

PD-ABG-715  
84276  
Amendment Number

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add  
C = Change  
D = Delete

DOCUMENT CODE

3

COUNTRY/ENTITY Costa Rica 3. PROJECT NUMBER 515-0263

4. BUREAU/OFFICE LAC [05] 5. PROJECT TITLE (maximum 40 characters) Regulation for Forest Management

6. PROJECT ASSISTANCE COMPLETION DATE (PACD) 7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4)  
MM DD YY 09 30 97 A. Initial FY 93 B. Quarter 3 C. Final FY 95

8. COSTS (\$000 OR EQUIVALENT \$1 = 0138)

A. FUNDING SOURCE	FIRST FY 1993			LIFE OF PROJECT		
	B. FY	C. L/C	D. Total	E. FY	F. L/C	G. Total
AID Appropriated Total						
(Grant)	( 400 )	( )	( 400 )	( 2,000 )	( )	( 2,000 )
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1. PL-480		828	828		828	828
2.						
Host Country					1,195	1,195
Other Donor(s)						
<b>TOTALS</b>	400	828	1,228	2,000	2,023	4,023

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1)						400		2,000	
(2)									
(3)									
(4)									
<b>TOTALS</b>						400		2,000	

10. SECONDARY TECHNICAL CODES (maximum 8 codes of 3 positions each) 11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	B. Amount

13. PROJECT PURPOSE (maximum 400 characters)

The Project's purpose is to promote the adoption of Sustainable Forest Management practices.

14. SCHEDULED EVALUATIONS 15. SOURCE/ORIGIN OF GOODS AND SERVICES  
Interim MM YY MM YY Final MM YY [X] 008 [ ] 941 [X] Local [ ] Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of 6 page FF Amendment)

USAID Controller approves the Methods of Implementation and Financing proposed herein

Miguel Luján, Cont a.i.

17. APPROVED BY

Signature Title Ronald F. Venezia Mission Director

Date Signed MM DD YY 08 27 93

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY



AGENCIA PARA EL DESARROLLO INTERNACIONAL  
MISION ECONOMICA DE LOS ESTADOS UNIDOS EN COSTA RICA

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August 27, 1993

**ACTION MEMORANDUM FOR THE MISSION DIRECTOR**

**THROUGH:** Peter Kranstover, PPDO  
**FROM:** Jaime A. Gómez, PPDO  
**SUBJECT:** Authorization of the REFORMA's Project (No. 515-0263)

Issue

Your approval is required to authorize the Regulation for Forest Management (REFORMA) Project (No 515-0263). The total life of Project funding is \$2,000,000 for a four year period.

Background

The richest sources of biodiversity on land are wet and moist tropical forests. Nearly 90 percent of the land area of Costa Rica was originally covered with such forests, and this partly explains why, in spite of its small size, the country remains host to five to seven percent of all plant and animal species currently identified on the planet. This includes 265 species of mammals, 850 species of birds, 158 species of amphibians, 215 species of reptiles, 130 species of freshwater fish, 366,000 species of insects, and some 13,000 species of plants, including 1,500 species of trees. The principal threat to this major biological legacy is the loss of natural forest habitat. Over Costa Rica's history, settlement has always been synonymous with deforestation, and in 35 years (1950 to 1985), Costa Rica has lost most of the natural forests that once covered one third of the country. The remaining forests are now being lost at a rate twice the world average.

DISCUSSION:

Given this situation, the FY 1994-1995 Action Plan for USAID/Costa Rica (dated February 1993) identifies "the maintenance of natural forest habitat" as one of the Mission's three strategic objectives.

This is fully in conformance with the current Environmental Strategy for Latin America and the Caribbean (issued by the LAC Bureau in January 1993) which identifies the "conservation of tropical forests and other critical habitats for biological diversity" as its first priority area.

This Project conforms to Agency policy to assist developing countries in solving their natural resources problems and to USAID/Costa Rica Strategic Objective 3: Maintenance of Natural Forest Habitat. This project specifically will preserve natural forest habitat by promoting the adoption of sustainable forest management practices.

The project will be funded using regular GOCR budgetary resources (approximately \$1,195,115 in colones), PL 480 local currency generations (approximately \$828,000 in colones), and AID development assistance (\$2,000,000). These resources will basically finance three major project components:

1. Appropriate and Enforceable Regulations.

The initial portion of project resources will be used to strengthen the first leg of an improved regulatory program, a simplified body of appropriate and enforceable regulations. These resources will finance a) technical collaboration, workshops, and public fora to improve the content and administration of forest management plans and harvest permits, (b) operational research to improve the sustainability of forest management practices as well as regional and national forest planning and management, and (c) identification of the optimum trade policy for forest products which encourages sustainable forestry management practices.

2. Adequate Resources for Effective Regulation.

The next portion of project finances will be invested to strengthen the second leg of the improved regulatory program, sufficient resources for effective regulation. These resources will be used to finance (a) increased deployment of DGF personnel, material and logistic resources in three pilot areas, (b) design and install a computer assisted monitoring system to buttress current field enforcement procedures, (c) financing training programs in case preparation and courtroom testimony for DGF staff and in forestry jurisprudence for judges, prosecutors, and municipal officials and the institution of a cost-effective system for monitoring the progress of forestry cases through the court system.

3. Public Support for Regulation.

The third portion of project resources will be used to strengthen the final leg of the improved regulatory program, sufficient public support for regulation. These funds will be used to (a) improve the technical skills of sawyers, tractor operators, and other technicians involved in harvest operations to enable them to employ sustainable forest management techniques, (b) institute a public information campaign designed to acquaint the media, concerned NGO's, and the public at large with the nature of and need for sustainable forest management practices, (c) provide modest support to the efforts of local non-governmental organizations and private sector associations to promote the adoption of sustainable forest management practices in the three pilot areas, and (d) support the appearance of new markets and trade opportunities for sustainable produced tropical forest products from Costa Rica.

At the end of the Project, the following achievements are expected to be accomplished:

1. The institution of a simplified body of forestry regulation and related administrative procedures which are more conducive to the adoption of sustainable forest management practices and are more realistic given the level of resources available for enforcement;
2. Increased concentration of DGF personnel in those regions accounting for the bulk of Costa Rica's relatively undisturbed primary forests lying outside the country's protected areas;
3. Regional DGF personnel provided with sufficient amenities (such as housing) and adequately equipped to promote higher levels of morale and enforcement effectiveness;
4. Substantially increased percentage of infractions brought to court, effectively prosecuted, and adjudicated by DGF and judicial personnel;
5. Sufficient confidence in the country's forest regulatory procedures and institutions to permit the lifting of the export ban on logs and rough sawn timber which will allow stumpage values to rise and more accurately reflect international prices;
6. A real decrease in transaction costs associated with management plan preparation and other preharvest operations associated with sustainable forest management and a related increase in the number of management plans annually submitted for DGF approval, approved by the DGF, and verified in force;
7. Increased understanding among the general public of the nature and need for sustainable forest management in Costa Rica's relatively undisturbed natural forests lying outside the country's protected areas;
8. Increased understanding of the nature, need for, and techniques which constitute sustainable forest management among private sector forestry personnel at the supervisory level, but particularly among field level machinery operators, tree fellers and forestry workers; and
9. The institution of a system by which timber exported from Costa Rica's relatively undisturbed natural forests can be certified or guaranteed to have come from a sustainably managed forest.

Implementation Arrangements:

a. Initial and Continuing GOOCR Responsibilities

In addition to using the five-month period between project signing and formal start-up to fulfill the Conditions Precedent, MIRENEM and the DGF will use the time to confirm the availability of GOOCR core and PL 480 local currency budget resources required for the Project in 1994 and determine how these resources will be managed, identify and, as necessary, relocate personnel and material resources to the three pilot areas.

Primary MIRENEM and DGF operational responsibilities continuing over the life of the Project include:

- liaising with USAID/Costa Rica to ensure optimal and efficient use of overall Project resources;
- budgeting and managing GOCR and PL 480 local currency resources;
- ensuring adequate and motivated personnel are assigned to the project;
- overseeing GOCR financed procurement of project related goods and services (including the construction of field facilities);
- coordinating activities with project financed grantees and contractors to ensure optimal use of their efforts to assist in promoting the adoption of sustainable forest management practices; and,
- assuming appropriate supportive role in the execution of project monitoring, reporting, evaluation and audit requirements.

b. Initial and Continuing USAID/Costa Rica Responsibilities

Primary USAID/Costa Rica operational responsibilities continuing over the life of the Project include:

- liaising with MIRENEM and the DGF to ensure optimal and efficient use of overall Project resources;
- budgeting and managing the Project's AiD Development Assistance (DA) resources (including the preparation of subsequent amendments to the project agreement);
- overseeing procurement of DA financed goods and services;
- monitoring the performance of DA financed grantees and contractors;
- promoting coordination between the DGF and DA financed grantees and contractors to ensure optimal impact of their efforts to promote the adoption of sustainable forest management practices; and
- assuming an appropriate supportive role in the execution of project monitoring, reporting, evaluation and audit requirements.

c. Responsibilities of the Primary Project Grantee

The primary project grantee will be responsible for the provision of A.I.D. financed and some PL 480 financed goods and services anticipated under the project. Given the number of qualified technical and social science research institutions and competent non-governmental organizations working in the environment and natural resource area in Costa Rica, it is expected that almost all such goods and services will be provided directly by the primary grantee or can be procured locally by the primary grantee through secondary institutions, if necessary.

First, at this time it is expected that the primary grantee would directly provide the goods and services called for under project outputs:

- 1.A. review and revision of management plan guidelines;
- 1.B. research to improve forest management practices and forest habitat monitoring;
- 2.B. computerized inventory/monitoring system; and
- 3.A. sustainable forestry technical training.

AID would pay the primary grantee directly for these services under the terms of its HB-13 grant.

Second, at this time it is expected that the primary grantee would probably have to subcontract with other institutions to provide the goods and services called for under project outputs:

- 1.C. Forest products trade regime analysis;
- 2.C. Forest jurisprudence training and monitoring;
- 3.B. Public information on sustainable forest management;
- 3.C. Field NGO support; and
- 3.D. Market and trade development.

**Compliance with Buy America Regulations:**

PPDO anticipates that most of the Dollar Assistance will be granted to a Costa Rican NGO through an HB 13 instrument. In that case, source and origin/nationality requirements will be handled in accordance with HB 13 provisions (State 410442 of Dec 90, paragraph 12).

**Environmental Considerations:**

Per state 93-197699 LAC Bureau Chief Environmental Officer, James Hester, approved the environmental assessment prepared by the Biodiversity Support Program for the activities under the REFORMA Project. The approval is contingent upon incorporation into the Project of key recommendations summarized on pages 33-36 of the EA plus those listed in referenced cable.

**AUTHORITY:**

LAC Delegation of Authority No. 752 of September 14, 1992, in Section II.A, Authorization Authorities, provides in paragraph 1, authority for you to authorize a project "if the project does not exceed \$50 million over the approved life of project", and paragraph 4, the project "does not have a life of project in excess of ten years".

**RECOMMENDATION:**

That you approve this Action Memorandum and sign the attached Project Authorization and Project Data Sheet, thereby authorizing the Regulation for Forest Management Project (No. 515-0263).

APPROVED:



DISAPPROVED: \_\_\_\_\_

DATE:

8/27/95

## PROJECT AUTHORIZATION

Name of Country: Costa Rica  
Name of Project: Regulation for Forest Management (REFORMA) Project  
Project Number: 515-0263

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Regulation for Forest Management (REFORMA) Project (515-0263) for Costa Rica involving planned obligations of not to exceed Two Million United States Dollars (\$2,000,000) in grant funds over a four-year period from the date of authorization subject to the availability of funds in accordance with the A.I.D. OYB/allotment process and administrative approval, to help in financing foreign exchange and local currency costs for Project activities. The initial obligation will not exceed Four Hundred Thousand United States Dollars (\$400,000) in FY 93. The planned life of the Project is four years from the date of initial obligation.
2. The Project will preserve natural forest habitat by promoting the adoption of sustainable forest management practices. The Project will finance three major components:

A. Appropriate and Enforceable Regulations.

The initial portion of project resources will be used to strengthen the first leg of an improved regulatory program, a simplified body of appropriate and enforceable regulations. These resources will finance a) technical collaboration, workshops, and public fora to improve the content and administration of forest management plans and harvest permits, (b) operational research to improve the sustainability of forest management practices as well as regional and national forest planning and management, and (c) identification of the optimum trade policy for forest products which encourages sustainable forestry management practices.

B. Adequate Resources for Effective Regulation.

The next portion of project finances will be invested to strengthen the second leg of the improved regulatory program, sufficient resources for effective regulation. These resources will be used to finance (a) increased deployment of DGF personnel, material and logistic resources in three pilot areas, (b) design and install a computer assisted monitoring system to buttress current field enforcement procedures, (c) financing training programs in case preparation and courtroom testimony for DGF staff and in forestry jurisprudence for judges, prosecutors, and municipal officials and the institution of a cost-effective system for monitoring the progress of forestry cases through the court system.

C. Public Support for Regulation.

The third portion of project resources will be used to strengthen the final leg of the improved regulatory program, sufficient public support for regulation. These funds will be used to (a) improve

the technical skills of sawyers, tractor operators, and other technicians involved in harvest operations to enable them to employ sustainable forest management techniques, (b) institute a public information campaign designed to acquaint the media, concerned NGO's, the public at large with the nature of and need for sustainable forest management practices, (c) provide modest support to the efforts of local non-governmental organizations and private sector associations to promote the adoption of sustainable forest management practices in the three pilot areas, and (d) support the appearance of new markets and trade opportunities for sustainable produced tropical forest products from Costa Rica.

3. The Project Assistance Agreement, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with AID regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as AID may deem appropriate:

A. Source and Origin of Commodities, Nationality of Services

Commodities financed by AID under the Grant shall have their source and origin in the United States, or in countries which are members of the Central American Common Market, except as AID may otherwise agree in writing. Ocean shipping financed by AID under the Grant shall be financed only on flag vessels of the United States, except as AID may otherwise agree in writing.

B. Condition Precedent to Disbursement

Because the REFORMA Project will require for its successful implementation GOOCR policy changes in the Forestry Sector, the following CPs have been established precedent to entering in to other financial transactions:

1. A legal opinion of the Attorney General of the Republic certifying that the project agreement is signed within the legal limitations of the General Agreement that was duly ratified through Law No. 3011 of July 18, 1962, and that the Minister of MIRENEM has been duly authorized to sign it, and it constitutes a valid and legally binding obligation of the GOOCR in accordance with all of its terms; and

2. A statement of the name of the person holding or acting in the office of MIRENEM who is duly authorized to represent the GOOCR in all project matters.

3. A statement of the name of the person designed by MIRENEM to serve full-time as the GOOCR project director, responsible for day-to-day management and coordination of project activities.

In order to assure project success, the GOOCR will agree to the following project covenant:

1. The GOOCR will budget for and provide all GOOCR core and PL 480 financial resources required over the life of the project to ensure attainment of the project purpose.

  
\_\_\_\_\_  
Ronald F. Venezia  
Mission Director  
USAID/Costa Rica  
8/27/93  
\_\_\_\_\_  
Date

(8/6/93)

REGULATION FOR FOREST MANAGEMENT (REFORMA)  
PROJECT PAPER LIKE DOCUMENT

Project Data Sheet  
Draft Project Authorization

- I. Project Rationale
- II. Problem Statement
  - A. General Problems of the Forestry Sector
  - B. Specific Problems to be Addressed by this Project
- III. Project Description
  - A. Conditions Precedent
  - B. Covenants
  - C. Project Goal
  - D. Project Purpose
  - E. End of Project Status
  - F. Project Outputs
  - G. Other Donors
- IV. Cost Estimate and Financial Plan
  - A. Budget and Cost Estimates
  - B. Audit Arrangements
- V. Implementation Plan
  - A. Project Initiation and Duration
  - B. Initial and Continuing GOOCR Responsibilities
  - C. Initial and Continuing USAID/Costa Rica Responsibilities
  - D. Responsibilities of the Primary Project Grantee
- VI. Monitoring Plan
  - A. Project Monitoring Within USAID/Costa Rica
  - B. Baseline and Progress Monitoring Provisions  
Internal to Project Design
- VII. Evaluation Arrangements
- VIII. Summary of Findings and Responses to Project Analyses
  - A. Technical Analysis
  - B. Financial Analysis
  - C. Economic Analysis
  - D. Administrative Analysis
  - E. Social Soundness Analysis
  - F. Environmental Analysis

Annexes:

- A. PID Approval Message
- B. Log Frame Matrix
- C. Statutory Checklist
- D. GOOCR Request for Assistance
- E. Implementation Schedule
- F. Detailed Descriptions of Project Outputs
- G. Sources of Information Used in Developing Unit Cost Estimates
- H. Project Modifications to Address Mitigative  
Measures Suggested in the Environmental Assessment
- I. Bibliography of Project Related Analyses

## I. PROJECT RATIONALE

The richest sources of biodiversity on land are wet and moist tropical forests. Nearly 90 percent of the land area of Costa Rica was originally covered with such forests, and this partly explains why, in spite of its small size, the country remains host to five to seven percent of all plant and animal species currently identified on the planet. This includes 265 species of mammals, 850 species of birds, 158 species of amphibians, 215 species of reptiles, 130 species of freshwater fish, 366,000 species of insects, and some 13,000 species of plants, including 1,500 species of trees. The principal threat to this major biological legacy is the loss of natural forest habitat. Over Costa Rica's history, settlement has always been synonymous with deforestation, and in 35 years (1950 to 1985), Costa Ricans managed to strip the natural forests that covered one-third of the country. The remaining forests are now being lost at a rate twice the world average.

