves. This is almost the definition of sustainability. As written, this paragraph cancels almost all reforestation obligations mentioned above. Is this the intent?  An estimate of volume growth is extremely complicated and argumentative when it comes to annual usage. It is more credible to estimate this when elaborating the long term management plan.</p>	<p>54</p>	<p>Change: Exception to mandatory extension for reforestation</p>

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected Impact	Art.	In relation to Law 70-89
<p>67 Obligations for reforestation...should be guaranteed...under the following options:</p>	<p>The comments on articles 59, 60, 61, and 66 explain the reasons why the duty to reforest should be included in the management plan. When collateral is required, for any reason, it makes more sense that it be included in the management plan, and not linked to annual felling. The amount of collateral, for example, could be the same as the amount of usage expected for the next two years.</p>	<p>55</p>	<p>Similar: Eliminates the duty to contract reforesting business.</p>

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected Impact	Art.	In relation to Law 70-89
68 usage for purposes of protection and health is exempt from the presentation of guarantees for the commitment of reforestation. It is a duty to produce the respective health plan...		56	Identical
69 licenses for usage will be cancelled when...	Comments in article 59 explain the inconveniences of usage licenses.  Cancellation of any permit should consider an appellate process.	57	Identical
70 Forests for the production of seedlings...can be managed or established...in accordance with the requirements established by Law.	What is the objective of State intervention in seedling production? Is it really necessary to legislate this?	58	Identical
71 Every individual...dedicated to the use and marketing of forest seedlings should be registered with INAB. Seedling forests shall be registered and supervised by INAB, which will issue...Genetic Quality Certificates.	Instead of requiring the registration of all forests producing seedlings, administratively it would be more realistic and easy to make registration voluntary. If INAB certification implied marketing advantages, producers would register, and even pay for this service.	59	Identical
72 Forest products and by-products damaged or destroyed through natural causes, may be used by the owner without major requirements, other than the corresponding authorization, issued by INAB, which will be in charge, after visual inspection, of estimating the volume to be extracted.  In protected areas, this license will be subject to approval by CONAP...	See comments to Art. 59 referring to the inefficiency of licenses. It is true that in cases where usage is different to that contained in the management plan (dead trees because of natural causes, for example) INAB authorization should be required, with the purpose of controlling the plan.  In cases where natural damage affects an area not under a management plan, authorization should also be required before usage.  What happens with national areas that do not have a management plan and that are not in protected areas?	61	Change: Previous authorization by CONAP required before usage of forest products for a maximum of 30 days
73 Forest products and by-products destroyed illicitly in forests of any kind...or damaged standing State forests, will be the object of extraction for salvage by INAB. These may be marketed to increase the Forest Promotion Fund		62	Similar

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Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala

Article	Observations/Expected impact	Art.	In relation to Law 70-89
CHAPTER II Transportation			
74 ...Transportation documents...	<p>Eliminate transportation documents. It has been shown that they do not attain their objective in Guatemala or in any other country of the region. They provide one more opportunity for corruption.</p> <p>It is better to monitor management plans frequently and enforce heavy sanctions for transgressions of the management plan or for usage without a plan.</p>	65 66	Change: Transportation documentation for small to larger than 100 m <sup>3</sup> , unfinished products.
CHAPTER III Forest industrialization			
75 INAB will provide incentives for integral use of timber...		67	Identical
76 INAB authorized personnel ... shall have access to forest industry facilities, to quantify, qualify, and verify the lawful source of products used, as raw material, according to established control documents...		68	Similar
77 The export of wood in the form of round or cut logs, and sawed wood thicker than 11 cm is prohibited...	<p>The ban of log exports is a complicated and controversial subject (See the case of Costa Rica). Has the effect of this measure been analyzed in Guatemala? If the object is to increase the added value, with consequent social benefits, there are other options to be considered:</p> <p>Higher taxes on the export of logs than on wood and plywood have more effective results than bans and log export quotas. Export duties provide any degree of desired protectionism, increase Government income, and also make financial incentives for sawmills and plywood factories redundant</p> <p>The ban on log exports or quota setting is established with the goal to increase added value and protect a vanishing resource. These policies tend to dampen the value of resources, since they induce greater waste and reduce conservation.</p> <p>Frequently, the ban on log exports has been broken through illegal exportation. Unless these policies are supplemented with effective enforcement and forest management, they will have no effect in reducing deforestation.</p>	69	Change: Ban on exports of sawed wood 11 cm thick.
TITLE SIX Forestation and reforestation			