The principal conservation challenge facing Costa Rica is that of stemming this loss of forest habitat--the demand for and conversion of forest land to alternative uses. As a result the FY 1994-1995 Action Plan for USAID/Costa Rica (dated February 1993) identifies "the maintenance of natural forest habitat" as one of the Mission's three strategic objectives. This is fully in conformance with the current Environmental Strategy for Latin America and the Caribbean (issued by the LAC Bureau in January 1993) which identifies the "conservation of tropical forests and other critical habitats for biological diversity" as its first priority area.

Until the 1960's Costa Rica was a frontier society retaining large tracts of forest land legally open to homesteading. Successive government administrations facilitated colonization of these lands as an expedient response to economic problems and social conflicts. Thus, public policies traditionally encouraged distributing and settling forested land, so much so that virtually all the country's forest land outside the national system of parks and protected areas is now held by private owners. This fact significantly complicates the task of promoting the adoption of sustainable forest management practices in Costa Rica. In fact, these landowners rarely consider their holdings "forests" but rather "farms" or "ranches" which may or may not have trees. It is they, in collaboration with relatively small-scale local loggers, who decide whether to cut standing forests, and their decisions are based primarily upon their perceptions of the expected returns to forestry vis-a-vis alternative land uses. The relative returns to forestry have not been good, as evidenced by the fact that 80 percent of Costa Rica's deforestation since 1966 can be attributed to conversion of forest land to either pasture or annual crops. It appears that logs are essentially a by-product of land clearing, and very few are actually harvested and transported for downstream processing.

Costa Rica's response to relatively recent concerns regarding deforestation and the loss of biodiversity has been twofold. The first step was the establishment of a large array of national parks and biological reserves utilizing land still in the public domain or subsequently repurchased from private parties. It was mainly through this program that the country gained worldwide recognition as a leader in tropical conservation during the 1970's and 1980's. The national system of parks and other protected areas now approaches 500,000 hectares, nearly one-eighth of country's land area.

The second step was the institution of a comprehensive regulatory regime designed to control the cutting of trees by, among others, those individuals owning relatively undisturbed primary forest land lying outside the national system of parks and protected areas. This area currently amounts to something less than 200,000 hectares. These command and control measures were problematic from the start, given that they flew in the face of the long-standing social, economic and policy environment which encouraged deforestation. Even recently, portions of the forest law have repeatedly been declared unconstitutional by the country's courts. Meanwhile out on the hillside, the increased farm level costs incurred in implementing these regulations have exacerbated the low returns to forestry as a land use. As a result their ultimate effect as far as encouraging the adoption of sustainable forest management practices by landowners and loggers is very problematic. It also appears that these costs have been a major disincentive to landowners who might otherwise consider reforesting their unused pasture land by simply permitting the natural regrowth of secondary forest or through plantation forestry.

In the most general terms, it appears that Costa Rica has two objectives for privately held land that should be placed back under forest cover or is now under forest. It would like to 1) increase forest cover over the long-term while 2) limiting deforestation over the short-term. For the most part, the country has been trying to promote the former through discreet and episodic project level interventions (i.e. state subsidy programs for landowners taking up reforestation) and sustain the latter with legislated policy level interventions, principally in the form of its comprehensive but reactive and punitive regulatory regime. Given that estimates of the area requiring reforestation range from five to ten times the present area of private held forest land, this emphasis of policy versus project level interventions appears to be the reverse of what is needed. That is, the principal objective of Costa Rican forest policy should be the larger and longer-term one, that of increasing forest cover to enhance environmental stability and permit increased forest production. Given the state's limited ability to invest directly in reforestation, Costa Rican forest policy must focus on encouraging private investment in reforestation, as well as in forest product processing and marketing. At a minimum this will require a policy structure which removes current market distortions and promotes the appearance of robust and efficient markets capable of transmitting accurate price signals to potential private investors—including the farmer on the hillside.

This vision of the objective and character of forest policy is rapidly gaining ground in Costa Rica. However, there is concern that certain elements of such a policy structure could work against the short-term goal of limiting deforestation in the 200,000 hectares of standing relatively undisturbed primary forests. For example, increasing the stumpage value of standing timber is instrumental to influencing the decisions of land owners considering reforestation and, hence, increasing forest cover over the long-term. Policies which promote continuing improvements in the technology and efficiency of logging operations and downstream product processing can help increase stumpage values. Policies which decrease transaction costs, increase the efficiency of timber markets, and promote new product and market development can also improve stumpage values. Perhaps the most dramatic means of increasing stumpage value would be permitting the export of raw logs. While such measures may be essential elements of a forest policy focussed on Costa Rica's long-term interests, it is recognized that such steps could

increase pressures to cut standing forests at unsustainable rates over the short-term. Mitigating any such negative, short-term side effects of a new policy structure should be the realm of project interventions.

Hence the rationale for this project. Costa Rica has almost no choice but to adopt now a policy structure which will encourage the expansion of forest cover over the longer term. The GOCR recognizes this and is beginning to institute such a framework with the support of Costa Rican private sector, forest management and research organizations, assorted non-governmental organizations, and several international agencies. The rationale for this proposed project is, essentially, to make it easier for the GOCR to adopt the longer-term policy structure it needs by helping assure that the shorter term objective--limiting deforestation--is not lost. In sum, given the uncertain short-term effects of these policy changes, there is agreement that the GOCR will need to maintain some residual controls on the rate and the nature of forest harvesting. This project focusses on the problems inherent in ensuring that this residual level of control will be effective in promoting the adoption of sustainable forest management practices.

## II. PROBLEM STATEMENT

### A. General Problems of the Forestry Sector

While the reliability of data on the rate of deforestation is hotly debated, the generally accepted figure is that Costa Rica lost about 30 thousand hectares of forest cover each year during the 1980's. There may, however, have been a modest decrease in this rate over the past few years. This translates into a deforestation rate of 1.5 to 1.8 percent--about two to three times higher than the international average. There are a variety of economic and cultural forces promoting deforestation in Costa Rica. More often than not, public policies have reflected, or adapted to, the cultural values and economic interests that have shaped Costa Rica's post-war development. Thus, rather than stemming the process of settling and clearing forested land, public policies often have encouraged it. The inability to enforce environmentally sound policies reflects this historical legacy--the thrust of Costa Rica's response to relatively recent concerns regarding deforestation has been the institution of command-and-control measures in the presence of more long-standing policies which have provided incentives for deforestation.

About 80 percent of the deforestation since 1966 can be attributed to conversion of land to either pasture or annual crops. This statistic reflects the fact that the principal cause of deforestation in Costa Rica has been the low returns to forestry as a land use. These relatively low returns have discouraged private land owners from keeping their land under forest cover and have promoted the clearing of land for alternative uses. In the process of clearing the land, very few logs are actually harvested for downstream processing. Such logs are, essentially, a by-product of land clearing by farmers and ranchers, and there is consequently little vertical integration in the lumber industry. With a couple notable exceptions, millers and downstream processors have had minimal involvement with their sources of raw materials.

In response to growing concerns over the loss of forest cover, the GOCR has sought to legislate, regulate and police an end to deforestation. In spite of these efforts, actual cutting is still running two to three times that formally approved by the General Directorate of Forests (DGF), and the legal and regulatory system has been the subject of extensive review and criticism in recent years.

In order to delineate the problem more clearly, USAID/Costa Rica commissioned three studies over the past year and a half. These have focussed on the institutional, economic and policy characteristics and constraints of the forestry sector. The first of these was undertaken by a team from the U.S. Forest Service which found that trying to police an end to illegal cutting and transport of timber would be a necessary but insufficient response to reversing the course of deforestation in Costa Rica. The team determined that the principal problem is that private landowners do not know how to manage their forested land in a way which generates sufficient income. As a result the land is cleared when the landowner opts for traditional, established land uses such as farming and cattle raising.

The team concluded that current policies, systems and procedures in combination with ever present economic, social and political factors will result in continued deforestation and therefore a fragmented forest production base. The remaining forest cover will be composed of a variety of small forest islands incapable of supporting a forest industry. They predicted this would have major, negative economic and environmental effects. The team recommended that the DGF concentrate its efforts within remaining core areas of standing productive forests, reconfigure its staff and material resources accordingly, and identify additional resources needed to function effectively.

The second study was completed by Dr. Rigoberto Stewart in April 1992. This study described how Costa Rica's current forest law, by prohibiting the export of logs and rough sawn timber and by imposing high import tariffs and restrictions on processed products, results in depressed stumpage prices and high levels of protection for the downstream wood processors. He notes this as one of several factors constraining improved efficiencies within the sector, another such factor being the lack of institutional financing. At the farm level, Stewart estimates the returns to alternative land uses within varying policy and price environments. Interestingly, he finds that plantation forestry can be more profitable than cattle raising.

The study closes by recommending that the GOCR consider elimination of the current regulatory regime, complete liberalization of the trade in forest products, elimination of existing reforestation subsidy programs, and the creation of a fund for long-term financing of investment within the sector at commercial rates of interest.

The third and final study was financed by USAID in response to a request from the GOCR's Ministry of Natural Resources, Energy and Mines (MIRENEM) for realistic policy guidance consistent with current sectoral and overarching political and macroeconomic conditions. The Tropical Science Center (TSC)--a Costa Rican, non-profit, non-governmental scientific organization--was identified to lead the effort. At the request of MIRENEM a consultative committee was formed to assist TSC's forestry, legal and economic specialists in developing the descriptive and analytical sections of the report, as well as its extensive set of recommendations. Preparation of the study culminated in a workshop held at the USAID Mission in San Jose on August 18. Once again, representatives from MIRENEM, concerned donors and non-governmental organizations participated in the discussion. The report was subsequently finalized, and it was officially presented to the GOCR at a press conference held on November 18. This report documents general policy guidelines and specific policy changes for forest plantations, natural forests, industry, research, education, extension, protection and control, and overall sector management generated by this process. It also includes a section of proposed amendments to the current forest act needed to implement the proposed policy changes. The report and the extensive collaboration which underlies its preparation are viewed by the GOCR as a major step forward in helping it institute a policy structure more conducive to reforestation and sustainable forest management.

In addition to AID a number of other international institutions and donors are engaged in Costa Rica's forestry sector. A donor group formed nearly two years ago meets three to four times each year, and professional collaboration between the USAID Mission and other donors (especially Germany) has become routine. The major projects supported by the donors have been regional in nature. AID field investments have focussed in the central volcanic cordillera (the FORESTA project) and the Osa Peninsula (the BOSCOA project). German development assistance has been very active in promoting forestry activities in the Northern Zone. Canada is supporting park service and buffer zone development in the Arenal area. Danish groups are supporting small activities in the Osa Peninsula and La Amistad National Park. Sweden has focussed its support in the Santa Rosa area and the Osa Peninsula. On the other hand, Holland has programmed debt swap resources to support reforestation activities throughout Costa Rica. IBRD, which will soon issue its own assessment of Costa Rica's forestry sector, is now considering a sector project which would begin in 1995 or 1996. A great number of domestic and international non-governmental organizations concerned with forestry and related natural resource issues are also active in Costa Rica.

**B. Specific Problems to be Addressed by this Project**

In sum, the recent studies financed by USAID, analyses prepared by other interested parties, and conversations with international donor and NGO representatives, have identified a plethora of factors constraining the adoption of sustainable forest management practices in Costa Rica.

The proposed project does not intend to directly finance solutions to all of these problems. Some of the policy changes under active consideration by the GOCR are by themselves expected to be enough to promote the adoption of sustainable forest management practices by some owners of land with standing trees. However, there is substantial uncertainty regarding the overall reaction and the net short-term effects on the environment and biodiversity. This uncertainty gives rise to the feeling that the GOCR should maintain some residual controls on the rate and the nature of forest harvesting. The focus of this project is the problems inherent in ensuring that this residual level of control will be effective in promoting the adoption of sustainable forest management practices. These problems are essentially threefold:

- (1) the lack of a body of enforceable law and regulations;
- (2) inadequate resources to support enforcement; and
- (3) insufficient public support for enforcement efforts.

These three problems must all be addressed simultaneously and evenly or like a three-legged milking stool with an uneven set of legs, attempts at enforcement will be unsteady and likely to fail. Obviously, trying to implement an extensive set of regulations with insufficient personnel or budgetary resources will lead to a dissipation of effort. Similarly, an appropriate match between regulations and resources can still result in less than optimum performance if there is not sufficient public support and oversight of enforcement activities.

## 1. A Body of Enforceable Law and Regulations

Since 1969 Costa Rica has had comprehensive forestry legislation, although at times portions of the law have been declared unconstitutional. A bill changing major portions of the current forest law is now being debated in Costa Rica's legislature. A related body of regulations has been developed and implemented by the DGF. However, this regulatory regime is the subject of intense criticism on the following grounds.

- The regulatory structure is unnecessarily prescriptive and seriously limits the discretionary judgment of professional field foresters who believe they could manage forest on a more silviculturally sound basis than permitted by the regulations and the DGF. Perhaps the best example is a number of restrictive harvesting regulations which result in poor quality secondary growth forests.
- The forest management plans required by the DGF are largely descriptive and require details that are meaningless for forest management. One result is that most wood harvestors view the management plans as a requirement for securing harvest permits, rather than a tool for outlining management objectives and sustainable practices. At the same time, the plans represent a major expense and disincentive to private land owners considering sustainable forest management as a financially viable land use vis-à-vis alternative land uses.
- Different requirements prevail in different districts, and there are inconsistencies in the interpretation of the regulations by different officials. This unfortunate fact discredits DGF activities by lending them an air of capriciousness.
- Sanctions for transgressing elements of management plan, harvest permits, and transport permits approved or issued by the DGF are infrequently enforced.
- Although the area of commercially exploitable forest and the volume of wood it contains is decreasing annually, the DGF has developed no solid policy on rationing the wood to be harvested across regions or across individuals requesting harvest permits.

## 2. Adequate Resources for Enforcement

There is no doubt that enforcement of all the existing harvesting regulations have created an unrealistic workload for regional DGF personnel and a difficult climate in which to manage private forest resources. Resources available for enforcement are spread much too thin. In 1989 it was reported that 270 of the DGF's total permanent staff of 459 were assigned to its eight regional offices, but even then it was not uncommon for a local DGF official to have to read, inspect, and consider for approval 100 or more forest management plans in his region each year.

Given pressures to contain GOCR expenditures, it is unlikely that additional resources will be forthcoming from the central budget to support DGF activities. On the other hand, the current practice of financing DGF activities using tax revenues levied on timber harvests has drawn fire from some parties who fear that the system may create an incentive for the DGF to issue more harvest permits in a year than is silviculturally sound. At the same time, however, there is general recognition that improvements in the efficiency of DGF tax collection efforts could significantly increase revenues for their operating budget while maintaining or even decreasing the level of timber harvests.

Given the unlikelihood of operating budget increases over the short-term, the DGF has recognized for sometime that it needs to focus its activities in the areas of reforestation and forest management, reorganizing, and redeploying its personnel and budgetary resources, accordingly. In the process, a number of its peripheral responsibilities must be shed and probably passed over to the private sector.

### 3. Public Support for Enforcement Activities

The past several years have witnessed a significant increase in interest among the public in the state of Costa Rica's forests. Landowners are considering forestry as a new source of income in the wake of falling prices for coffee, cacao, beef and, more recently, bananas. The wood products industry is increasingly concerned about the future availability of its raw materials. Ecotourism firms want to ensure the longevity of the natural assets which constitute their industry's business base. Research and conservation organizations want to maintain biodiversity and the habitat of endangered fauna. A growing number of organizations are concerned about the welfare of indigenous people whose incomes and welfare are closely linked with the forests in which they live. Yet others are concerned about the role of the forests as "carbon sinks" and as buffers of world wide environmental changes.

In this respect, Costa Rica is like most other countries. There, too, most professional foresters are pleased that the public has at last come to recognize the importance of their work. However, most traditional forestry institutions and practitioners soon realize that all the attention is a mixed blessing as they soon find themselves overwhelmed by the new and, at times, irreconcilable demands placed upon them by an increasingly active public. Responding successfully to this major change in their working environment is requiring foresters to develop new skills and new types of working relationships.

In general, the change augers well for the future of forestry regulation and the appearance of sustainable management practices in Costa Rica. However, MIRENEM and the DGF will need to find ways to use the energy and skills these new groups bring to the task if all are to work together for positive results. For example, while a concerned public may eventually be willing to support, financially and through other means, the enforcement of an appropriate set of regulations, new groups will insist on having a hand in the design of the regulations. How will this process be managed? Secondly, are there ways in which local private sector and non-governmental organizations can support the adoption of sustainable forest management practices by land owners and loggers and in doing so ease the DGF's regulatory burden.

### III. PROJECT DESCRIPTION

As stated above, the rationale for this proposed project is to make it easier for the Government of Costa Rica (GOCR) to adopt the longer-term forest policy structure it needs by helping assure that the shorter-term objective of limiting deforestation is not lost. The project will supplement efforts of the GOCR, particularly the Ministry of Natural Resources, Environment and Mining (MIRENEM) and its Directorate General of Forestry (DGF) to promote sustainable forest management practices by improving the content, administration and enforcement of the government's own forest regulatory regime.

#### A. Conditions Precedent

Prior to AID making the first assistance payment under the project, or to the issuance by AID of documentation pursuant to which disbursement will be made, and prior to the disbursement of any PL 480 local currency resources, MIRENEM will, except as the GOCR and AID may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID the following:

1. A legal opinion of the Attorney General of the Republic certifying that the project agreement is signed within the legal limitations of the General Agreement that was duly ratified through Law No. 3011 of July 18, 1962, and that the Minister of MIRENEM has been duly authorized to sign it, and it constitutes a valid and legally binding obligation of the GOCR in accordance with all of its terms; and

2. A statement of the name of the person holding or acting in the office of MIRENEM who is duly authorized to represent the GOCR in all project matters.

3. A statement of the name of the person designed by MIRENEM to serve full-time as the GOCR project coordinator, responsible for day-to-day management and coordination of project activities.

Furthermore, prior to AID approval to the programming of any PL 480 local currency resources, MIRENEM will, except as the GOCR and AID may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID the following:

1. Evidence that adequate GOCR core and PL 480 local currency resources required for project activities during 1994 have been included in approved GOCR FY 1994 budget documents;

2. A description of how PL 480 resources required for the construction of project facilities vehicle procurement, operation and maintenance will be transferred to the project's prime grantee;

3. A description of how PL 480 resources required for the payment of per diems to field staff will be managed by the project's prime grantee;

4. Evidence that the incremental positions required to adequately staff DGF field offices to implement project activities in the three concerned pilot areas have been transferred or created;

5. Copies of the written position descriptions which clearly describe the responsibilities and concomitant authority vested in the incumbents of these positions which are to be funded using GOCR core budgetary resources under the project;

6. Evidence indicating that the DGF is actively identifying and, as necessary, transferring individuals to fill these new field positions and sufficient to generate confidence that all the positions will be filled by January 1994;

7. A statement from MIRENEM detailing action taken to implement the recommendations appearing in its March 1992 report, "Principales entrabamientos de caracter reglamentario y operativo, que desestimulan la Reforestación y Manejo del Bosque, y recomendaciones para su corrección."

8. Evidence that MIRENEM has abolished the practice of limiting the period during which management plan and harvest permit documents can be submitted to the DGF, and is instituting in its place

- year round submission
- the practice of date stamping all documents as they arrive
- the practice of issuing a number to the proposed plan once all the documents are in hand to ensure a sequential review
- the practice of guaranteeing a clear approval/disapproval of the proposed plan within 30 days and
- a data base system for tracking the processing of management plan and harvest permit applications;

9. Evidence that MIRENEM has made the forest management plans multiyear in practice by

- requiring the consulting foresters to a) submit a formal solicitation regarding intent to harvest, b) secure approval from the concerned Municipality for use of the roads, and c) check whether the property has changed owners and
- eliminating in practice the need for the consulting forester to resubmit management plan materials unless, of course, underlying conditions have changed (such as a change of owner);

Completing these conditions precedent are essential first steps in a new enforcement strategy in which the DGF would be expected to do less (simplified procedures and fewer functional responsibilities) with more (redeployed and concentrated resources) and to do it locally (increased authority for enforcement delegated to the field). The transfer of some of the DGF's peripheral responsibilities to the private sector will help ensure these functions are still performed, possibly more effectively than in the past.

Completion of the conditions will get the three legs of the stool in order and ready to use effectively resources provided by the project over a proposed four-year project period. Plans now call for the project agreement to be executed in late July 1993, with actual project start-up expected in January 1994 after completion of the conditions precedent.

## B. Project Covenants

In order to assure project success, the GOCR will agree to the following project covenant:

1. The GOCR will budget for and provide all GOCR core and PL 480 financial resources required over the life of the project to ensure attainment of the project purpose.

C. Project Goal

The project's goal is to preserve natural forest habitat.

D. Project Purpose

The project's purpose is to promote the adoption of sustainable forest management practices.

E. End of Project Indicators

Among the achievements expected by the end of the project are:

1. The institution of a simplified body of forestry regulation and related administrative procedures which are more conducive to the adoption of sustainable forest management practices and are more realistic given the level of resources available for enforcement;
2. Increased concentration of DGF personnel in those regions accounting for the bulk of Costa Rica's relatively undisturbed primary forests lying outside the country's protected areas;
3. Regional DGF personnel provided with sufficient amenities (such as housing) and adequately equipped to promote higher levels of morale and enforcement effectiveness;
4. Substantially increased percentage of infractions brought to court, effectively prosecuted, and adjudicated by DGF and judicial personnel;
5. Sufficient confidence in the country's forest regulatory procedures and institutions to permit the lifting of the export ban on logs and rough sawn timber which will allow stumpage values to rise and more accurately reflect international prices;
6. A real decrease in transaction costs associated with management plan preparation and other preharvest operations associated with sustainable forest management and a related increase in the number of management plans annually submitted for DGF approval, approved by the DGF, and verified in force;
7. Increased understanding among the general public of the nature and need for sustainable forest management in Costa Rica's relatively undisturbed natural forests lying outside the country's protected areas;
8. Increased understanding of the nature, need for, and techniques which constitute sustainable forest management among private sector forestry personnel at the supervisory level, but particularly among field level machinery operators, tree fellers and forestry workers; and
9. The institution of a system by which timber exported from Costa Rica's relatively undisturbed natural forests can be certified or guaranteed to have come from a sustainably managed forest.

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F. Project Outputs

1. Appropriate and Enforceable Regulations.

The project will be funded using regular GOCR budgetary resources, PL 480 local currency generations, and AID development assistance (please refer to the indicative financial plan in Section IV). The initial portion of project resources will be used to strengthen the first leg of an improved regulatory program, a simplified body of appropriate and enforceable regulations. These resources will finance a) technical collaboration, workshops, and public fora to improve the content and administration of forest management plans and harvest permits, (b) operational research to improve the sustainability of forest management practices as well as regional and national forest planning and management, and (c) identification of the optimum trade policy for forest products which encourages sustainable forestry management practices.

a. Review and revision of management plan guidelines.

This project output will ensure that the required contents as well as the application and approval procedures for forest management plans are continually and objectively reviewed and revised. The overarching objective is to improve efficiency in the application of these regulatory instruments. This will be accomplished by the appointment of a permanent and formal review committee comprised of three people representing the DGF, the association of forest consultants (los regentes), and academia. The committee will design mechanisms for sector specific and open public review of the management plan system and organize and coordinate its application. The committee will incorporate the findings from the review process into biannual revisions of the management plan guide issued by the DGF.

b. Research to improve forest management practices and forest habitat monitoring.

This project output will finance research and development of sustainable forest management practices applicable in Costa Rica. This output will seek the development of standardized procedures and computer-based analytical tools national-level forest management planning. This will be accomplished through the support of a research team at the Forestry Department at the Centro de Investigacion en Integracion Bosque Industria (CIIBI) at the Institute of Technology of Costa Rica (ITCR). This capability will enable Costa Rica to engage in analytically-based strategic planning in the forestry sector at all levels. In particular, this capability will support decision making on the allocation of financial and other resources among alternative management activities for maximizing economic and social returns on investment. This component of the project would concentrate on applied research in crucial areas of interest in both the public and private sectors. Researchers at CIIBI will be contracted to develop planning tools and methodologies for Costa Rica through both original research and the adaptation of existing technology. The work will center on the development of specific products and services required by private industry and the DGF.

c. Forest product trade regime analysis.

This project output will examine the impact of current Costa Rican trade policies on the forestry sector, paying particular attention to how changes in trade policy could promote or constrain the adoption of sustainable forest management practices. The analysis will examine possible scenarios for relieving import and export controls on forestry products, carefully assessing their likely impact on stumpage as well as intermediate and finished good prices and on the operations of land owners, loggers, sawyers, and woodworkers.

2. Adequate Resources for Effective Regulation.

The next portion of project finances will be invested to strengthen the second leg of the improved regulatory program, sufficient resources for effective regulation. These resources will be used to finance (a) increased deployment of DGF personnel, material and logistic resources in three pilot areas, (b) design and install a computer assisted monitoring system to buttress current field enforcement procedures, (c) financing training programs in case preparation and courtroom testimony for DGF staff and in forestry jurisprudence for judges, prosecutors, and municipal officials and the institution of a cost-effective system for monitoring the progress of forestry cases through the court system.

a. DGF field operations strengthening.

This project output will support DGF efforts to accord increased priority to the field enforcement of its regulatory regime designed to promote the adoption of sustainable forest management practices. Its objective is to ensure adequate staff, material and logistic resources are assigned to the task in three pilot demonstration areas. These pilot areas--La Curena in the Northern Zone, the Osa Peninsula in the Southern Zone, and Talamanca in the Atlantic Zone--include sixty to seventy percent of the remaining relatively undisturbed primary forest area in Costa Rica lying outside the national system of protected areas. Piloting, demonstrating, and instituting a successful regulatory regime in these three areas will expedite the replication of proven measures to the remaining areas of relatively undisturbed primary forests.

b. Computerized inventory and monitoring system.

This project output will design and implement a system for control and enforcement of legal cutting of timber in Costa Rica. The backbone of the system will be a database computer program which will be used by enforcement personnel stationed at road checkpoints to verify that passing log trucks contain only legally cut timber. The database system will be employed nationally but maintained locally. Authorization for cutting and the issuing of permits and tags will be done regionally and the required entries made to the database system at the regional offices. Up-to-date versions of the database system will be distributed to all regional checkpoint stations as required. Road checkpoints will become the primary point of interdiction in the enforcement process. Staff will be trained appropriately in the

collection of evidence and legally required procedures to insure successful prosecution of guilty parties. Such training will be provided through the jurisprudence training component of the project. Training in this component will concentrate on the use of the database system and complimentary programs and log scaling methods.

In addition to the primary function of the control of legal cutting, the database system will also be designed to support regional and national planning activities. Information collected on the number of permits, volume harvested, and timing of logging and transportation activities will be available to both regional and national planning personnel in the DGF as well as staff in the operational research component of the project. Such information will be useful in the host of analyses pertaining to timber supply, particularly the geographic distribution demand for timber and actual cutting activities.

c. Forest jurisprudence training and monitoring.

This output will support the training and continuing education of judicial officials, employees of the DGF, local police, and interested public citizens in forestry jurisprudence and the monitoring of court cases involving vicinations of the forest law. The objective of the activity is to create functional deterrents to crimes which compromise the success of efforts to increase adoption of sustainable forest management practices. This component will involve the design and delivery of a comprehensive program for jurisprudence training directed exclusively in the three pilot areas. In addition, a case monitoring capability will be established and employed in the three pilot areas for the duration of the project. The activity will be managed by an independent non-governmental agency and will be financed using A.I.D. development assistance resources.

3. Public Support for Regulation.

The third portion of project resources will be used to strengthen the final leg of the improved regulatory program, sufficient public support for regulation. These funds will be used to (a) improve the technical skills of sawyers, tractor operators, and other technicians involved in harvest operations to enable them to employ sustainable forest management techniques, (b) institute a public information campaign designed to acquaint the media, concerned NGO's, the public at large with the nature of and need for sustainable forest management practices, (c) provide modest support to the efforts of local non-governmental organizations and private sector associations to promote the adoption of sustainable forest management practices in the three pilot areas, and (d) support the appearance of new markets and trade opportunities for sustainable produced tropical forest products from Costa Rica.

a. Sustainable forestry technical training.

The purpose of this project output is to provide technical training to the two most important groups within the forestry sector with respect to the implementation of sustainable management, practicing foresters and loggers. The objective of the training programs is to educate these two groups in the design and implementation of all aspects

of forest operations that maintain or enhance the productive potential of forests. This will be accomplished through the development and implementation of two integrated but unique training programs—one for DGF and consulting foresters and the other for loggers and DGF inspectors. The foresters program will include both theoretical and field work, and will be developed in cooperation with the Colegio de Ingenieros Agronomos (CIA). The logger program will be essentially 100 percent practical field instruction and will be delivered on active logging sites to promote participation by loggers. The possibility of cooperating with the Instituto Nacional de Aprendizaje in the design and implementation of the loggers program will be explored.

b. Public information on sustainable forest management.

This project output will increase reporting of the local print and broadcast media and NGO's on sustainable management practices, forestry law, and regulation and enforcement activities in the forestry sector. The objective is to increase the awareness of the general public of forestry issues, and, in so doing, encourage popular support for sustainable forest development of the remaining productive forests. This will be accomplished by providing support to an existing, local NGO for the development of an information campaign for the media and environmental NGO's. The campaign will be comprised of local, regional, and national media and public service events, as well as community-level activities designed to focus attention on human interest elements of sustainable forest management practices.

c. Field NGO support

This project output will strengthen the ability of local private sector and non-governmental organizations to promote the adoption of sustainable forest management practices within the three pilot field areas. A very limited number of proposals for sharing the cost of field interventions will be solicited, evaluated against the criteria stipulated in Annex F, and financed under the Project. These could include proposals for field activities (e.g. local public information or environmental education programs, independent monitoring of harvest operations, etc.) or organizational strengthening in those pilot areas particularly short of institutional presence.

d. Market and trade development.

This project output will support international market development and trade promotion based on Costa Rica's comparative advantage for forest products coming from its sustainably managed forests. By increasing the potential returns to sustainable forest management, deeper and more diverse markets could promote its viability and adoption as the land use of choice by land owners. This will be accomplished through a grant component to: (1) contract or procure studies and services to promote forest products market development and trade in sustainably produced forest products; and (2) procure personal services, equipment, supplies, and travel for a forest products trade support office of a non-governmental organization that represents the forest sector.

G. Other Donors

As mentioned in Section II.A., a number of other international donors and non-governmental organizations are engaged in financing forest sector activities in Costa Rica. As currently designed, A.I.D. will be the only foreign donor assisting in directly financing REFORMA project activities. Nevertheless, the project has been designed in consultation with other concerned donors, and a number of their programs constitute important corollary efforts in achieving the REFORMA project' purpose. For example, World Bank support for extensive land titling under the Agricultural Sector Investment and Institutional Development Project, as well its proposed forest sector project, will be important in promoting the adoption of sustainable forest management practices. On the other hand, a number of donors have expressed interest in several REFORMA project outputs--its operational research element, the computerized inventory/monitoring system, and the forestry jurisprudence training and monitoring system, among others--as well as their interest in scaling up these activities should they prove successful.

#### IV. COST ESTIMATE AND FINANCIAL PLAN

##### A. Budget and Cost Estimates

An indicative multiyear project financial plan which breaks out sources of financing by project components is provided in Figure 1. More detailed budgets for each of the project outputs, which include unit costs, are provided in Annex F. Sources of the unit cost estimates used in developing the detailed budgets in Annex F and, hence, the summary budget provided in Figure 1 are provided in Annex G.

##### B. Audit Arrangements

The project's audit arrangements are fourfold. First, A.I.D. will annually audit the activities of the project's primary grantee. Second, the primary grantee will annually audit the activities of any of its subcontractors hired to work on a level of effort basis. Third, as the supreme audit authority of the Government of Costa Rica, the GOOCR Controller General, will be responsible for annual audits of the GOOCR's core budgetary commitment to the project. Finally, PL 480 expenditures will be audited by the division of the GOOCR Ministry of Planning charged with programming, tracking and auditing PL 480 local currency flows in accordance with its norms which have been reviewed and approved by USAID/Costa Rica.

Figure 1.A

PROJECT NO. 515-0283.00																
REGULATION FOR FOREST MANAGEMENT PROJECT																
(REFORMA)																
FINANCIAL PLAN (by Project Component)																
(US\$)																
	1994			1995			1996			1997			TOTAL		Project	
	AID	GOGR	PL 488	AID	GOGR	PL 488	AID	GOGR	PL 488	AID	GOGR	PL 488	AID	GOGR	PL 488	Total
<b>I. PROJECT OUTPUTS</b>																
<b>1. Appropriate and Enforceable Regulations</b>																
<b>A. Review and Revisions of Management Plan Guidelines</b>																
	13,220			13,220			13,220			13,220				52,860		52,860
<b>B. Research to Improve Forest Management Practices Forest Habitat Monitoring</b>																
	128,830			81,630			88,130			81,630				308,620		308,620
<b>C. Forest Product Trade Regime Analysis</b>																
	28,600													28,600		
<b>2. Sufficient Forest Resource Regulation</b>																
<b>A. Forest Resource Strengthening</b>																
		245,280	428,234		258,304	145,385		255,528	74,488		287,328	58,498		1,024,440	702,581	1,727,021
<b>B. Forest Inventory/Monitoring System</b>																
				82,600			5,600			5,500				83,600		83,600
<b>C. Forest Jurisprudence Training and Monitoring</b>																
	43,230			20,480			43,230			18,700				125,620		125,620
<b>3. Public Support for Regulation</b>																
<b>A. Sustainable Forestry Technical Training</b>																
	58,147			52,052			52,052			52,052				215,303		215,303
<b>B. Public Information on Sustainable Forest Management</b>																
	47,888			42,075			42,075			42,075				173,888		173,888
<b>C. Field NGO Support</b>																
	80,000			80,000			80,000			80,000				200,000		200,000
<b>D. Market and Trade Development</b>																
	74,633			47,200			40,600			34,000				186,333		186,333
<b>II. PROJECT MONITORING AND ADMINISTRATION</b>																
<b>1. Evaluations</b>																
				80,000						80,000				100,000		100,000
<b>2. Audits</b>																
	15,000			15,000			15,000			15,000				80,000		80,000
<b>3. Project Staff</b>																
	40,000			40,000			40,000			40,000				160,000		160,000
<b>Sub-TOTAL</b>																
	488,228	245,280	428,234	470,000	258,304	145,385	387,607	755,528	74,488	382,477	287,328	58,498	1,740,946	1,024,440	702,581	3,467,877
<b>III. CONTINGENCIES</b>																
	64,783	22,082	47,188		34,888	26,428	64,784	48,824	23,832	64,784	83,881	23,883	288,064	173,878	124,888	654,728
<b>TOTAL</b>																
	553,011	267,362	475,422	538,000	293,192	171,813	452,391	804,352	98,320	447,261	371,209	82,381	2,029,010	1,198,318	827,469	4,622,706
REFORMA.XLS																

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Figure 1.B.