**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected Impact	Art.	In relation to Law 70-89
<p><b>CHAPTER I</b> Reclaiming the forest</p>			
<p>78 Individuals who ... are involved in the exploration of non-renewable natural resources or those who build infrastructure in forest areas have the duty to reforest...</p>	<p>Replacement of the forest does not solve the problem of development of areas where the impact of activity or subsequent human activity destroys forest productivity. This facet may be handled better through assessments of the environmental impact, strict compliance with suggested moderation, or avoiding the development of an area when it is not consistent with long term soil usage. See comments on article 79.</p>	72	Identical
<p><b>CHAPTER II</b> Forest reclaiming duties and projects</p>			
<p>79 Individuals or associations have the duty to reclaim forest when they are involved in:                      a) Using the forest...Art. 66                      b) When forest is cut down in preferably agricultural areas...                      c) The promotion to develop urban, rural, or agricultural development; forest must be replanted in areas destined for forest reserves...                      d) non-renewable natural resources                      e) communication lines, pipelines, etc.                      f) infrastructure to use water resources                      g) other activities that affect the forest</p>	<p>Reforestation duties fall into a common and logical trap. They confuse three, totally separate, political objectives: 1) the promotion of the appropriate use of long term soil use capacity; 2) the compensation of environmental costs incurred with justifiable economic development; 3) the reforestation of already deforested areas.</p> <p>It is necessary to separate the following: 1) development should be subject to environmental impact considerations and should be consistent with the land use capacity system; 2) when environmental costs are incurred, appropriate moderation should be projected and enforced (it is not always reforestation).</p> <p>Reforestation is a special case of mitigation provided by trees (protection of water basins, soil erosion prevention, etc.)                      Reforestation is not universal mitigation.</p>	74	Similar
<p>80 Reforestation activities to satisfy obligations under article II-79</p>	<p>Eliminate See comments Art. 79</p>	77	Change: Reforestation activities
<p>To satisfy duties or realize an entire project of reforestation, any of the following systems will be adopted:...</p>	<p>This level of detail belongs in the management plan and should not be part of the Law.</p>	75	Identical
<p>82 Public and private entities, that plan infrastructure to use water resources, shall present a feasibility study to INAB, which will determine reforestation obligations and activities, that should be included in the project. This reforestation will be performed, as a priority, in the high part of the water basin, where the resources are obtained.</p>	<p>It is better to require an environmental and social impact study, because although reforestation may be appropriate mitigation in this case, the recommendation for reforestation should not come as a result of the impact analysis and not as a duty universally imposed by Law.</p>	76	Identical

**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected Impact	Art.	In relation to Law 70-89
83 Reforestation duties will be satisfied when the forest, after having been established for four years, has the approved density under the Management Plan and is provided with the necessary protective measures against fires and grazing, and the state of health of the forest is satisfactory.		78	Identical

**Table 3: Rapid Analysis of a Draft of the Proposed Forestry Law in El Salvador**

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected impact	Art.	In relation to Law 70-89
84 INAB shall promote the establishment, management, and usage of forest plantation in areas it considers necessary.	Government involvement in these activities generally needs to be subsidized by other sources of income. Each activity has a cost in terms of other activities that cannot be implemented. INAB needs to set clear priorities in relation to the reforestation it promotes.	79	Similar
85 Anyone, without obligation to INAB, who proposes to program, plan, promote, and execute reforestation projects and management and natural reclaiming, can request consultation from the institution and the latter will be obliged to provide such.	INAB probably does not have the capacity to provide the level of technical assistance to all its clients. Thus, it would have to take resources from its primary activities, such as the approval of management plans, monitoring and implementation, and application of sanctions. Priorities are lacking once again, as in the paragraph above.	81	Identical
TITLE SEVEN The promotion of forestation, rural development, and forest industries		83 84	
86 The reforestation investment program...20.000 hectares per year ... annual cost is established according to Art. 92	Considering that the reforestation costs vary from Q2.500 and Q5.000 per hectare, for a total of 20.000 hectares per year, this means that the National Treasury will stop receiving Q50 to Q100 million each year. Is the State prepared to sacrifice this amount of taxes to boost reforestation, given the multiple demands for more basic services?	87	Change: Reforestation through forestry incentives for 20.000 hectares per year, for 20 years
87 Establishes the Forest Promotion Fund, constituted by...The purpose will be to finance incentive systems etc.	There is no provision in this Law for external management and control of the fund, other than by the Board.	88	Change: Eliminates administration by a council
88 Establishes the Forest Tax Vouchers, that consist of credit titles...received by the Ministry of Public Finance with payment credited to any type of tax obligation...			Change: Establishment of forestry vouchers, titles of credit to the bearer payable for any type of tax obligation for three years. These will be the judicial instrument of the incentive program.
89 The allocation of funds by the Public Finance Ministry to the reforestation investment Program shall be up to INAB... The proper use and custody of the tax vouchers will be the equal and common responsibility of the Board of Directors and the INAB Administrator...	Given the limited resources, how will the selection process be conducted among solicitors? Objective selection criteria are missing that reflect forestry policy priorities, criteria that should be specified in the regulations of this Law.  The administrative structure specified by Law leaves the management of these tax amounts totally in the hands of the Board. What about control or external audit? This is the same Board that sets rules, chooses beneficiaries, and manages the funds.		New: Allocation of funds by the Ministry of Finance

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected Impact	Art.	In relation to Law 70-89
<p>CHAPTER II Forestry incentives</p>			
<p>90 The State will issue incentives ... to those who dedicate themselves to reforestation projects ... Incentives will not apply to reforestation under obligations incurred according to cases cited in this Law.</p>	<p>The application is too broad and thus weakened. It allows that certain groups monopolize it. Setting of priorities and criteria is lacking, as part of regulations.</p>		<p>New: Who will be subject to forestry incentives.</p>