PROJECT NO. 515-0263.00																	
REGULATION FOR FOREST MANAGEMENT PROJECT																	
(REFORMA)																	
FINANCIAL PLAN																	
(US\$)																	
BDO	ITEM DESCRIPTION	1994			1995			1996			1997			TOTAL			PROJECT
ELEM.		AID	GOGR	PL480	AID	GOGR	PL480	AID	GOGR	PL480	AID	GOGR	PL480	AID	GOGR	PL480	TOTAL
I	Technical Services Grantee																
	-A. Review and Revision of Managem. Plan Guidelines	13,220	00	00	13,220	0.0	0.0	13,220	0.0	0.0	13,220	0.0	0.0	52,880	0	0	52,880.00
	-B. Research to Improve Forest Mang Practices, Forest Habitat Monitoring	126,830	00	00	61,930	0.0	0.0	66,130	0.0	0.0	61,930	0.0	0.0	336,820	0	0	336,820.00
	-C. Computerized Inventory/Monitoring System	00	00	00	82,500	0.0	0.0	5,500	0.0	0.0	5,500	0.0	0.0	93,500	0	0	93,500.00
	-D. Sustainable Forestry Technical Training	59,147	00	00	52,052	0.0	0.0	52,052	0.0	0.0	52,052	0.0	0.0	215,303	0	0	215,303.00
	-E. Audits	15,000	00	00	15,000	0.0	0.0	15,000	0.0	0.0	15,000	0.0	0.0	60,000	0	0	60,000.00
	-F. Market and Trade Development (Equipment, Staff, Studies)	74,533	00	00	47,200	0.0	0.0	40,600	0.0	0.0	34,000	0.0	0.0	196,333	0	0	196,333.00
	-G. Regulation of Forest Jurisprudence Training & Monitoring	43,230	00	00	20,460	0.0	0.0	43,230	0.0	0.0	18,700	0.0	0.0	125,620	0	0	125,620.00
	-H. Regulat. Public Information on Sustainable Forest Management	47,665	00	00	42,075	0.0	0.0	42,075	0.0	0.0	42,075	0.0	0.0	173,890	0	0	173,890.00
	-I. Regulat. Forest Product Trade Reg Analysis	26,600	00	00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26,600	0	0	26,600.00
	-J. Field NGO Support	50,000	00	00	50,000	0.0	0.0	50,000	0.0	0.0	50,000	0.0	0.0	200,000	0	0	200,000.00
	-K. DGF Field Operation Strength. (Houses, P.O.L., Vehicles)	0.0	00	410,400	0.0	0.0	128,400	0.0	0.0	56,400	0.0	0.0	38,400	0	0	633,600	633,600.00
II	General Directorate of Forests (DGF)																
	-A. General Direct. of Forest/ Salaries	00	245,280	00	0.0	256,300	0.0	0.0	255,528	0.0	0.0	267,328	0.0	0	1,024,440	0	1,024,440.00
	-B. General Direct. of Forest/Per-Diem	00	00	15,834	0.0	0.0	18,965	0.0	0.0	18,096	0.0	0.0	18,096	0	0	68,991	68,991.00
III	AID Administered (Proj. Monitor. and Administration).																
	-A. Evaluations	00	00	00	50,000	0.0	0.0	0.0	0.0	0.0	50,000	0.0	0.0	100,000	0	0	100,000.00
	-B. Project Monitor	40,000	00	00	40,000	0.0	0.0	40,000	0.0	0.0	40,000	0.0	0.0	160,000	0	0	160,000.00
IV	Contingencies	64,763	22082.0	47158.0	64,763	34888.0	28426.0	64,764	49824.0	23832.0	64,764	63,881	25,583	256,054	170,675	124,999	554,728.00
	<b>TOTAL</b>	<b>560,988</b>	<b>267,362</b>	<b>473,392</b>	<b>539,200</b>	<b>291,192</b>	<b>173,791</b>	<b>452,571</b>	<b>305,352</b>	<b>98,328</b>	<b>447,241</b>	<b>331,209</b>	<b>82,079</b>	<b>2,000,000</b>	<b>1,195,115</b>	<b>827,590</b>	<b>4,022,705.00</b>

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## V. IMPLEMENTATION PLAN

A schedule of principal project events and lead responsible parties is provided in Figure 2.

### A. Project Initiation and Duration

It is proposed that the Project Agreement be signed by the close of July 1993. Assuming all Conditions Precedent are completed within 90 days (i.e. by the end of October), project activities would formally begin on January 1, 1994 with the start of the new Costa Rican fiscal year. They would run for four years until the Project Assistance Completion Date (PACD) of December 31, 1997.

### B. Initial and Continuing GOCR Responsibilities

In addition to using the five-month period between project signing and formal start-up to fulfill the Conditions Precedent, MIRENEM and the DGF will use the time to confirm the availability of GOCR core and PL 480 local currency budget resources required for the Project in 1994 and determine how these resources will be managed, identify and, as necessary, relocate personnel and material resources to the three pilot areas.

Primary MIRENEM and DGF operational responsibilities continuing over the life of the Project include:

- liaising with USAID/Costa Rica to ensure optimal and efficient use of overall Project resources;
- budgeting and managing GOCR and PL 480 local currency resources;
- ensuring adequate and motivated personnel are assigned to the project;
- overseeing GOCR financed procurement of project related goods and services (including the construction of field facilities);
- coordinating activities with project financed grantees and contractors to ensure optimal use of their efforts to assist in promoting the adoption of sustainable forest management practices; and
- assuming appropriate supportive role in the execution of project monitoring, reporting, evaluation and audit requirements.

As presented in Figure 3, the project's Methods of Implementation and Financing Chart, and summarized below, the Ministry of Environment, Natural Resources and Mining and its Directorate General of Forestry would be wholly responsible for the core GOCR budgetary resources and PL 480 resources required for project output 2.A., strengthening of DGF field operations, with the exception of that share of the PL 480 resources which would be transferred to the primary project grantee to finance the construction of project field facilities and purchase project vehicles and POL. MIRENEM and the DGF would still retain responsibility for budgeting, securing and utilizing the PL 480 resources required to pay field per diems and differentials.

### **C. Initial and Continuing USAID/Costa Rica Responsibilities**

For its part, USAID/Costa Rica will use the intervening five month period to develop the detailed terms of reference and RFA needed to expedite the award of a HB-13 grant or Cooperative Agreement to the project's primary grantee.

Primary USAID/Costa Rica operational responsibilities continuing over the life of the Project include:

- liaising with MIRENEM and the DGF to ensure optimal and efficient use of overall Project resources;
- budgeting and managing the Project's AID Development Assistance (DA) resources (including the preparation of subsequent amendments to the project agreement);
- overseeing procurement of DA financed goods and services;
- monitoring the performance of DA financed grantees and contractors;
- promoting coordination between the DGF and DA financed grantees and contractors to ensure optimal impact of their efforts to promote the adoption of sustainable forest management practices; and
- assuming appropriate supportive role in the execution of project monitoring, reporting, evaluation and audit requirements.

### **D. Responsibilities of the Primary Project Grantee**

The primary project grantee will be responsible for the provision of A.I.D. financed and some PL 480 financed goods and services anticipated under the project. Given the number of qualified technical and social science research institutions and competent non-governmental organizations working in the environment and natural resource area in Costa Rica, it is expected that almost all such goods and services will be provided directly by the primary grantee or can be procured locally by the primary grantee through secondary institutions, if necessary. Fuller descriptions of these goods and services, which essentially are the project's outputs, are described in detail in Annex F. The proposed methods of implementation and financing are presented in Figure 3 and are summarized below.

First, at this time it is expected that the primary grantee would directly provide the goods and services called for under project outputs:

- 1.A. review and revision of management plan guidelines;
- 1.B. research to improve forest management practices and forest habitat monitoring;
- 2.B. computerized inventory/monitoring system; and
- 3.A. sustainable forestry technical training.

AID would pay the primary grantee directly for these services under the terms of its HB-13 grant.

Second, at this time it is expected that the primary grantee would probably have to subcontract with other local institutions to provide the good and services called for under project outputs:

- 1.C. Forest products trade regime analysis;
- 2.C. forest jurisprudence training and monitoring;
- 3.B. public information on sustainable forest management;
- 3.C. field NGO support; and
- 3.D. market and trade development.

Third, at this time it is expected that the primary grantee would also directly receive and utilize PL 480 resources to design and construct project field facilities and purchase project field vehicles and POL called for under project output 2.A., strengthening of DGF field operations. These resources would be provided to the grantee by the GOCR through a budget allocation prepared by the DEP of the Ministry of Planning, possibly based on an extraordinary budget decree.

FIGURE 2

REGULATION FOR FOREST MANAGEMENT (REFORMA) PROJECT  
IMPLEMENTATION SCHEDULE

CALENDAR YEAR AND QUARTER	1993		1994				1995				1996				1997			
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>GENERAL PROJECT MANAGEMENT</b>																		
Sign Project Agreement	AID/MIRENEM XXXXXX																	
Initial Conditions Precent Completed	MIRENEM XXXXXXXXXXXXXXXX																	
Annual GOCR/PL-480 Budget Submitted	MIRENEM XXXXXXXXXXXXXXXX																	
Subsequent Project Agreements Signed	AID/MIRENEM XXXXXXXXXXXXXXXX																	
Technical Services Grant (TSG) Awarded	AID XXXXXXXXXXXXXXXXXXXX																	
Semi-Annual Reports Submitted	AID/MIRENEM XXX																	
Annual Audit Reports Submitted	MIRENEM XXX																	
Midterm Evaluation Completed	AID XXX																	
Final Evaluation Completed	AID XXX																	
Project Assistance Completion Date	AID/MIRENEM XXX																	
Project Closeout Report Filed	AID XXX																	
<b>IMPLEMENTATION OF PROJECT ACTIVITIES</b>																		
<b>Project Output 1.A</b>																		
Convene "Guia" review committee	TSG XXX																	
Draft Revised "Guia" provided to DGF	TSG XXX																	
Revised "Guia" published	TSG XXX																	
<b>Project Output 1.B</b>																		
Initiate operational research	TSG XXX																	
Publish forest inventory standards	TSG XXX																	
Publish forest inventory software	TSG XXX																	
Establish nat/ing inventory system	TSG XXX																	
Publish deforestation rate estimates	TSG XXX																	
<b>Project Output 1.C</b>																		
Trade analysis contract awarded	AID XXX																	
Review of draft trade analysis	AID/MIRENEM XXX																	
Distribute final trade analysis	AID XXX																	
<b>Project Output 2.A</b>																		
Enhanced staffing plan in budget	MIRENEM XXXXXXXXXXXXXXXX																	
Project positions fully staffed	MIRENEM XXX																	
Construction designs completed	MIRENEM XXX																	

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	CALENDAR YEAR AND QUARTER	1993		1994				1995				1996				1997			
		3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Construction schedule confirmed	MIRENEM		XXX																
Initial construction contracts awarded	MIRENEM				XXX														
Vehicle procurement complete	AID/MIRENEM				XXX														
Equipment procurement complete	MIRENEM					XXX													
Project Output 2.B																			
Develop systems terms of reference	TSG				XXX														
Draft system pilot tested	TSG								XXX										
System hardware purchased	TSG					XXX													
System installed in first area	TSG						XXX												
System debugging and training	TSG									XXXXXXXXXX									
System installed in second area	TSG									XXXXXXXXXX									
System training and supervision	TSG									XXX									
System installed in third area	TSG									XXXXXXXXXX									
System training and supervision	TSG									XXX									
Project Output 2.C																			
Forest Jurisprudence Training						XX				XXX			XXX					XXX	
Forest Jurisprudence Monitoring										XXXXXXXXXX			XXXXXXXXXX					XXXXXXXXXX	
Project Output 3.A																			
Design forester and logger training	TSG					XXX													
Forester training programs	TSG					XXXXXX													
Logger training programs	TSG					XXX					XXX			XXX					XXX
Project Output 3.B																			
Public info. grant (PIG) awarded	AID					XXX													
First newsletter issued	PIG						XXXXXX												
Public service broadcasts	PIG									XX									
National seminars for media/NGO's	PIG									XXXXXXXXXX			XXX					XXX	
Field events for media/NGO's	PIG							XXX			XXX			XXX				XXX	XXX
Forest worker of the year awarded	PIG							XXX			XXX			XXX				XXX	XXX
Project Output 3.C																			
Initial grant awarded	AID					XXXXXXX													
Subsequent grants awarded	AID									XXX			XXX					XXX	
Project Output 3.D																			
Initial grant awarded	AID									XXX									
Subsequent grants awarded	AID												XXX						

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## VI. MONITORING PLAN

### A. Project Monitoring Within USAID/Costa Rica

Recently USAID/Costa Rica embarked on a major downsizing operation which will continue over the course of this project's life. This being the case, it is important that project design anticipates this continuing reduction and incorporates ameliorative features.

Principal USG project monitoring and management responsibilities will be lodged in USAID/Costa Rica's Office of Rural Development. At this time a USDH technician is expected to assume project officer responsibilities for this project through June 1995. Assisted as usual by mission and regional staff offices, this technician will be charged with facilitating GOCR completion of the Conditions Precedent, monitoring GOCR compliance with project covenants, overseeing and expediting the entire gamut of project start-up operations including the initial procurement of project financed goods and services, providing periodic and real time reports of project progress and issues for AID management action, and arranging for the project's first external evaluation.

In June 1995 this technician will transfer and the corresponding position in the Rural Development Office will be eliminated. Therefore, provision has been made in the project budget to secure the services of a contract project manager/monitor. This contractor will be identified and contracted by USAID/Costa Rica by the first half of 1995 to permit an adequate understudy period and facilitate the transfer of project management responsibilities.

### B. Baseline and Progress Monitoring Provisions Internal to Project Design

Project resources will be used to finance several data collection/management and monitoring systems which will be used to establish baselines and track performance over the project's life. These systems will facilitate the identification of problem areas for corrective action by project management.

#### 1. Monitoring losses of natural forest habitat at the national level.

One element of the project's operational research component will assist concerned institutions in developing and instituting a methodology for monitoring land use changes in Costa Rica. Project installed GIS capabilities will then use this methodology to produce estimates of the rate of loss of relatively undisturbed primary forest habitat in Costa Rica. This information will be required by the external evaluations to assess project success at the goal level. Such information is also required to meet USAID/Costa Rica Action Plan reporting requirements.

#### 2. Monitoring DGF processing of management plan and harvest permit applications.

In response to a project condition precedent, the DGF will institute several changes in administrative procedures and put in place a corollary, simple data base system for tracking the progress of individual management plan and harvest permit applications

through the DGF review and approval process. Relatively simple inspection of reports generated by the regional data bases will assist DGF and MIRENEM officials in spotting regions where additional supervisory, personnel or, perhaps, training, resources are necessary. The system will also generate the figures regarding management plan applications submitted approved and required to meet project evaluation, as well as USAID/Costa Rica Action Plan reporting requirements.

3. Monitoring volumes harvested and transported from individual holdings.

The principal function of the project output entitled "computerized inventory/monitoring system" is to serve as a "force multiplier" to improve the efficiency of forestry regulation enforcement at the field level. Its principal clients will be enforcement personnel stationed at road checkpoints who will use either hard copies or the electronic files themselves to verify that passing log trucks contain only legally cut timber. They will do this by ensuring that the tag (or plaquettes) affixed to the logs being transported, have not been used previously. The system will also be used to ensure that the timber being transported (and hence extracted) from an individual holding does not significantly exceed that anticipated in the management plan and previously approved for transport under a harvest permit. Again, at the central level, the system will assist in identifying troubled regions or offices which may be in need of additional resources.

4. Monitoring progress in adjudicating forestry law infractions.

The DGF reports that in 1992 it issued 579 denuncias for infractions of existing forestry law. However, the progress of those infractions through the Costa Rican courts is less clearly understood. A recent study of approximately 100 denuncias issued by national park guards in the Central Volcanic Cordillera for infractions of natural park regulations during the 1989-1991 period found that virtually none of the denuncias were ever tried. Confusion regarding jurisdiction stymied a large portion of the charges. Others were found unconstitutional, and proceedings for the remainder were suspended for various reasons. Therefore, in addition to providing training in forestry jurisprudence to judges and municipal officials, as well as to DGF personnel, another project output will be the institution of a simple system for monitoring the progress of forestry denuncias through the judicial process. Again, it will assist in identifying problem regions and targeting them for increased assistance, as well as in fine-tuning project sponsored jurisprudence training efforts.

5. Monitoring stumpage, retail and wholesale price movements.

Project assisted efforts to improve public information and market development will finance the collection and dissemination of price information regarding a range of forest products. In particular, it is thought that the lack of public information regarding prevailing stumpage prices has seriously constrained the appearance of competitive market conditions and limited the stumpage price negotiation process in the field. These, in turn, have constrained the adoption of sustainable forest management practices generally. Additionally, information regarding stumpage price movements will be required to evaluate the project and for USAID/Costa Rica Action Plan reporting requirements.

FIGURE 3

		METHODS OF IMPLEMENTATION & FINANCING							
		PROJECT NO.5150263.00							
		REGULATION FOR FOREST MANAGEMENT (R E F O R M A)							
BDGT ELEM.	ITEM DESCRIPTION	IMPLEMENTATION METHOD	FINANCING METHOD	HC/AID	HOST COUNTRY IMPLEM.AGENCY	AID	GOCR. COUNT. \$000	GOCR PL- 480	PROJECT TOTAL \$000
I	Technical Services Grantees	AID/GRANT HB.:3				1480.9	0.0	633.6	2114.5
	-A. Review and Revision of Managem. Plan Guidelines	Sub-Contracted/Proc. by Prime Grantees.	Direct Payment by AID	AID	N/A	52.9	0.0	0.0	52.9
		AID approves S.o.W. and Contract. Select.							
	-B. Research to Improve Forest Mang. Practices, Forest Habitat Monitoring	.	.	.	.	336.8	0.0	0.0	336.8
	-C. Computerized Inventory/Monitoring System	.	.	.	.	93.5	0.0	0.0	93.5
	-D. Sustainab's Forestry Technical Training.	.	.	.	.	215.3	0.0	0.0	215.3
	-E. Audits	.	.	.	.	60.0	0.0	0.0	60
	-F. Market and Trade Development (Equipment, Staff, Studies)	.	Direct Payment by Prime Grantee	Other	Prime Grantee	196.3	0.0	0.0	196.3
	-G. Regulation of Forest Jurisprudence Training & Monitoring.	.	.	.	.	125.6	0.0	0.0	125.6
	-H. Regulat Public Information on Sustainable Forest Management	.	.	.	.	173.9	0.0	0.0	173.9
	-I. Regulat Forest Product Trade Reg. Analysis.	.	.	.	.	26.6	0.0	0.0	26.6
	-J. Field NGO Support	Procured by Prime Grantee	.	.	.	200.0	0.0	0.0	200
	-K. DGF Field Operation Strength. (Houses, P.O.L., Vehicles)	Interinstitut Agreement DEP/MIDEPLAN	Direct Payment by DEP	HC	DEP/MIDEPLAN HACIENDA	0.0	0.0	633.6	633.6
II	General Directorate of Forests (DGF)					0.0	895.2	69.0	964.2
	-A. General Direct of Forest/ Salaries	DGF Administration	Budget Approp.	HC	DGF/MIF.ENEM HACIENDA	0.0	895.2	0.0	895.2
	-B. General Direct of Forest Differential, Per-Diem.	PL-480 Bdgt Support Extraord. Bdgt Decree	Bdgt Appr. PL-480 funds	HC	DEP/MIDEPLAN HACIENDA	0.0	0.0	69.0	69
III	AID Administered (Proj. Monitor. and Administration)					260	0	0	260
	-A. Evaluations	AID Direct Contract	Dir. Pay/L. Credit	AID	N/A	100.0	0.0	0.0	100
	-B. Project Monitor	AID Dir. PS Contract	Direct Payment	.	.	160.0	0.0	0.0	160
IV	Contingencies	N/A	N/A	N/A	N/A	259.1	170.7	125	554.8
<b>TOTAL</b>						<b>2000.0</b>	<b>1065.9</b>	<b>827.6</b>	<b>3893.5</b>

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## VII. EVALUATION ARRANGEMENTS

Two external evaluations are anticipated over the project's four-year life. The first evaluation is scheduled to take place approximately 18 months following satisfaction of the conditions precedent. This initial evaluation will:

- determine whether the project goal and purpose remain valid;
- review key project assumptions to weigh their completeness and the likelihood of being fulfilled;
- assess progress towards achieving project outputs;
- identify unanticipated changes in the project's environment;
- identify constraints to overall project progress; and
- recommend remedial measures to improve project performance.

At this time, it is believed that this first evaluation may need to pay particular attention to the following questions:

- is the project focussing on the principal constraints to the adoption of sustainable forest management?
- is the design and institution of additional short-term interventions in order?
- are there promising activities which are underfunded?
- which less promising activities should be closed early to provide the financing required for new or underfunded activities?
- will project activities be completed within the period prescribed by the Project Assistance Completion Date?

Given Section 533 legislative concerns, LAC/DR/E has indicated that it will be particularly interested in the answers to several other questions, including:

- are the new enforcement mechanisms to encourage sustainable forestry techniques adequate?
- has increased stumpage values affected rates of timber harvest in the target areas or on sites outside of the target areas, including protected forests?
- are the national and regional forest management plans adequate to maintain the ecological functioning and endangered, threatened, and keystone species of tropical forests?
- are there additional biological and physical parameters that forest management plans should incorporate to improve forest management planning?

The second evaluation is scheduled to take place approximately 6 months prior to the project assistance completion date. Its principal function will be to document lessons learned from the project for use by future assistance efforts in this sector.

## VIII. SUMMARY OF FINDINGS AND RESPONSES TO PROJECT ANALYSES

The interested reader is referred to Annex I which provides a partial listing of the more important descriptions and analyses of Costa Rica's forestry sector over the past several years. While some of these have focussed on specific technical, financial, economic, administrative or environmental questions, others reflect a more wholistic approach to sector analysis. What follows is a brief distillation of those findings which, if not common to most of the analyses, were the most insightful or influential in designing the REFORMA project.

### A. Technical Analysis

Finding #1: The principal threat to Costa Rica's diverse biological heritage is the loss of its tropical forests, particularly on the less than 200,000 hectares of privately held forested land lying outside the system of national parks and protected areas.

Project Response: The project's operational research component, project output 1.B., includes activities designed to (1) better assess the threat to biodiversity posed by land clearing and logging activities, (2) identify specific areas at highest risk, (3) estimate and report on changes in deforestation rates, and (4) develop procedures for better estimating sustainable rates of timber harvest ("allowable cuts") and allocating this among and within regions.

Finding #2: There is an existing body of known natural forest management techniques (or "sustainable forest management practices") which could significantly minimize the degree of forest destruction if applied more broadly, particularly at the time of timber harvest.

Project Response: Within Costa Rica CATIE, the forestry schools of the University of Costa Rica and the Institute of Technology of Costa Rica, a number of local non-governmental organizations (such as CODEFORSA, BOSCOA and FUNDACOR), international non-governmental organizations, and private sector firms (such as Portico) have been active in developing a body of improved tropical forest management practices. Given that different techniques may be required to maintain forest ecosystem, as opposed to simply maintaining an annual rate of timber growth and removal, and given the long time frames required to assess the impact of various forestry management practices, no one can speak with certainty regarding the ultimate "sustainability" of the techniques or systems developed to date. Again, project output 1.B. will supplement on-going research in this regard. Furthermore, project output 1.A., the periodic review and revision of the government's official guidelines for preparing forest management plans and harvest permit requests, will help ensure that advances in knowledge regarding "sustainable" forest management techniques are reflected in GOCR operating policy and practices at the field level.

Finding #3: The principal factors which could promote increased adoption of more sustainable forest management practices include (1) increased public awareness of the availability and nature of these forest management practices, (2) better returns to forestry as a land use (i.e. higher stumpage prices and decreased farm level costs associated with natural forest management), and (3) more secure land tenure for those lacking official title to their holding.

**Project Response:** Regarding the first factor, project output 3.A., sustainable forestry technical training, will impart detailed knowledge of improved forest management techniques directly to those who are ultimately responsible for what happens on the hillside, i.e. the individuals handling the chainsaws, driving the bulldozers, and performing other timber harvest and management operations. Similarly, project output 3.B., public information on sustainable forest management, and project output 3.C., field NGO support, will increase the awareness and appreciation of sustainable forest management practices among land owners, concerned NGO's, and the broader public. Regarding the second factor, a more efficient and better administered forest regulatory regime is expected to decrease the transaction costs currently encountered by land owners or their agents (normally loggers) when considering forestry as a possible land use. The project's conditions precedent, project outputs 1.A., 1.B., and on-going administrative improvements undertaken by MIRENEM and the DGF are expected to help decrease this cost structure. Also, stumpage and lumber price information collected under project output 1.B. and disseminated under project output 3.B will assist landowners in negotiating better stumpage prices from interested loggers. Furthermore, operational research into Costa Rica's forest product trade regime under project output 1.C. and the development of offshore markets for sustainably produced forest products under project output 3.D. are expected, over the longer-term, to increase stumpage prices and improve the attractiveness of forestry to land owners. Regarding the third factor, land tenure, under a separate project activity, USAID/Costa Rica is financing some operational research into the resolution of land tenure problems in the Osa Peninsula—one of the three pilot areas identified for the REFORMA project. However, additional financial resources beyond the range currently available for this project will be required to resolve the tenure issue nationwide, as well as within Osa. Such assistance for areas lying outside official forest reserves has been made available under an IBRD loan for Costa Rica's agricultural sector. Similar assistance for areas lying within forest reserves may be identified as a fundable component under an extensive IBRD natural resource project which may be signed with the GOCR in 1995. In the meantime, relieving land tenure constraints to the adoption of sustainable forest management practices is considered a critical assumption in the REFORMA project's logical framework matrix.

**Finding #4:** Over at least the short-term, a more effective forest regulatory regime will also be needed, and the principal constraints to improving forest regulatory measures are (1) the lack of a body of enforceable law and regulations, (2) inadequate resources to support enforcement, and (3) insufficient public support for enforcement efforts.

**Project Response:** As is evident in the project logical framework matrix and in the foregoing project description, the inverses of these three constraints served as the basic organizing themes or components in the design of project outputs—(1) appropriate and enforceable regulations, (2) sufficient resources for effective regulation, and (3) public support for regulation. Each of these three requirements is a necessary but insufficient condition to improving the regulatory regime. Therefore, the project has sought to achieve an optimum allocation of available project resources across these three components and their respective project outputs.

## B. Financial Analysis

Finding #1: Returns to landowners adopting sustainable forest management may, in fact, not diverge significantly from returns received by practicing alternative land uses.

Project Response: A number of earlier studies (Stewart, 1992, Kishore and Constantino, 1993) had suggested that returns to practicing sustainable forest management fell far below those received from alternative land uses such as "liquidating" or clear cutting the forest and following the cut with cattle rearing, plantation forestry, etc. This raised the possibility that regardless of the level of resources dedicated to regulating land use in privately held forested areas, these resources would be overwhelmed by market forces or their legal/regulatory basis would eventually be amended through the popular political process. But the findings of these earlier studies also raised the question, "If returns to other land uses are so much higher, then why are landowners even now coming forward in sufficient numbers to keep the largest firms in the business of preparing forest management plans (CODEFORSA, FUNDECOR, BOSCOA, et. al.) working at full capacity?" An additional financial analysis was commissioned as part of REFORMA project design to investigate this question. This brief analysis (Stewart and Howard, 1993) suggests that earlier financial analysis at the farm level mistakenly overestimated the returns to alternative land uses which involved "liquidating" standing forests. As any such liquidation is illegal, it is not a realistic alternative faced by owners of forested land in Costa Rica. While forest regulations may not be all that well applied at present, sufficient sanctions do exist to preclude most land owners from being able to clear cut their land, reap all the immediate benefits identified in the earlier studies, and move on to another land use. There are indeed conversions, but they just do not happen that way. A land owner may consider burning off the forest, but this too is illegal and, again, precludes the capturing of any immediate benefits from selling off the timber. Rather the process of conversion seems to usually involve an initial "heavy cut" of standing timber (after processing a forest management plan with the DGF and receiving a harvest permit) which may capture some benefits, but this is followed by years of repeated illicit "thinning" and grazing under the remaining forest cover until such time as the land is essentially pasture with a few remaining tall trees. In sum, this finding of Stewart and Howard (albeit tentative, "an approximation of the truth" in their words), suggests that the proposed project's regulatory focus will not be flying in the face of insurmountable financial and political forces. Therefore, the principal project response to this finding was to continue with project design and eventual implementation.

Finding #2: Returns to loggers from improved management/harvest can be increased.

Project Response: At present the DGF sets certain parameters which constrain to a greater or lesser extent the actions of those individuals who ultimately decide what will happen on the hillside. In addition to the land owner, the other principal actors in this regard are the logger and his employees--the sawyer, the bulldozer and skidder operators, the truck driver, etc. Therefore, in addition to reviewing the likely financial impact of the project on the land owner (discussed above), a

special analysis was made of the financial impact of the adoption of sustainable forest management practices on the generic Costa Rican logger. This analysis (Howard 1993), suggests that the net effect of adopting these practices will actually be to increase net returns to the logger or the land owner, depending on the degree of market competitiveness reflected in their contract. This increase in returns stems from the logger using his equipment more efficiently, particularly in the construction of extraction roads. Just as more thoughtful and less wasteful road construction minimizes the environmental impact of the logger's activities, it also saves him money in terms of fuel, operator time, and machine wear and tear. In sum, the cost of adopting sustainable forest management practices is not expected to unduly inhibit the adoption of sustainable forest management practices by most Costa Rican loggers. The principal project response to this finding was, again, to continue with project design and eventual implementation. Project output 3.A. will also decrease the cost to the logger of training his workforce by offering them subsidized training in sustainable forest management practices. Furthermore, it is anticipated that such training will eventually be required of loggers and their teams who expect to work on sites where the respective management plans have been prepared by such NGO's as FUNDECOR, BOSCOA, and CODEFORSA.

**Finding #3:** It appears that increases in stumpage prices, which could in turn promote the adoption of sustainable forest management practices, could be one result of liberalizing Costa Rica's trade regime in sustainable produced forest products.

**Project Response:** In response to this finding (see Stewart, 1992 and IBRD, 1993), project output 1.C., forest product trade regime analysis, will finance a more detailed analysis of possible scenarios for relieving import and export controls on forestry products, carefully assessing their likely impact on stumpage as well as intermediate and finished good prices on the operations of land owners, loggers, sawyers, and woodworkers. In addition, project output 3.D., trade and market development, will support international market development and trade promotion for products coming from Costa Rica's sustainably managed forests.

### C. Economic Analysis

**Finding #1:** Although the annual deforestation rate is estimated to have declined sharply since 1973, the economic loss per hectare deforested has increased rapidly with rising wood prices. For 1989, the latest year for which an estimate is available, the economic loss per hectare is estimated at 577,500 colones (1984 prices).

**Project Response:** This loss reflects (1) low rates of utilization of timber volumes in tropical forests, (2) inefficiency within the industry and high tolerance for waste of potentially marketable wood, (3) ignorance of sustainable forest management techniques, and (4) ignorance of the many public and private non-timber values of the forest. By promoting liberalization of the country's trade regime, project outputs 1.C. and 3.D. may in time help drive increased wood use efficiencies in domestic industry. However, more to the point, project outputs 1.A., 1.B., 3.A., 3.B., and 3.C. will directly address the need for more information regarding sustainable forest management practices and the timber and non-timber benefits of managed forestry as a land use.

**Finding #2:** At the national level, the total value added by the forestry and forest industry sectors has, historically, been less than the annual depreciation of the Costa Rica's forest assets, and net value added in forestry has consequently been negative.

**Project Response:** The study that made this finding (Solorzano, Repetto, et. al., 1991) followed up by stating, "Nonetheless, Costa Rica's forest sector could have been an important producer without depreciating its natural resource asset, if it had used a higher percentage of the total wood cut and managed both primary and secondary forests sustainably on those lands suitable for forestry development." Again, the very purpose of the REFORMA project is to promote the adoption of sustainable forest management practices. Given budgetary constraints, its efforts will focus on relatively undisturbed primary forest areas, and it will not be able to directly treat with secondary forests. Also, if project outputs 1.C. and 3.D. prove useful in liberalizing the sector's markets and industrial structure, in time the project may be able to take some credit for improving wood utilization percentages, but this would only be over the longer term.

**Finding #3:** By prohibiting log exports and making it very difficult to export unprocessed forest products (while at the same time protecting products like plywood, doors and furniture), Costa Rica's current forest product trade regime has probably depressed stumpage prices (thereby discouraging the adoption of forestry as a land use) and abetted the appearance of inefficiencies in forest product harvesting and processing.

**Project Response:** Project output 1.C. will finance a fuller examination of the impact of current Costa Rican trade policies on the forestry sector, paying particular attention to how changes in trade policy could promote or constrain the adoption of sustainable forest management practices.