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected impact	Art.	In relation to Law 70-89
<p>91 The Tax Vouchers will cover 100% of reforestation costs per hectare for the first year, including maintenance. Maintenance could cover a period of two to six years, at the criteria of INAB...</p>	<p>It is a mistake to pay 100% of costs. If the purpose is the efficient use of scarce incentives to promote reforestation, it is not necessary to cover 100% of costs. It is not logical to apply incentives without clear criteria in relation to locality, products, beneficiaries, and adjustment mechanisms for fine-tuning. See Art. 94. The Law must establish a mechanism to set priorities.</p> <p>A larger area for reforestation could be covered if the incentives were set at a lower amount, thus attaining a maximum area with available funds, according to selection criteria. The abuses in Costa Rica should be analyzed, where excessively generous incentives resulted in the dispersion of plantations that are difficult to manage and are in the hands of landholders.</p> <p>Fiscal incentives have a cost equivalent to the loss of Government revenue, that could be used for other endeavors. Can it be justified politically that a State, that does not have funds for hospitals and education, presents rich landholders with reforestation incentives?</p>	<p>90</p>	<p>Change: Coverage of forestry tax vouchers, from 50% to 100% cost of reforestation by appraisal and setting of the sales value of standing timber.</p>
<p>92 Fixed cost per hectare, by region and species, for the execution of reforestation projects...as well as the amount of maintenance, will be determined by INAB, based on the actual cost by appraisal. In the same manner, INAB will set the value of standing timber annually...</p>	<p>It is very complicated to estimate the cost of reforestation on an annual basis and even more difficult to estimate the value of standing timber. With the lack of well based data there will be strong pressure to inflate costs and reduce the value of standing timber, as seen in Costa Rica. (See comment 35, 66).</p>	<p>86</p>	<p>Change: Cost of reforestation by appraisal and setting of sales value of standing timber.</p>
<p>93 In the case of those who dedicate themselves to the protection, maintenance, rehabilitation, restoration, and improvement of biological diversity in forest ecosystems, Tax Vouchers will also cover 100% of costs...</p>	<p>The same criticisms as for Art. 91 apply here. Activities that qualify for incentives are too vague. The Law must establish a mechanism to set priorities.</p>		<p>New: Inclusion of tax vouchers in the management of forest ecosystem bio-diversity.</p>
<p>94 INAB will try to assure that incentive systems promote forestry businesses, that concentrate their activities in rural areas and those that promote the value of standing timber, as well as those involved in the establishment of forests for energy purposes.</p>	<p>The investment of hundreds of millions "Quetzales" in public funds resulting from incentives should be subject to the following: 1) priorities, 2) very clear selection criteria considering economical, social, and environmental aspects, and 3) an ample process of public representation, to revise the above periodically.</p> <p>Otherwise, there is a risk that incentives are deviated by powerful interests.</p>	<p>87</p>	<p>Identical</p>
<p>95 The payment of a one-time tax on real estate or taxes established in the future, in relation to the value and tax of land, is waived for a period of ten years, for owners of raw land that is reforested, a minimum of 50% of the area of each property</p>	<p>Users of incentives will apply 100% of the same and then not pay taxes for ten years, after which they will maintain 88% of the value of forest products? The total of these incentives exceed costs, in such a way that individuals involved in reforestation can gain at the expense of the State.</p> <p>Has a study been performed on the impact of all of these incentives on Government revenue?</p>	<p>89</p>	<p>Identical</p>

Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala

Article	Observations/Expected impact	Art.	In relation to Law 70-89
CHAPTER III Incentives for the small land owner			
96 For forestry land under 45 hectares, INAB will try to support the incentive system (Chapter II) by special lines of credit, through private or State banks, to finance the gap between the beginning of plantation and the granting of the forest tax voucher. INAB can establish a guarantee fund to support credit by private banks and can set a specific percentage for this purpose from forest tax vouchers.	This seems to be too complicated and expensive to implement; in addition, INAB does not have the power to decide on the banking system to implement this strategy.	90	Change: Support of the incentive system through bank credit lines and INAB will tax the guarantee fund to back up credits.
97 The incentive referred to in Art. 96 will become effective on the date the Forest Promotion Fund regulations are released, which will be elaborated jointly, by INAB and the Ministry of Finance.		91	Identical
CHAPTER III The Private Forest Fund			
98 Tax, economic, and financial resources generated by the application of this Law, constitute the Private Forest Fund, which will be managed exclusively by INAB, to accomplish its goals. These funds can be deposited in any bank in the system, in a special account, and can be subject, in part, to a trust.	No external control system for INAB is specified to oversee proper management of the fund. What is the selection process for the bank, and why only one?	92	Change: The private forest fund can be deposited in system banks and be subject to trust procedures.
99 The Private Forest Fund shall belong to INAB, for the execution of forest development programs, technical studies, research and forestry training, and other programs considered a priority by the Board of Directors. Disbursement of funds shall be according to annual plans approved by the Board.	There seems to be very little outside control of the Board, thus implying abuses.	93	Change: The destination of the private forest fund eliminates destination by percentages.
TITLE EIGHT Imposition, Control, and Statistical System			