**Finding #4:** Given the objective of preserving natural forest habitat (and assuming forest ecosystems will be maintained in those areas brought under sustainable forest management by the project), the conservation approach supported by the project appears to be much more cost effective than outright purchase and conversion of the forest to parkland.

**Project Response:** The principal project response to this finding was to continue with project design and eventual implementation, but it bears noting that the lack of sufficient resources to purchase new parkland at this time makes the question rather moot.

#### D. Administrative Analysis

**Finding #1:** Within the realm of government operations, effective administration of forestry regulations has been constrained by (1) a mismatch between the mandated responsibilities of the DGF and the resources provided to fulfill these responsibilities and (2) difficulties in prosecuting forestry law infractions through the court system.

**Project Response:** On-going GOOCR forest policy development efforts assisted by USAID/Costa Rica and other foreign donors generally focus on simplifying Costa Rica's legal and regulatory regime to bring it more into line with existing enforcement resources. The success of these efforts is a critical assumption in REFORMA project design. Project conditions precedent will require the DGF to

assign sufficient human resources to the three pilot areas and to ensure adequate GOCR and PL 480 resources are budgetted for the task. The whole objective of project output 3.A. is to ensure sufficient material and logistic, as well as human and budgetary resources, are made available to enforce the regulatory regime in the three pilot areas. Project output 3.B., the computerized planning/monitoring system, is to serve as a force multiplier to improve the efficiency of DGF field operations. Project output 3.C., forest jurisprudence training and monitoring, will help ensure that field enforcement efforts are not undercut by insufficient adjudication of infractions once they are brought to court.

**Finding #2:** Outside the realm of government operations, effective administration of forestry regulations has been constrained by insufficient public support for forest regulatory activities.

**Project Response:** Project output 3.A. will attempt to make the DGF's regulatory burden a little lighter by ensuring the people whose actions the DGF will be regulating know what is expected of them under GOCR forestry law and regulation and are familiar with and trained in sustainable forestry management practices. Project outputs 3.B. and 3.C. will help ensure the public as a whole, particularly landowners and NGO's living and working in the project three pilot areas, is familiar with and aware of the benefits of adopting sustainable forest management practices. Finally, industrial development activities supported under project output 3.D. will seek to ensure that private citizens with a stake in the forestry industry have a role in the design of GOCR forest policy and are able to serve as a countervailing force capable of demanding accountability from the GOCR and its administrative organs.

#### E. Social Soundness Analysis

**Finding #1:** Many owners of forest land are in favor of exploiting their remaining forests in a sustainable way, predicting scarcity of timber in the future, but their aspirations are conditioned on the availability of viable agricultural options, including better possibilities for marketing products. In the case of small and medium farmers, when these conditions are lacking, forest resources are used as an immediate form of income for subsistence.

**Project Response:** This finding indicates there is indeed scope for promoting both forestry as a viable land use and the adoption of sustainable forest management practices. Getting better stumpage price information to landowners, as well as information regarding the nature of sustainable forest management practices, are critical and will be pursued under project outputs 1.B., 3.B., and 3.C. Promoting the appearance of deeper and more diverse markets through international trade and market development will also be pursued under project outputs 1.C. and 3.D.

**Finding #2:** Loggers play a pivotal role in extraction and marketing, but the level of formal technical education among logger is low.

**Project Response:** In recognition of the very important role played by loggers and their employees in determining what actually happens on the hillside, project output 3.A. has been designed to promote the adoption of sustainable forest management practices by loggers and their employees. Short term technical training specifically designed for these individuals will improve their general knowledge of the nature and need for sustainable practices, but perhaps more importantly will provide practical, in-field training in using the techniques themselves.

## F. Environmental Analysis

Finding #1: While there is room for improvement, the Costa Rica system of national parks and protected areas (approximately 500,000 hectares) has done an admirable job of protecting the country's rich biological legacy.

Project Response: Other projects in USAID/Costa Rica's portfolio, not to mention the efforts of other international donors and nongovernmental agencies, seek to strengthen the GOCR system of parks and protected areas. In designing the proposed project, the continuing success of GOCR and donor efforts to strengthen the system is treated as a critical assumption.

Finding #2: The future of relatively undisturbed primary forests lying outside of the system (approximately 200,000 hectares) is quite stark, and at present promoting the adoption of improved or "sustainable" forest management practices appears to be the only realistic way to forestall continued degradation and ultimate loss of these forested areas.

Project Response: The project recognizes that the options for minimizing damage in the privately held forest lands are few. It is very unlikely the GOCR will be in any position to purchase this forested land and use it to expand the system of parks and protected areas. Additional financial resources for purchasing parkland appear only infrequently and are often directed to purchase current "inholdings" (i.e. privately held land within existing park boundaries). Therefore, the best that concerned public and private sector institutions can hope to do is to influence private land use decisions through policy and project interventions. The wholesale clearing and conversion of forest to agricultural uses is now constrained by the current, albeit weak regulatory regime. However, conversion continues through a slightly slower process of forest degradation which involves an initial "heavy cut" followed by frequent thinnings of the understory and grazing. At present, the adoption of improved or "sustainable" forest management practices appears to be the only possibility for minimizing damage to the forest ecosystem on these private holdings. As mentioned in VIII.A. above, the principal factors which can promote increased adoption of more sustainable forest management practices include (1) increased public awareness of the availability and nature of these forest management practices, (2) better returns to forestry as a land use (i.e. higher stumpage prices and decreased farm level cost structure associated with natural forest management), (3) more secure land tenure for those lacking official title to their holdings, and (4) a more effective forest regulatory regime. The question of more secure tenure will not be addressed directly by this project, and must be treated as a critical project assumption. The other three factors are all being addressed by project outputs (please see discussion in Section VIII.A. above).

Finding #3: Certain mitigative measures identified by an environmental assessment team reviewing the project concept paper may be in order to forestall the negative aspects of project financed activities.

Project Response: Please refer to Annex H of the project paper for a full description of how these mitigative measures have been incorporated into project design.

ANNEX A

PID APPROVAL MESSAGE  
(State 151561 of May 13, 1992)

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ACTION AID-2 INFO AMB DCM ECON/5

# ACTION

POD/AP

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 RR RUEHSJ  
 DE RUEHC #1561/01 1340655  
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 R 130650Z MAY 92  
 FM SECSTATE WASHDC  
 TO AMEMBASSY SAN JOSE 0323  
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 UNCLAS SECTION 01 OF 03 STATE 151561

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E.O. 12356: N/A

TAGS:

SUBJECT: REVIEW OF USAID/COSTA RICA PROGRAM OBJECTIVES  
 DOCUMENT (POD) FOR FY 1992 - 1996 AND FY 1993 - 1994  
 ACTION PLAN (AP)

1. AMBASSADOR JAMES MICHEL, AA/LAC, CHAIRED USAID/COSTA RICA'S POD/AP REVIEW ON TUESDAY, MARCH 17, 1992. REPRESENTATIVES OF LAC/CEN, LAC BUREAU FUNCTIONAL OFFICES AND STATE/ARA PARTICIPATED IN THE REVIEW. THE MISSION WAS REPRESENTED BY DIRECTOR RONALD VENEZIA, OFFICE OF PROJECT DEVELOPMENT CHIEF PETER KRANSTOVER AND OFFICE OF ECONOMIC ANALYSIS CHIEF JUAN BELT.

2. AMB. MICHEL OPENED THE REVIEW BY STATING THAT IN THE YEARS AHEAD THE USAID PROGRAM IN COSTA RICA WOULD BE GOING THROUGH AN ADJUSTMENT PROCESS AS USAID RESOURCES DECLINE IN ANTICIPATION OF COSTA RICA'S APPROACHING MORE DEVELOPED COUNTRY STATUS. HE NOTED THAT USAID'S RELATIONSHIP WITH COSTA RICA IS EVOLVING, AND THAT WE MUST PLAN OUR CHANGING ROLE VERY CAREFULLY. RECOGNIZING THAT DECREASING AND UNCERTAIN RESOURCES MAKE PLANNING DIFFICULT AND IMPERFECT, AMB. MICHEL STRESSED THE IMPORTANCE OF THE PLANNING PROCESS. IN HIS OPENING REMARKS, DIRECTOR VENEZIA NOTED THAT A SOFT LANDING FOR OUR ASSISTANCE RELATIONSHIP SHOULD

NOT BE TAKEN FOR GRANTED. HE EMPHASIZED THE NEED TO AVOID A NEGATIVE ENDING TO A LONG-STANDING POSITIVE BILATERAL ASSISTANCE RELATIONSHIP BY CAREFULLY PLANNING THE PROCESS OF A USAID PHASE-DOWN IN COSTA RICA.

3. ISSUE 1: DOES THE POD ADEQUATELY PRESENT A PROGRAM STRATEGY FOR (1) THE ENTIRE FY 92-96 PLANNING PERIOD, AND FOR (2) PHASING DOWN TO A SMALLER, MORE FOCUSED PROGRAM BY THE END OF THE PLANNING PERIOD?

DISCUSSION/DECISION: DIRECTOR VENEZIA NOTED THAT THE MISSION DEVELOPED ITS SHORT- AND MEDIUM-TERM STRATEGY IN THE CONTEXT OF THE COSTA RICAN ELECTIONS OF 1994 AND UNCERTAINTY REGARDING AID FUNDING LEVELS. HE CLARIFIED THAT THE MISSION PLANS TO PURSUE ITS THREE STRATEGIC OBJECTIVES OVER THE PLANNING PERIOD AS FOLLOWS: 1) PUBLIC SECTOR EFFICIENCY -- THE MISSION WILL PUSH VERY HARD ON THIS OVER THE NEXT TWO YEARS, AFTER WHICH IT IS ASSUMED

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USAID/Costa Rica	
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Due date: 5-21	
Action taken: AMR	
Initials: [unclear]	

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THAT THE IFIS WILL PROVIDE SUBSTANTIAL SUPPORT TO THIS AREA AND THE MISSION CAN DELETE IT AS A STRATEGIC OBJECTIVE; 2) TRADE AND INVESTMENT -- THE MISSION WILL PURSUE THIS OBJECTIVE AS LONG AS THE BAI REMAINS A USG INITIATIVE; 3) NATURAL RESOURCE MANAGEMENT -- THE MISSION WILL PURSUE THIS OBJECTIVE THROUGHOUT THE PLANNING PERIOD. DIRECTOR VENEZIA SUGGESTED THAT USAID/COSTA RICA SUBMIT A REVISED POD AFTER TWO YEARS TO REFLECT CHANGES IN COSTA RICAN GOVERNMENT POLICIES AND IN USG PROGRAM PRIORITIES AND FUNDING AVAILABILITY. THE POD STRATEGY WAS APPROVED AND IT WAS AGREED TO SUBMIT A REVISED POD AFTER TWO YEARS. AMB. MICHEL SUGGESTED THAT THE MISSION INCORPORATE ITS PARTICIPATION IN REGIONAL INITIATIVES INTO ITS STRATEGY AS PART OF ITS FUTURE STRATEGIC PLANNING PROCESS.

1994

4. ISSUE 2: GIVEN THAT NATURAL RESOURCES MANAGEMENT IS A STRATEGIC OBJECTIVE, IS THE MISSION'S FOCUS ON PROTECTED-AREA CONSERVATION ACTIVITIES AND FORESTRY LWF ENFORCEMENT BROAD ENOUGH IN SCOPE? ARE FUNDING LEVELS ADEQUATE?

DECISION: THE MISSION EXPLAINED THAT USAID/COSTA RICA'S FOCUS AND RESOURCES WERE BEING PUT INTO THE MOST CRITICAL NATURAL RESOURCE MANAGEMENT AREAS IN NEED OF SUPPORT. THIS STRATEGY WOULD ALLOW THE MISSION TO LEVERAGE ADDITIONAL FUNDING FROM OTHER DONORS TO SUPPORT NATURAL RESOURCE MANAGEMENT. THE MISSION'S FOCUS WAS APPROVED.

5. ISSUE 3: WHAT IS THE RATIONALE FOR CONTINUED ACTIVITIES IN THE JUSTICE SECTOR THROUGH FY 1997? DOES IT MAKE SENSE FOR THE MISSION TO FUND THE PROPOSED DOLLARS 2 MILLION FOLLOW-ON PROJECT (JSIP)?

DECISION: AMB. MICHEL NOTED THAT WHILE SUBSTANTIAL PROGRESS HAS BEEN MADE IN THIS AREA, THERE IS STILL UNFINISHED BUSINESS, PARTICULARLY IN INSTITUTIONALIZING JUDICIAL IMPROVEMENTS. THE LAC BUREAU CONCURS WITH THE MISSION PROPOSAL AND DELEGATES AUTHORITY TO APPROVE THE PID TO THE MISSION.

6. ISSUE 4: SHOULD THE MISSION, IN THE EVENT OF A BUDGET REDUCTION, FIRST REDUCE FUNDING LEVELS IN ITS AREAS OF STRATEGIC IMPORTANCE? ?!

DECISION: MISSION REPRESENTATIVES EXPLAINED THAT PROGRAM BUDGET CUTS WOULD BE ABSORBED BY REDUCTIONS IN THE CAPS PROGRAM, RATHER THAN BY PROJECTS DIRECTLY UNDER THE MISSION'S STRATEGIC OBJECTIVES. AMBASSADOR MICHEL AGREED WITH THIS APPROACH, BUT REMINDED THE MISSION THAT CAPS IS AN IMPORTANT TOOL FOR SUPPORTING THE ACHIEVEMENT OF THE

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## STRATEGIC OBJECTIVES.

7. ISSUE 5: INDUSTRIAL DEVELOPMENT NPD: SHOULD THE MISSION INITIATE THIS THREE-YEAR, DOLLARS 2 MILLION INDUSTRIAL RECONVERSION PROJECT?

DECISION: THE DAEC AGREED THAT THE MISSION SHOULD INITIATE SOME TYPE OF TRADE AND INVESTMENT PROJECT IN FY 1994. THIS DOLLARS 2 MILLION PROJECT IS TO BE INCLUDED IN THE ABS, BUT THE MISSION WILL SUBMIT A REVISED NPD TO AID/W ONCE THERE IS A CLEARER IDEA OF THE PROPOSED PROJECT DESIGN.

8. ISSUE 6: REGIONAL PROGRAMS: WHAT ARE LAC BUREAU EXPECTATIONS REGARDING USAID/COSTA RICA'S SUPPORT FOR REGIONAL AND AID/W PROGRAMS?

DECISION: DISCUSSION OF THIS ISSUE WAS DEFERRED TO THE UPCOMING DIRECTOR'S CONFERENCE. AMB. MICHEL STATED THAT THE BUREAU WILL AT SOME POINT NEED TO CONSIDER THE IDEA OF PULLING TOGETHER SUPPORT SERVICES FOR CENTRAL AMERICA INTO ONE LOCATION.

## 9. NPD REVIEW CLARIFICATION:

A. NONTRADITIONAL AG. EXPORTS NPD (515-2237): THE BUREAU CONCURS IN MISSION'S EXECUTION OF THE PROPOSED PROJECT AMENDMENT. THIS INITIATIVE, WHICH INVOLVES ADDING A QUALITY CONTROL COMPONENT TO THE PROJECT, FITS WELL UNDER THE MISSION'S IMPROVED BUSINESS CLIMATE STRATEGIC OBJECTIVE.

B. SUPPORT TO PRIVATE VOLUNTARY ORGANIZATIONS NPD (515-0252): THE PROPOSED PROJECT AMENDMENT WOULD INCREASE THE LOAN-TO-PVOS LINE ITEM BY DOLLARS 1 MILLION, WITH THE INTENTION OF ASSISTING ACCORDE'S TRANSITION TO SELF-SUFFICIENCY. SUSTAINABILITY ISSUES HAVE NOT BEEN ADEQUATELY FACTORED INTO PAST ASSISTANCE TO THE INSTITUTION, AND THUS THE MISSION FEELS THAT ADDITIONAL FUNDING IS NEEDED FOR ENSURING ACCORDE'S FUTURE SELF-SUFFICIENCY. THE MISSION IS CURRENTLY UNDERTAKING A STUDY OF ACCORDE, LOOKING AT ITS INSTITUTIONAL STRUCTURE, LINKAGES, POSSIBILITIES FOR FINANCIAL INTERMEDIATION, AND IMPLICATIONS FOR SUSTAINABILITY. THE MISSION SHALL PROVIDE A REPORTING CARLE DESCRIBING THE FINDINGS OF THE STUDY. FOLLOWING THIS REPORT THE MISSION IN CONSULTATION WITH AID/W WILL DETERMINE WHETHER TO GO FORWARD WITH THE PROJECT AMENDMENT.