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observation/Expected impact	Art.	In relation to Law 70-89
<p>CHAPTER I The right to fell</p>			
<p>100 Any individual granted a forestry license, will contribute a rate, equivalent to 10% of the value of standing timber, to the Private Forest Fund. All payments shall be made before the issuance of a transportation permit. Exceptions to this tax are forest products from forests registered with INAB and that were not established through reforestation obligations.</p>	<p>"Any individual" implies that the right to cut is also charged in public land concessions?</p> <p>What is the logic behind charging a tax on managed forests and create fiscal incentives at the same time? One cancels the other. The right to cut is a strong factor against incentives that punishes forest management since it reduces profit. Eliminate.</p> <p>If the purpose of this right to cut is to obtain revenue for the State, it would be appropriate to explore other fiscal options, such as special taxes on forest industry income or sales tax.</p> <p>In relation to the difficulty of measuring the value of standing timber, which is the basis for the right to fell, see comments article 92.</p>	<p>94</p>	<p>Change: Forestry rate to be determined annually instead of bi-annually.</p>
<p>101 With the purpose of surveying land... INAB shall be in charge of establishing a National Forest Registry, in which shall be listed ...</p> <p>a) All forestry areas and land, independently of ownership, with a detailed description of existing forests and data on the registration of property in tax records. b) Sawmills (all) c) Persons involved in reclaiming the forest. d) Persons involved in export or import of forest products. e) Persons involved in resin production... f) Forest nurseries in the entire country... g) Producers and exporters of forest seedlings. h) Professionals and technicians... i) Others, as determined by Law</p>	<p>It is extremely expensive and complicated to obtain and maintain so many statistics up to date, which may take INAB away from more important matters. The usefulness of this data is not clear, nor whether its usefulness compensates for the cost of collection.</p> <p>Item a) seems to be exceptionally difficult to determine.</p>	<p>95</p>	<p>Similar: Adding the registration of professionals, according to article 62.</p>
<p>102 Persons in the forestry sector shall supply INAB with required information on their activity, according to this Law and regulations.</p>	<p>This is a regulation without meaning. Who would verify the information and collect it, and what happens if this is not done?</p>	<p>96</p>	<p>Identical</p>
<p>103 Forests shall have a registration number for their identification...</p>	<p>It is not clear what this article implies.</p>	<p>97</p>	<p>Identical</p>
<p>TITLE NINE Transgressions and delinquencies against forest resources</p>			

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**Table 2: Analysis of the Draft Emergency Forestry Regulations for Guatemala**

Article	Observations/Expected impact	Art.	In relation to Law 70-89
104 - 126	<p>Absolute monetary values are out of place in a Law that could be in effect for many years, given the effect of inflation. Should be set in regulations.</p> <p>Would it be possible, legally, to set fines as a multiplier of the amount of damage or the value of the product?</p> <p>With such draconian fines, who is going to risk getting involved in the forestry business? Especially since there is no reference to an appellate process to bar unfounded accusations.</p> <p>This has especially harmful consequences for persons with low resources, who commit minor transgressions and delinquencies.</p>		
CHAPTER I General Dispositions			
CHAPTER II Transgressions against the forest			
CHAPTER (*sic II) Omissions in forestry			
TITLE TEN Final dispositions and deletions			
128 ... INAB shall support its plans ... in short, medium and long term actions and projects under the Forest Action Plan...	References to former policies in the Forest Action Plan belong at the beginning of this Law.		
132 When this Law goes into effect ... will be revoked...			

\* Translator's comments

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**Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)**

	Proposed Law	Implications/Questions
<b>Overall Approach</b>		
<b>Institutional Responsibility</b>	<ul style="list-style-type: none"> <li>• Articles 4-11 establish the Forestry and Natural Resources Institute within the Ministry of Agriculture and Livestock for implementing the Forestry Law and developing new forestry policy.</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibilities are numerous and diverse. Effective implementation of the law requires substantial and continuous political support and financial resources for the Institute.</li> <li>• Insufficient support for similar government agencies in Central America is pervasive. Many agencies simply do not have the means to enforce existing regulations, let alone formulate new policy, delineate and administer state-owned land; and promote industry development, reforestation, and value-adding processing.</li> <li>• Throughout Central America, licensing in particular has become a bureaucratic obstacle that often does not achieve the intended control over forestry management practices.</li> <li>• Inadequate capacity to implement policy fully and fairly opens the door to corruption, allows private entities to capture undue rents from state resources, and does not lead to equitable growth.</li> <li>• Location within the Ministry of Agriculture may be problematic because of the conflicting objectives between agricultural development and forest management.</li> </ul>
<b>Reserves and Protected Status</b>	<ul style="list-style-type: none"> <li>• Article 14 identifies 11 categories of protected areas.</li> <li>• Article 13 confers responsibility for identifying, studying, and proposing declaration of protected areas to the Ministry of Agriculture and Livestock. Protected areas will be established by executive decree based on these studies and recommendations.</li> <li>• Article 16 states that management of natural resources in protected areas are subject to the technical norms to be defined by category in the regulations.</li> <li>• Article 17 states that compliance with technical norms is voluntary for private landowners in protected areas. However, the government may expropriate private land if management of protected areas requires absolute state control.</li> <li>• Article 19 states that Areas of Special Protection (fragile zones, critical watershed areas, aquifers, reservoirs, mangroves, and other important areas) will be established by executive decree. Boundaries must be clearly defined by the institute. The state will be responsible for protecting these areas.</li> </ul>	<ul style="list-style-type: none"> <li>• The law does not identify what entity within the Ministry of Agriculture will undertake these studies. Identification and study of protected areas is not among the responsibilities outlined in Article 7 for the newly created institute.</li> <li>• Technical norms for management of protected areas, which will be defined in the regulations, are crucial for this aspect of the law to be effective. Institutional inability to develop workable and enforceable technical norms has been a critically weak point in implementation of forestry law throughout Central America.</li> <li>• Implementation of an effective land classification system requires substantial technical and financial resources.</li> </ul>

**Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)**

<b>Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)</b>		
Jurisdiction (public, private and communal)	<ul style="list-style-type: none"> <li>The proposed law does not differentiate between public and private lands in regard to control over extraction of forest resources. License is required for extraction of timber from protected areas.</li> </ul>	
Access to Timber on Public Land  (See section on concessions below)	<ul style="list-style-type: none"> <li>Articles 7(d) and 21 confer responsibility for management of state forest lands to the Institute. It also grants authority to delegate this responsibility to private entities.</li> <li>The process for delegating this responsibility (i.e., awarding contracts) and remuneration for management concessions are not addressed in the law.</li> <li>Licenses for extraction of forest resources from public land are authorized by the institute.</li> </ul>	
Access to Timber on Private Land  (See section on private forest management below)	<ul style="list-style-type: none"> <li>Licenses for extraction of timber from protected areas including fuelwood are authorized by the Institute. Extraction of resources for home consumption (not defined) does not require a license. (Article 27).</li> <li>Cutting of coffee or cacao or extraction of timber from plantations, orchards, or urban zones does not require a license. (Article 30)</li> </ul>	<ul style="list-style-type: none"> <li>Enforcement of licensing requirements for cutting timber on private lands requires substantial government financial and human resources and an effective judicial system. Historically, enforcement in Central American countries has been capricious and ineffective.</li> <li>The proposed law differs substantially from the 1974 Forestry Law in that no license is required to cut timber on private land in nonprotected areas. This change will help focus limited government enforcement resources on critical areas.</li> </ul>
Access to Timber Products on Municipal Land	<ul style="list-style-type: none"> <li>The proposed law does not address jurisdictional authority of municipal government.</li> </ul>	<ul style="list-style-type: none"> <li>Conflict over jurisdiction may result.</li> </ul>
Nontimber Products	<ul style="list-style-type: none"> <li>A license is required to use mangroves for salt production or aquaculture.</li> </ul>	
Application According to Land Use	<ul style="list-style-type: none"> <li>By limiting management restrictions and licensing requirements to protected areas and special protection area, proposed law ostensibly regulates forest according to land use suitability.</li> </ul>	<ul style="list-style-type: none"> <li>Proper and effective classification of areas into protected and nonprotected categories requires substantial technical capability. The increased technical burden is balanced by a reduction in the enforcement burden.</li> </ul>
<b>Concessions For The Use of Public Timber</b>		
Duration/ Security	<ul style="list-style-type: none"> <li>Proposed law does not specify length of license.</li> </ul>	<ul style="list-style-type: none"> <li>The term of the license should be at least as long as the time necessary to regenerate the harvested stand of trees in order to provide economic incentive for the license holder to follow sustainable management practices.</li> </ul>
Sale and Transfer	<ul style="list-style-type: none"> <li>Licenses cannot be transferred without authorization.</li> </ul>	<ul style="list-style-type: none"> <li>Transferability of long-term concessions is recommended to allow concessions holders a means of recouping investment costs, thereby providing incentives for using sustainable management practices.</li> </ul>
Exclusivity	<ul style="list-style-type: none"> <li>The proposed law does not specify.</li> </ul>	<ul style="list-style-type: none"> <li>Are the rights granted by the license exclusive and is this exclusivity enforceable?</li> <li>If not, will the lack of enforceable exclusivity encourage license holders to extract timber at unsustainable rates?</li> </ul>