C. FORESTRY CONSERVATION AND MANAGEMENT (FOSCOSA) NPD (515-0255): LAC PROVIDES PROGRAM CONCURRENCE FOR THE MISSION TO CARRYOUT THE PROJECT AMENDMENT, PENDING SUCCESSFUL COMPLETION OF THE REQUIRED ENVIRONMENTAL ASSESSMENT. RECENT U.S. LEGISLATION STIPULATES THAT NO NEW USAID FUNDS CAN BE ALLOCATED TO PROJECTS WHICH INVOLVE CUTTING OF TREES AND NATURAL FORESTS UNLESS AN ENVIRONMENTAL ASSESSMENT IS CARRIED OUT. THIS ASSESSMENT MUST BE REVIEWED BY AID/W TO ENSURE THAT THE PROJECT: 1)

*How does this  
look?*

PROGRAM TO COMPLEMENT AND ENHANCE THE EMERGING CENTRAL AMERICAN EFFORT TO REFORM AND STRENGTHEN REGIONAL APPROACHES TO COMMON PROBLEMS. THE MISSION HAS PLAYED A STRONG ROLE IN THE EARLY EFFORTS TO DEFINE REGIONAL APPROACHES, INCLUDING CRITICAL SUPPORT FOR THE WORK OF THE PARTNERSHIP FOR DEMOCRACY AND DEVELOPMENT (PDD), THE PRESIDENT'S ENTERPRISE FOR THE AMERICAS INITIATIVE (EAI), AND ECONOMIC, TRADE AND FINANCIAL COORDINATION EFFORTS INITIATED BY OR SUPPORTED JOINTLY WITH ROCAP AND THE BUREAU.

11. MONITORING SYSTEM: THE FOI/AP DOES NOT ELABORATE ON THE MISSION-WIDE SYSTEM FOR MONITORING AND EVALUATING ACHIEVEMENT OF MISSION OBJECTIVES AND PROGRAM OUTPUTS. THE BUREAU SUGGESTS THAT A MONITORING AND EVALUATION (MSE) PLAN FOR EACH STRATEGIC OBJECTIVE BE PREPARED BY INTER-OFFICE TEAMS RESPONSIBLE FOR ACHIEVEMENT OF EACH OBJECTIVE. LAC/DPP/SDPF WILL PROVIDE ASSISTANCE UPON REQUEST.

*we need to work on this.*

12. AP CLARIFICATIONS: CAPS MORTGAGE: IN RESPONSE TO THE RAPID DECLINE IN RESOURCES OVER THE PAST SEVERAL YEARS, THE MISSION REQUESTED LAC CONCURRENCE TO REDUCE THE CAPS II LOP FROM DOLLARS 13 MILLION TO DOLLARS 8 MILLION. THE BUREAU CONCURS WITH THIS PROPOSAL, AND IT IS UNDERSTOOD THAT THIS REPRESENTS A MINIMUM LEVEL FOR MISSION PLANNING. LAC SUGGESTS THE MISSION BE CREATIVE IN USING THE CAPS PROGRAM TO TRAIN POTENTIAL LEADERS IN DEVELOPMENT AREAS WHICH ARE CRITICAL TO THE MISSION'S STRATEGIC OBJECTIVES.

13. INVESTMENT DISPUTES: DOLLARS 10 MILLION OF ECF RESOURCES FROM THE FY 1989 PROGRAM CONTINUES TO BE UNDISBURSED BECAUSE OF ISSUES ASSOCIATED WITH SPECIFIC INVESTMENT DISPUTES. THE MISSION REPORTED THAT MARCH 31 WAS THE DEADLINE FOR THE COUNTRY TEAM TO DETERMINE WHETHER SIGNIFICANT PROGRESS HAD BEEN MADE IN RESOLVING THESE DISPUTES. STATE/USAID WASHINGTON WILL REVIEW THE COUNTRY TEAM'S RECOMMENDATIONS BEFORE DISPOSITION OF THE DOLLARS 10 MILLION.

*still pending*

14. PERSONNEL: GIVEN THE SUBSTANTIAL DECLINE IN MCRF TRADITIONAL AGRICULTURAL ACTIVITIES AND THE SINGLE NEW START IN NTAES, THE MISSION WILL MAKE AN EFFORT TO CONVERT ONE OF THE BACKSTOP 10 POSITIONS IN THE RURAL DEVELOPMENT OFFICE INTO A BACKSTOP 30 ENVIRONMENT AND NATURAL RESOURCES POSITION. BAKER

*Baker?!*

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ANNEX B  
LOGICAL FRAMEWORK MATRIX

**Regulation for Forest Management (REFORMA)  
Project Logical Framework Matrix**

GOAL	<u>Quantitative Indicators</u>	<u>Means of Verification</u>	<u>Critical Assumptions</u>
To preserve natural forest habitat.	150,000 hectares outside national park	Project financed survey	
<b>PURPOSE</b>			
To promote the adoption of sustainable forest management practices.	<p>1. Increase in number and quality of the management plans submitted for DGF approval, approved and verified in force;</p> <p>2. The institution of a simplified body of forestry regulation and related procedures which are more conducive to the adoption of sustainable forest mgmt. practices and are more realistic given the level of resources available for enforcement;</p> <p>3. Increase concentration of DGF personnel in those regions accounting for the bulk of Costa Rica relatively undisturbed primary forests lying outside the country's protected areas;</p> <p>4. Regional DGF personnel provided sufficient amenities (such as housing and adequately equipped to promote higher levels of morale and enforcement effectiveness.</p> <p>5. Substantially increased percentage of infractions brought to court, effectively prosecuted, and adjudicated by DGF and judicial personnel;</p>	<p>DGF records</p> <p>Independent surveys as part of project evaluations</p>	<ol style="list-style-type: none"> <li>1. International market opportunities for Costa Rican tropical forest products will increase over the longer-term and returns to forestry as a land use will be favorable viz alternatives.</li> <li>2. Costa Rican producers will continue to satisfy sustainable forest management certification requirements.</li> <li>3. The GOCR will remove any legal requirements that land titling be associated with the removal of forest cover.</li> </ol>

6. Sufficient confidence in the country's forest regulatory procedures and institutions to permit the lifting of the export ban on logs and rough sawn timber which will allow stumpage values to rise and more accurately reflect international practices.

7. A real decrease in transaction costs associated with management plan preparation and other preharvest operations associated with sustainable forest management and a related increase in the number of management plans annually submitted for DGF approval, approved by the DGF, and verified in force.

8. Increased understanding among the general public of the nature and need for sustainable forest management in Costa Rica's relatively undisturbed natural forests lying outside the country's protected areas;

9. Increased understanding of the nature, need for, and techniques which constitute sustainable forest management among private sector forestry workers at the supervisory level, but particularly among field level machinery operators, tree fellers and forestry workers;

10. The institution of system by which timber exported from Costa Rica's relatively undisturbed natural forest can be certified or guaranteed to have come from a sustainable managed forest.

**FOREST REGULATION FOR SUSTAINABLE MANAGEMENT PROJECT (REFORMA)  
LOG FRAME**

<b>Project Elements</b>	<b>Project Objectives</b>	<b>Outputs</b>	<b>Inputs (Totals)</b>
<b>I. Appropriate and Enforceable Regulations</b>	<b>A. Review and revision of management plan guidelines</b>	<ol style="list-style-type: none"> <li>1. Establishment of a mechanism for continual monitoring and updating of technical content and administrative procedures for forest management plans authorized by the DGF</li> <li>2. At least two formal revision to the guide for writing and submission of forest management plans, (1994 and 1996)</li> </ol>	\$52,800
	<b>B. Research to improve forest management practices and forest habitat monitoring</b>	<ol style="list-style-type: none"> <li>1. Establishment of the capability within an existing institution to engage in strategic planning for the forestry sector. The following products will be produced: <ul style="list-style-type: none"> <li>- A computer model for compiling inventory data</li> <li>- Specification of standard procedures</li> <li>- A stand simulation model for designing sustainable silvicultural prescriptions</li> <li>- A national system of permanent plots for research</li> <li>- A computer model for conducting resource supply analysis</li> </ul> </li> </ol>	\$336,850
	<b>C. Forest product trade regime analysis</b>	<ol style="list-style-type: none"> <li>2. To determine the actual magnitude of trade distortions in the forest sector and assess how the current trade regime affects the structure of forest products prices in general</li> </ol>	\$26,800
<b>II. Sufficient Resources for Effective Regulations</b>	<b>A. DGF Field Operations Strengthening</b>	<ol style="list-style-type: none"> <li>1. There must be well designed regulatory instruments which both reward compliance and permit the timely and efficient identification of violations of the law</li> </ol>	\$1,397,804
	<b>B. Computerized Inventory</b>	<ol style="list-style-type: none"> <li>1. This project output will design and implement a system for control and enforcement of legal cutting of timber in Coasta Rica. The backbone will be a database computer program which will be used by enforcement personnel stationed at road checkpoint to verify that passing log truck contain only legally cut timber</li> </ol>	\$93,500
	<b>C. Computerized inventory/monitoring system</b>	<ol style="list-style-type: none"> <li>1. A fully tested and operational database management for tracking the history of cutting permits including the volume harvested</li> <li>2. A complimentary program for calculating log volumes and issuing tags to landowner agent</li> <li>3. DGF regional staff fully trained in the use of the system</li> <li>4. A manual of procedures for DGF checkpoint personnel for log scaling and recording data on truckloads of logs</li> <li>5. DGF regional road checkpoint staff fully trained in log scaling and data entry procedures</li> </ol>	\$93,500

	C. Forest Jurisprudence Training	<ol style="list-style-type: none"> <li>1. Initial jurisprudence training of 90 key personnel in the enforcement chain</li> <li>2. Development of a monitoring and reporting service for court cases involving the Forest Law and related legislation</li> <li>3. Refresher jurisprudence training of 90 key personnel in the enforcement chain</li> </ol>	\$125,390
III. Public Support for Regulation	A. Sustainable Forestry Technical Training	<ol style="list-style-type: none"> <li>1. 160 DGF and consulting foresters trained in the design, execution, and compliance of best forest management practices</li> <li>2. 400 loggers and DGF technicians trained in best logging practices</li> <li>3. Two fully developed and operational training programs, one for foresters and one for loggers and DGF technicians</li> <li>4. The infrastructure for establishment and maintenance of a national logger certification program including provisions for periodic review</li> <li>5. A nationally circulated newsletter on best forest management practices including logging methods</li> </ol>	\$215,303
	B. Public Information on Sustainable Forest Management	<ol style="list-style-type: none"> <li>1. 3 TV and 3 radio public service announcement spots to be broadcast during the first year</li> <li>2. A total of 12 field events for informing the local print and broadcast media and local environmental NGO's about project developments and progress towards promoting sustainable forest management</li> <li>3. A total of 12 similar national seminars</li> <li>4. Establishment of a national newsletter reporting on sustainable management within the country with a domestic and international circulation</li> <li>5. Establishment of a "forest worker of the year" and "forester of the year" award to be financed by private industry</li> </ol>	\$173,910
	C. Local NGO Support	<ol style="list-style-type: none"> <li>1. The purpose of this component is to strengthen local institutions' ability to promote the adoption of sustainable forest management practices within the pilot area</li> </ol>	\$200,000
	D. Market Trade and Development	<ol style="list-style-type: none"> <li>1. To support market development and trade opportunities based on the comparative advantage of Costa Rica's forest products in the international marketplace.</li> </ol>	\$796,566

ANNEX C

STATUTORY CHECKLIST

- 5C(1) 1993 Country Checklist
- 5C(2) Assistance Checklist

## COSTA RICA - 1993

## 5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable to the eligibility of countries to receive the following categories of assistance: (A) both Development Assistance and Economic Support Funds; (B) Development Assistance funds only; or (C) Economic Support Funds only.

A. COUNTRY ELIGIBILITY CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUND ASSISTANCE

1. Narcotics Certification

(FAA Sec. 490): (This provision applies to assistance provided by grant, sale, loan, lease, credit, guaranty, or insurance, except assistance relating to international narcotics control, disaster and refugee relief assistance, narcotics related assistance, or the provision of food (including the monetization of food) or medicine, and the provision of non-agricultural commodities under P.L. 480. This provision also does not apply to assistance for child survival and AIDS programs which can, under section 542 of the FY 1993 Appropriations Act, be made available notwithstanding any provision of law that restricts assistance to foreign countries.) If the recipient is a "major illicit drug producing country" (defined as a country producing during a fiscal year at least five metric tons of opium or 500 metric tons of coca or marijuana) or a "major drug-transit country" (defined as a country that is a significant direct source of illicit drugs significantly affecting the United States, through which such drugs are transported, or through which significant sums of drug-related profits are laundered with the knowledge or complicity of the government):

Costa Rica is not a major illicit drug country or a major transit country.

(1) has the President in the April 1 International Narcotics Control Strategy Report (INSCR) determined and certified to the Congress (without Congressional enactment, within 45 calendar days, of a resolution disapproving such a certification), that (a) during the previous year the country has cooperated fully with the United States or taken adequate steps on its own to satisfy the goals and objectives established by the U.N. Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, or that (b) the vital national interests of the United States require the provision of such assistance?

(2) with regard to a major illicit drug producing or drug-transit country for which the President has not certified on April 1, has the President determined and certified to Congress on any other date (with enactment by Congress of a resolution approving such certification) that the vital national interests of the United States require the provision of assistance, and has also certified that (a) the country has undergone a fundamental change in government, or (b) there has been a fundamental change in the conditions that were the reason why the President had not made a "fully cooperating" certification.

2. Indebtedness to U.S. citizens (FAA Sec. 620(c): If assistance is to a government, is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, (b) the debt is not denied or contested by such government, or (c) the indebtedness arises under an unconditional guaranty of payment given by such government or controlled entity?

3. Seizure of U.S. Property (FAA Sec. 620(e)(1)): If assistance is to a government, has it (including any government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities

We are not aware of any debts the Government of Costa Rica (GOCR) owes to any U.S. citizen for goods and services that meet the criteria set forth in this section.

In the 1970's the GOCR did expropriate property belonging to nine American citizens without making prompt, adequate and effective compensation. Of the seven remaining cases three are under binding

beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?

arbitration agreements. A fourth has been resolved through the lifting of the expropriation decree by the GOCR. All remaining cases are currently in negotiations between the GOCR and the landowners. On March 16, 1993, the Costa Rican Legislative Assembly passed a bill to have Costa Rica accede to the International Convention for the Settlement of Investment Disputes.

4. Communist countries (FAA Secs. 620(a), 620(f), 620D; FY 1993 Appropriations Act Secs. 512, 543): Is recipient country a Communist country? If so, has the President: (a) determined that assistance to the country is vital to the security of the United States, that the recipient country is not controlled by the international Communist conspiracy, and that such assistance will further promote the independence of the recipient country from international communism, or (b) removed a country from applicable restrictions on assistance to communist countries upon a determination and report to Congress that such action is important to the national interest of the United States? Will assistance be provided either directly or indirectly to Angola, Cambodia, Cuba, Iraq, Libya, Vietnam, Iran or Syria? Will assistance be provided to Afghanistan without a certification, or will assistance be provided inside Afghanistan through the Soviet-controlled government of Afghanistan?

No.

5. Mob action (FAA Sec. 620(j)): Has the country permitted, or failed to take adequate measures to prevent, damage or destruction by mob action of U.S. property?

No.

6. OPIC Investment Guaranty (FAA Sec. 620(l)): Has the country failed to

No.

enter into an investment guaranty agreement with OPIC?

7. Seizure of U.S. Fishing Vessels (FAA Sec. 620(b); Fishermen's Protective Act of 1967 (as amended) Sec. 5): (a) Has the country seized, or imposed, any penalty or sanction against, any U.S. fishing vessel because of fishing activities in international waters? (b) If so, is any deduction required by the Fishermen's Protective Act been made? No.

8. Loan Default (FAA Sec. 620(f); FY 1993 Appropriations Act Sec. 518 (Brooke Amendment)): (a) Has the government of the recipient country been in default for more than six months on interest or principal of any loan to the country under the FAA? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the FY 1990 Appropriations Act appropriates funds? No.

9. Military Equipment (FAA Sec 620(s)): If contemplated assistance is development loan or to come from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget and amount of the country's foreign exchange or other resources spent on military equipment? (Reference may be made to the annual "Taking into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.) Costa Rica does not have military forces.

10. Diplomatic Relations with U.S. (FAA Sec. 620(t)): Has the country severed diplomatic relations with the United States? If so, have relations been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? No.

11. U.N. Obligations (FAA Sec. 620(a)): What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the A.I.D. Administrator in determining the current A.I.D. Operational Year Budget? (Reference may be made to the "Taking into Consideration" memo.)

Costa Rica's arrearages were taken into account by the Administrator at the time of approval of the FY 94 Agency OYB. Costa Rica is not in arrears to the extent described in Article 19 of the U.N. Charter.

## 12. International Terrorism

a. Sanctuary and support (FY 1993 Appropriations Act Sec. 554; FAA Sec. 620A): Has the country been determined by the President to: (a) grant sanctuary from prosecution to any individual or group which has committed an act of international terrorism, or (b) otherwise support international terrorism, unless the President has waived this restriction on grounds of national security or for humanitarian reasons?

No.

b. Airport Security (ISDCA of 1985 Sec. 552(b)): Has the Secretary of State determined that the country is a high terrorist threat country after the Secretary of Transportation has determined, pursuant to section 1115(a)(2) of the Federal Aviation Act of 1958, that an airport in the country does not maintain and administer effective security measures?

No.

13. Discrimination (FAA Sec. 666(B)): Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

No.

14. Nuclear Technology (FAA Secs. 669, 670): Has the country, after August 3, 1977, delivered to any other country or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards, and without special certification by the President? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device? If the country is a

No.

non-nuclear weapon state, has it, on or after August 8, 1985, exported (or attempted to export) illegally from the United States any material, equipment, or technology which would contribute significantly to the ability of a country to manufacture a nuclear explosive device? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)

15. **Highers Meeting (ISDCA of 1981, Sec. 720):** Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Assembly of the U.N. on Sept. 25 and 28, 1981, and did it fail to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the "Taking into Consideration" memo.)