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Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)		
Renewal	<ul style="list-style-type: none"> <li>The proposed law does not address the renewal of licenses.</li> </ul>	<ul style="list-style-type: none"> <li>Are licenses renewable and is the process predictable and transparent?</li> <li>If not, does the lack of a transparent renewing process encourage license holders to mine rather than conserve resources?</li> </ul>
Revocability	<ul style="list-style-type: none"> <li>Revocable for noncompliance with management plans, unauthorized transfer of rights, unauthorized use of resources, or fraudulent license application.</li> </ul>	<ul style="list-style-type: none"> <li>Does the government have the ability to monitor compliance with license restrictions and enforce its right to revoke a license?</li> </ul>
Conditions and Restrictions		
Management plan	<ul style="list-style-type: none"> <li>Management plans for state-owned lands will be developed by the institute</li> </ul>	<ul style="list-style-type: none"> <li>Technical norms for management of protected areas, which will be defined in the regulations, are crucial for this aspect of the law to be effective. Institutional inability to develop workable and enforceable technical norms has been a critically weak point in implementation of forestry law throughout Central America.</li> </ul>
Permissible annual harvests	<ul style="list-style-type: none"> <li>The proposed law does not specify.</li> </ul>	<ul style="list-style-type: none"> <li>Will management plans for long-term concessions specify minimum annual harvest amounts?</li> <li>If so, will this restriction encourage or discourage the use of secondary species?</li> </ul>
Transport Licenses	<ul style="list-style-type: none"> <li>Transport documents issued by the institute are required to transport timber and wood products within the protected area and special protection areas.</li> <li>Transport licenses for wood cut from plantations or from pruning permanent crops requires only visual confirmation of volume.</li> </ul>	<ul style="list-style-type: none"> <li>Reliance on transport licenses to enforce forestry restrictions has been largely ineffective throughout Central America. Government capability to catch illegal transport is limited. The law provides a strong opportunity for rent-seeking behavior from enforcement authority.</li> </ul>
Diameter limits	<ul style="list-style-type: none"> <li>The proposed law does not specify.</li> </ul>	<ul style="list-style-type: none"> <li>Will management plans specify minimum diameter cutting restrictions that are enforceable?</li> <li>If so, will the selective cutting restriction induce heavy incidental damage or reduce long-term stand potential by leaving only the slower growing trees for regeneration?</li> </ul>
Time limits	<ul style="list-style-type: none"> <li>The proposed law does not specify.</li> </ul>	<ul style="list-style-type: none"> <li>Will management plans require that cutting begin within a certain time period?</li> <li>If so, are these time limits effective in hindering speculation and/or are these restrictions compatible with sustainable use?</li> </ul>
Quantity limits without respect to time	<ul style="list-style-type: none"> <li>The proposed law does not specify.</li> </ul>	<ul style="list-style-type: none"> <li>Will the institute have the capability to specify and enforce volume or quantity limits in management plans that are consistent with sustainable use?</li> </ul>

**Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)**

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Restrictions, prohibitions and quotas	<ul style="list-style-type: none"> <li>Ministry of Agriculture has authority to impose prohibitions as necessary.</li> </ul>	<ul style="list-style-type: none"> <li>Will the institute and other government agencies have the capability to enforce restrictions on endangered or valuable species?</li> </ul>
Restrictions on harvesting marginal areas	<ul style="list-style-type: none"> <li>Can authorize harvesting licenses in forest reserves, national parks and other protected areas.</li> </ul>	
Reforestation requirements	<ul style="list-style-type: none"> <li>The holder of a license is required to reforest the harvested area to a density and quality established in the approved management plan. Reforestation is not required if, in accordance with the management plan, the volume of wood extracted corresponds to the growth rate for the same period. (Article 31)</li> <li>Harvesting with an approved license for phytosanitary or protection purposes is exempt from reforestation requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Will the Institute have the capability to monitor and enforce reforestation requirements ?</li> </ul>
Award process	<ul style="list-style-type: none"> <li>The award process for concessions is not addressed in the proposed law.</li> </ul>	<ul style="list-style-type: none"> <li>Granting of concessions by administrative authority (i.e. without fair and open competitive bidding) provides an opportunity for rent-seeking behavior by the authorizing institution. Granting of concessions by administrative authority is widely used to reward political favors, not to maximize revenue or ensure that proper management practices are followed.</li> </ul>
<b>Forest Revenue Systems</b>		
Charges based on standing timber for concessions	<ul style="list-style-type: none"> <li>Proposed law specifies that concession holders must pay a tax corresponding to the stumpage value for each cubic meter of timber cut from mangroves only. The stumpage value will be fixed each year by the Forestry Institute.</li> </ul>	<ul style="list-style-type: none"> <li>For this type of charge system to maximize government revenue and promote efficient utilization of forest resources, stumpage charges fixed annually by the government should closely reflect market stumpage values and should differentiate between species, quality, and location of trees. In Central America and throughout the world, undervaluation of stumpage values charged by the government and lack of differentiation between species is common. This results in lower government revenues and promotes unsustainable rates of utilization. Undervaluation of forest resources also discourages private reforestation and does not encourage efficient end use of the resource.</li> <li>Cutting in excess of the authorized volume is common in Central America because of lack of institutional resources to monitor harvesting activities or enforce penalties. As a result, charges based on planned rather than actual harvests often severely undervalue the resources extracted.</li> </ul>
Annual ground rentals		<ul style="list-style-type: none"> <li>A charge system that is based on the area of a concession, such as that for aquaculture or salt concessions, is easier to enforce than the proposed charge system based on stumpage value of expected harvest and may encourage the use of secondary species.</li> <li>For this charge system to promote efficiency, however, the minimum amount to be charged per area should reflect economic values of alternative uses. To ensure maximum government revenue, the area charge should be determined through competitive bidding.</li> </ul>

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Per tree charges		<ul style="list-style-type: none"> <li>• A charge system that is based solely on the quantity of trees harvested (i.e., does not take into account size, quality, or other differentiating characteristics) is perhaps easier to administer than charges based on stumpage value.</li> <li>• This system can result in smaller trees being left, can induce incidental damage associated with selective harvesting, and can benefit those who cut larger trees more than those who cut smaller trees.</li> </ul>
Charges on timber harvested from private lands	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed law appropriately does not tax forest resources on private lands. Several Central American countries do tax forest resources on private lands; which discourages private investment in forest resources and encourages transformation of private forestland to other uses.</li> </ul>
Charges on forest product production	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	
Charges on minor forest products	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	
Charges on foreign trade (export charges on logs and products)	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	<ul style="list-style-type: none"> <li>• Export charges on logs or products are generally preferred to prohibitions or quotas.</li> </ul>
Charges on productive factors	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	
Charges on companies	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	
Charges for services	<ul style="list-style-type: none"> <li>• Not specified in the proposed law.</li> </ul>	
Government participation in concessions, harvesting, and processing	<ul style="list-style-type: none"> <li>• Articles 7(d) and 21 confer responsibility for management of state forest lands to the Institute. It also grants authority to delegate this responsibility to private entities. The nature and degree of potential direct state participation in harvesting is not addressed.</li> </ul>	<ul style="list-style-type: none"> <li>• Is any direct government participation in harvesting and/or processing (through parastatals, joint ventures, or other arrangements) anticipated?</li> <li>• If so, does the government agency have the capability to undertake the anticipated role efficiently or will subsidies be required?</li> <li>• Does the nature of the government's anticipated role include incentives that are consistent with sustainable management of forestland?</li> <li>• Does the anticipated role encourage or discourage private sector investment?</li> </ul>
<b>Forest Industry and Export Policies</b>		
Domestic industry /resource protection policies	<ul style="list-style-type: none"> <li>• Not specified in the proposed law</li> </ul>	<ul style="list-style-type: none"> <li>• Do other government policies, such as import restrictions, tariff exemptions for imported equipment, or tax exemptions provide protection to domestic industry?</li> <li>• If so, do these policies effectively encourage inefficient and/or unsustainable use of resources?</li> </ul>

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Licensing requirements	<ul style="list-style-type: none"> <li>Not specified in the proposed law.</li> <li>1973 Forest Law states that restrictions on forestry industry were to be specified in regulations, but the regulations were never written.</li> </ul>	<ul style="list-style-type: none"> <li>Several Central American countries attempt to regulate the processing industry through licensing restrictions for the purpose of monitoring proper resource use. The information requirements tend to be burdensome, poorly enforced, and ineffective in monitoring resource use.</li> </ul>
Taxation	<ul style="list-style-type: none"> <li>Not specified in the proposed law.</li> </ul>	
Export policies	<ul style="list-style-type: none"> <li>Not specified in the proposed law.</li> </ul>	
Import policies	<ul style="list-style-type: none"> <li>Not specified in the proposed law.</li> </ul>	
Direct government involvement in forest related industries	<ul style="list-style-type: none"> <li>Articles 7(d) and 21 confer responsibility for management of state forestlands to the institute. It also grants authority to delegate this responsibility to private entities. The nature and degree of potential direct state participation in harvesting and processing is not addressed.</li> </ul>	<ul style="list-style-type: none"> <li>Is any direct government participation in processing (through parastatals, joint ventures, or other arrangements) anticipated?</li> <li>If so, does the government agency have the capability to undertake the anticipated role efficiently or will subsidies be required?</li> <li>Does the nature of the government's anticipated role include incentives that are consistent with sustainable management of forestland?</li> <li>Does the anticipated role encourage or discourage private sector investment?</li> </ul>
Price controls	<ul style="list-style-type: none"> <li>Not specified in the proposed law.</li> </ul>	
Forest industry structure		
<b>Policies Affecting Tree Tenure and Private Forest Management</b>		
Cutting licenses	<ul style="list-style-type: none"> <li>Proposed law requires a license to cut timber on privately-owned lands located in protected areas.</li> </ul>	<ul style="list-style-type: none"> <li>Cutting of timber on private land without a license is common in Central America because of lack of enforcement capability, but also because process for obtaining a license is lengthy and cumbersome.</li> </ul>
Duration	<ul style="list-style-type: none"> <li>Not specified in the proposed law.</li> </ul>	<ul style="list-style-type: none"> <li>The duration of cutting licenses in Central America is often intentionally very short to inhibit cutting in excess of the amount authorized. The short duration, however, is not effective in limiting overcutting. Combined with the long license authorization process common to many countries, the short duration may encourage cutting at rates that exceed are not sustainable.</li> </ul>
Authorization process	<ul style="list-style-type: none"> <li>Submission of management plan required</li> </ul>	<ul style="list-style-type: none"> <li>The process for obtaining a license in many Central American countries is lengthy and cumbersome because of limited institutional capability.</li> </ul>
<b>Conditions and Restrictions</b>		
Management plan	<ul style="list-style-type: none"> <li>Licenses for extracting resources from large areas (undefined) requires a forest management plan approved by the Institute.</li> <li>Licenses for extracting resources from small areas (undefined) requires a harvesting plan approved by the Institute.</li> </ul>	<ul style="list-style-type: none"> <li>Technical norms for management of protected areas, which will be defined in the regulations, are crucial for this aspect of the law to be effective. Institutional inability to develop workable and enforceable technical norms has been a critically weak point in implementation of forestry law throughout Central America.</li> <li>Government institutions throughout Central America lack the technical capability and human resources to effectively assess management plans proposed by land owners. As a result, approved management plans are often little more than cutting plans that do not achieve sustainable management objectives.</li> </ul>

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**Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)**

<p>Transport licenses</p>	<ul style="list-style-type: none"> <li>• Transport documents issued by the Institute are required to transport timber and wood products with the Protected Area and Special Protection Areas.</li> <li>• Transport licenses for wood cut from plantations or from pruning permanent crops requires visual confirmation of volume only.</li> </ul>	<ul style="list-style-type: none"> <li>• Reliance on transport licenses to enforce forestry restrictions has been largely ineffective throughout Central America. Government capability to catch illegal transport is limited. The law provides a strong opportunity for rent-seeking behavior from enforcement authority.</li> </ul>
<p><b>Forest Protection Policies</b></p>		
<p>Fire policies</p>	<ul style="list-style-type: none"> <li>• Articles 58-62 specify that the Institute in coordination with other state entities, municipal governments, and private individuals will take all the necessary steps to prevent, control and avoid forest degradation, especially forest fires.</li> <li>• Fires for controlling forest growth in protected areas or areas for special protection require authorization by the institute. (Article 62)</li> </ul>	<ul style="list-style-type: none"> <li>• Fire restriction polices enacted in many Central American countries to discourage the intentional use of fires to clear forest area for agriculture are not readily enforced.</li> </ul>
<p>Phytosanitary policies</p>	<ul style="list-style-type: none"> <li>• The institute will provide assistance to land owners in protected areas or areas for special protection to take any steps necessary to protect the forest against diseases and pests.</li> <li>• To limit the area affected by disease or pests, the Institute can take any steps necessary to eliminate diseases or pests and require reimbursement for all associated costs from the land owner.</li> </ul>	
<p><b>Reforestation Policies</b></p>		
	<ul style="list-style-type: none"> <li>• Article 42 would establish a Forestry Development Fund to finance fiscal incentives and special projects to establish forest areas, manage natural forests, rehabilitate watersheds, develop agroforestry systems, maintain plantations and manage forestry nurseries.</li> <li>• The state will provide an annual budget for the fund equal to the cost of establishing not less than 10,000 hectares per year for a period of 20 years.</li> <li>• The regulations of the proposed law will also specify the forestation and/or reforestation requirements of agencies, individuals, or firms that utilize water for generating electricity or for other purposes.</li> <li>• The proposed law would give the newly created Forestry Institute the responsibility for assisting firms producing seedlings for reforestation and for certifying the genetic quality of seedlings.</li> <li>• The proposed law gives the Ministry of Agriculture the authority to expropriate land for reforestation if deemed necessary to protect the forest.</li> </ul>	

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**Table 3: Analysis of Proposed Draft Forest Laws For El Salvador (July 1993)**

<p><b>Fiscal incentives and policies</b></p>	<ul style="list-style-type: none"> <li>• For small landowners (less than 10 hectares of forested area) within designated Protected or Special Protection areas, the Forestry Development Fund will provide credit for reforestation inputs, reimburse 50 percent of the cost of reforestation after planting, and provide specialized technical assistance and training through private business or nongovernmental organizations.</li> <li>• The proposed law would allow estimated costs of reforestation (planting and maintenance for three years) to be deducted from any tax obligation through the issuance of Forestry Tax Notes. The institute would estimate the costs of reforestation by hectare, by species and by region annually. The notes will be issued after 75 percent of the initial planting has been completed. (Articles 46, 50, and 51).</li> <li>• The institute will work with banks to ensure that credit facilities are available to finance reforestation between initial planting and issuance of the forestry tax notes.</li> </ul>	<ul style="list-style-type: none"> <li>• The current law calls for the state to establish fiscal incentives for reforestation as deemed appropriate. None have been adopted.</li> <li>• Current law provides exemption from land tax for areas reforested or forested voluntarily (not to fulfill license obligations) until harvesting of reforested area.</li> <li>• Tax-based incentives often accrue to the wealthy, and lands reforested are not always those most suitable for reforestation. Beneficiaries are often larger companies.</li> <li>• Similar incentives in other Central America countries have been ineffective, however, because the lengthy and cumbersome process to obtain the tax exemption is not worth the benefit.</li> </ul>
<p><b>Fines and penalties</b></p>	<ul style="list-style-type: none"> <li>• The proposed law specifies ranges of fines and penalties to be imposed on a per hectare basis for a number of infractions including harvesting forest products without a license, harvesting in excess of the amount authorized, fraudulent application for reforestation incentives, failure to comply with reforestation obligations, changing the use of forest area, transporting forest products without a license, and so on. The perpetrator must also repair any damage caused, including reforestation of areas harvested illegally. The institute may also repair any damage and require reimbursement from the perpetrator and can confiscate forest products obtained illegally and the equipment used to obtain them.</li> </ul>	
<p><b>Public reforestation projects</b></p>	<ul style="list-style-type: none"> <li>• The proposed law does not state specific reforestation projects to be undertaken.</li> </ul>	