Costa Rica was not represented.

16. **Military Coup (FY 1993 Appropriations Act Sec. 513):** Has the duly elected Head of Government of the country been deposed by military coup or decree? If assistance has been terminated, has the President notified Congress that a democratically elected government has taken office prior to the resumption of assistance?

No.

17. **Refugee Cooperation (FY 1993 Appropriations Act Sec. 538):** Does the recipient country fully cooperate with the international refugee assistance organizations, the United States, and other governments in facilitating lasting solutions to refugee situations, including resettlement without respect to race, sex, religion, or national origin?

Yes.

18. **Exploitation of Children (FAA Sec. 116(b)):** Does the recipient government fail to take appropriate and adequate measures, within its means, to protect children from exploitation, abuse or forced conscription into military or paramilitary services?

No.

B. **COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO DEVELOPMENT ASSISTANCE ("DA")**

N.A.

1. **Human Rights Violations (FAA Sec. 116):** Has the Department of State

determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

2. **Abortions (FY 1993 Appropriations Act Sec. 5341)** Has the President certified that use of DA funds by this country would violate any of the prohibitions against use of funds to pay for the performance of abortions as a method of family planning, to motivate or coerce any person to practice abortions, to pay for the performance of involuntary sterilization as a method of family planning, to coerce or provide any financial incentive to any person to undergo sterilizations, to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?

C. **COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO ECONOMIC SUPPORT FUNDS ("ESF")**

**Human Rights Violations (FAA Sec. 502B):** Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the President found that the country made such significant improvement in its human rights record that furnishing such assistance is in the U.S. national interest? No.

## 5C(2) - ASSISTANCE CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of a country to receive assistance. This section is divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources. Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

**CROSS REFERENCE: IS COUNTRY CHECKLIST UP TO DATE?**

### **A. CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS**

**1. Host Country Development Efforts (FAA Sec. 601(a)):** Information and conclusions on whether assistance will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

The assistance will support international market development and trade promotion, foster private initiative and competition, and improve the technical efficiency of industry, agriculture and commerce.

**2. U.S. Private Trade and Investment (FAA Sec. 601(b)):** Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

N/A

### **3. Congressional Notification**

**a. General requirement (FY 1991 Appropriations Act Secs. 523 and 591; FAA Sec. 634A):** If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the notification requirement has been waived because of substantial risk to human health or welfare)?

A Congressional Notification has been issued.

b. **Notice of new account obligation** (FY 1991 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?

N/A

c. **Cash transfers and nonproject sector assistance** (FY 1991 Appropriations Act Sec. 575(b)(3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic policy reforms to be promoted?

N/A

4. **Engineering and Financial Plans** (FAA Sec. 611(a)): Prior to an obligation in excess of \$500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

An indicative multiyear project financial plan which breaks out sources of financing by project components is provided in the PP.

5. **Legislative Action** (FAA Sec. 611(a)(2)): If legislative action is required within recipient country with respect to an obligation in excess of \$500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance?

No legislation action is required.

6. **Water Resources** (FAA Sec. 611(b); FY 1991 Appropriations Act Sec. 501): If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, *et seq.*)? (See A.I.D. Handbook 3 for guidelines.)

N/A

**7. Cash Transfer and Sector Assistance (FY 1991 Appropriations Act Sec. 575(b)):** Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?

N/A

**8. Capital Assistance (FAA Sec. 611(e)):** If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?

N/A

**9. Multiple Country Objectives (FAA Sec. 601(a)):** Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

The assistance will (a) support international market development and trade promotion based on C.R.'s comparative advantage for forest products coming from its sustainable managed forests; (b) will strengthen the ability of local private sector and NGO's to promote the adoption of sustainable forest management practices; (c) will improve the tech. skills of sawyers, tractor operators, and other technicians involved in harvest operations to enable them to employ sustainable forest management techniques.

**10. U.S. Private Trade (FAA Sec. 601(b)):** Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

10. N/A

### **11. Local Currencies**

**a. Recipient Contributions (FAA Secs. 612(b), 636(h)):** Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.

The GOCR will provide \$1,024,440 in local currency to meet the cost of contractual and other services.

**b. U.S.-Owned Currency (FAA Sec. 612(d)):** Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

No

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c. **Separate Account (FY 1991 Appropriations Act Sec. 575).** If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

(a) Yes  
(b) Yes  
(c) Yes

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

Yes

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

Yes

(4) If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government?

Yes

## 12. Trade Restrictions

a. **Surplus Commodities (FY 1991 Appropriations Act Sec. 521(a)):** If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

Commodity production for export is not a direct output of the assistance.

b. Textiles (Lautenberg Amendment) (FY 1991 Appropriations Act Sec. 521(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

No

13. Tropical Forests (FY 1991 Appropriations Act Sec. 533(c)(3)): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas?

No

14. PVO Assistance

N/A

a. Auditing and registration (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.?

b. Funding sources (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government?

15. Project Agreement Documentation (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the

The assistance agreement is less than \$25 million and not subject to this requirement.

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agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision).

**16. Metric System (Cmnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy):** Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

Yes

**17. Women in Development (FY 1991 Appropriations Act, Title II, under heading "Women in Development"):** Will assistance be designed so that the percentage of women participants will be demonstrably increased?

Yes

**18. Regional and Multilateral Assistance (FAA Sec. 209):** Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.

No

**19. Abortions (FY 1991 Appropriations Act, Title II, under heading "Population DA," and Sec. 525):**

a. Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?

No

b. Will any funds be used to lobby for abortion? No

20. Cooperatives (FAA Sec. 111): Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life? No

21. U.S -Owned Foreign Currencies None available.

a. Use of currencies (FAA Secs. 612(b), 636(h); FY 1991 Appropriations Act Secs. 507, 509): Describe steps taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services. N/A

b. Release of currencies (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? N/A

## 22. Procurement

a. Small business (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Yes

b. U.S. procurement (FAA Sec. 604(a)): Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him? Yes

c. Marine insurance (FAA Sec. 604(d)): If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? N/A

d. Non-U.S. agricultural procurement (FAA Sec. 604(e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) N/A

**e. Construction or engineering services (FAA Sec. 604(g)):** Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)

No

**f. Cargo preference shipping (FAA Sec. 603):** Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates?

No

**g. Technical assistance (FAA Sec. 321(a)):** If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

N/A

**h. U.S. air carriers (International Air Transportation Fair Competitive Practices Act, 1974):** If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?

N/A

i. **Termination for convenience of U.S. Government (FY 1991 Appropriations Act Sec. 504):** If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? Yes

j. **Consulting services (FY 1991 Appropriations Act Sec. 524):** If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive Order)? N/A

k. **Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy):** Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage? Yes

l. **Competitive Selection Procedures (FAA Sec. 601(e)):** Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes

23. **Construction** N/A

a. **Capital project (FAA Sec. 601(d)):** If capital (e.g., construction) project, will U.S. engineering and professional services be used?

b. **Construction contract (FAA Sec. 611(c)):** If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

c. **Large projects, Congressional approval (FAA Sec. 620(k)):** If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress?

24. **U.S. Audit Rights (FAA Sec. 301(d)):** If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? Yes

25. **Communist Assistance (FAA Sec. 620(h)).** Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes

26. **Narcotics**

a. **Cash reimbursements (FAA Sec. 483):** Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? Yes

b. **Assistance to narcotics traffickers (FAA Sec. 487):** Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance? Yes

27. **Expropriation and Land Reform (FAA Sec. 620(g)):** Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? Yes
28. **Police and Prisons (FAA Sec. 660):** Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes
29. **CIA Activities (FAA Sec. 662):** Will assistance preclude use of financing for CIA activities? Yes
30. **Motor Vehicles (FAA Sec. 636(i)):** Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? Yes
31. **Military Personnel (FY 1991 Appropriations Act Sec. 503):** Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel? Yes
32. **Payment of U.N. Assessments (FY 1991 Appropriations Act Sec. 505):** Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues? Yes
33. **Multilateral Organization Lending (FY 1991 Appropriations Act Sec. 506):** Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? Yes
34. **Export of Nuclear Resources (FY 1991 Appropriations Act Sec. 510):** Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology? Yes

35. **Repression of Population (FY 1991 Appropriations Act Sec. 511):** Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? Yes

36. **Publicity or Propaganda (FY 1991 Appropriations Act Sec. 516):** Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress? No

37. **Marine Insurance (FY 1991 Appropriations Act Sec. 563):** Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate? Yes

38. **Exchange for Prohibited Act (FY 1991 Appropriations Act Sec. 569):** Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law? No

**B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY**

**1. Agricultural Exports (Bumpers Amendment) (FY 1991 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment):** If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?

- (1) No
- (2) Yes

**2. Tied Aid Credits (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund"):** Will DA funds be used for tied aid credits?

No

**3. Appropriate Technology (FAA Sec. 107):** Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes

**4. Indigenous Needs and Resources (FAA Sec. 281(b)):** Describe extent to which the activity recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

In promoting the adoption of sustainable forest management practices, this activity will strengthen GOCR field operations, will support the efforts of local NGOs and private sector associations and will increase understanding among the general public of the nature and need for sustainable forest management.

5. Economic Development (FAA Sec. 101(a)): Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

Yes

6. Special Development Emphases (FAA Secs. 112(b), 113, 281(a)): Describe extent to which activity will: (a) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries.

This activity will (a) improve the tech. skills of forest workers to enable them to employ sustainable forest management techniques; (b) institute a public info. campaign designed to acquaint the media, concerned NGO's, the public at large with the nature of and need for sustainable forest mngmt.; (c) provide modest support to the efforts of NGOs and private sector associations to promote such practices; and (d) support the appearance of new markets and trade opportunities for sustainable produced tropical forest products.

7. Recipient Country Contribution (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

Yes

8. Benefit to Poor Majority (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

Yes

9. Abortions (FAA Sec. 104(f); FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 535):

N/A

a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?

b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations?

c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?

d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services?

e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning?

f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?

g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization?

10. **Contract Awards (FAA Sec. 601(e)):**  
Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes

11. Disadvantaged Enterprises (FY 1991 Appropriations Act Sec. 567): What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?

N/A

12. Biological Diversity (FAA Sec. 119(g)): Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?

- (a) Yes
- (b) Yes
- (c) Yes
- (d) No

13. Tropical Forests (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c)-(e) & (g)):

a. A.I.D. Regulation 16: Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16?

Yes

b. Conservation: Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn

- (1) Yes
- (2) Yes
- (3) Yes
- (4) Yes

agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; (11) utilize the resources and abilities of all relevant U.S. government agencies; (12) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land; and (13) take full account of the environmental impacts of the proposed activities on biological diversity?

- (5) Yes
- (6) Yes
- (7) Yes
- (8) Yes
- (9) Yes
- (10) Yes
- (11) Yes
- (12) Yes
- (13) Yes

c. **Forest degradation:** Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas; (3) activities which would result in the conversion of forest lands to the rearing of livestock; (4) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging

- (1) No
- (2) No
- (3) No
- (4) No

or other extractive industries) which pass through relatively undergraded forest lands; (5) the colonization of forest lands; or (6) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

(5) No  
(6) No

**d. Sustainable forestry:** If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry?

Yes

**e. Environmental impact statements:** Will funds be made available in accordance with provisions of FAA Section 117(c) and applicable A.I.D. regulations requiring an environmental impact statement for activities significantly affecting the environment?

Yes

**14. Energy (FY 1991 Appropriations Act Sec. 533(c)):** If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases?

N/A

**15. Sub-Saharan Africa Assistance (FY 1991 Appropriations Act Sec. 562, adding a new FAA chapter 10 (FAA Sec. 496)):** If assistance will come from the Sub-Saharan Africa DA account, is it: (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) to be used to promote sustained economic growth, encourage private sector development, promote individual initiatives, and help to reduce the role of central governments in areas more appropriate for the private

N/A

sector; (c) being provided in accordance with the policies contained in FAA section 102; (d) being provided in close consultation with African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (e) being used primarily to promote reform of critical sectoral economic policies, or to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities; and (f) to be provided in a manner that, if policy reforms are to be effected, contains provisions to protect vulnerable groups and the environment from possible negative consequences of the reforms?

16. **Debt-for-Nature Exchange (FAA Sec. 463):** If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and atmosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management.

N/A

17. **Deobligation/Reobligation (FY 1991 Appropriations Act Sec. 515):** If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified?

N/A

18. **Loans**

N/A

a. **Repayment capacity (FAA Sec. 122(b)):** Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest.

b. **Long-range plans (FAA Sec. 122(b)):** Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

c. Interest rate (FAA Sec. 122(b)): If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter?

d. Exports to United States (FAA Sec. 620(d)): If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?

19. Development Objectives (FAA Secs. 102(a), 111, 113, 281(a)): Extent to which activity will: (1) effectively involve the poor in development, by expanding access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (2) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?

(See item 6 above)

20. Agriculture, Rural Development and Nutrition, and Agricultural Research (FAA Secs. 103 and 103A):

a. Rural poor and small farmers: If assistance is being made available for agriculture, rural development or nutrition, describe extent to which activity is specifically designed to increase productivity and income of rural poor; or if assistance is being made available for agricultural research, has account been taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made.

This activity is specifically designed to promote the adoption of sustainable forest management practices.

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b. **Nutrition:** Describe extent to which assistance is used in coordination with efforts carried out under FAA Section 104 (Population and Health) to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value; improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people.

N/A

c. **Food security:** Describe extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

N/A

21. **Population and Health (FAA Secs. 104(b) and (c)):** If assistance is being made available for population or health activities, describe extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

N/A

22. **Education and Human Resources Development (FAA Sec. 105):** If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

Sustainable forestry technical training will be provided to the two most important groups within the forestry sector. Forest jurisprudence training will be provided to judicial officials, other GOCR employees, local police and interested public citizens. This activity contemplates also public information on sustainable forest management.

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**23. Energy, Private Voluntary Organizations, and Selected Development Activities (FAA Sec. 106):** If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

N/A

- a. concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;
- b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;
- c. research into, and evaluation of, economic development processes and techniques;
- d. reconstruction after natural or manmade disaster and programs of disaster preparedness;
- e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance;
- f. for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development.

**C. CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY**

N/A

**1. Economic and Political Stability (FAA Sec. 531(a)):** Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

**2. Military Purposes (FAA Sec. 531(e)):** Will this assistance be used for military or paramilitary purposes?

**3. Commodity Grants/Separate Accounts (FAA Sec. 609):** If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

**4. Generation and Use of Local Currencies (FAA Sec. 531(e)):** Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106?

**5. Cash Transfer Requirements (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 575(b)).** If assistance is in the form of a cash transfer:

**a. Separate account:** Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds?

**b. Local currencies:** Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements?

**c. U.S. Government use of local currencies:** Will all such local currencies also be used in accordance with FAA Section 509, which requires such local currencies to be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available?

**d. Congressional notice:** Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance?

WP+ 278 revised as of 5/21/92:RMurillo

## ANNEX D: GOCR REQUEST FOR ASSISTANCE

(As discussed in the review of the first draft of the REFORMA project paper, this request must 1) be specific about what the GOCR will put into the project and 2) confirm how the PL 480 resources will be budgetted and managed. This second point is particularly important if a share of the PL 480 resources are to be passed to the primary grantee for construction of facilities, purchase of vehicles, and provision of POL and another portion of PL 480 resources will remain with the DGF to pay per diems and field differentials.)

**ANNEX E**  
**IMPLEMENTATION SCHEDULE**

FIGURE 2

REGULATION FOR FOREST MANAGEMENT (REFORMA) PROJECT  
IMPLEMENTATION SCHEDULE

CALENDAR YEAR AND QUARTER	1993		1994				1995				1996				1997			
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>GENERAL PROJECT MANAGEMENT</b>																		
Sign Project Agreement	AID/MIRENEM XX(XXX																	
Initial Conditions Present Completed	MIRENEM XXXXXXXXXXXXX																	
Annual GOCR/PL-480 Budget Submitted	MIRENEM XXXXXXXXXXXXX																	
Subsequent Project Agreements Signed	AID/MIRENEM XXXXXXXXXXXXX																	
Technical Services Grant (TSG) Awarded	AID XXXXXXXXXXXXXXXXXXXX																	
Semi-Annual Reports Submitted	AID/MIRENEM XXX XXX XXX XXX XXX XXX XXX XXX																	
Annual Audit Reports Submitted	MIRENEM XXX XXX XXX XXX																	
Midterm Evaluation Completed	AID XXX																	
Final Evaluation Completed	AID XXX																	
Project Assistance Completion Date	AID/MIRENEM XXX																	
Project Closeout Report Filed	AID XXX																	
<b>IMPLEMENTATION OF PROJECT ACTIVITIES</b>																		
<b>Project Output 1.A</b>																		
Convene "Guia" review committee	TSG XXX XXX XXX XXX																	
Draft Revised "Guia" provided to DGF	TSG XX XXX																	
Revised "Guia" published	TSG XXX																	
<b>Project Output 1.B</b>																		
Initiate operational research	TSG XXX																	
Publish forest inventory standards	TSG XXX																	
Publish forest inventory software	TSG XXX																	
Establish nat/reg inventory system	TSG XXX XXX																	
Publish deorestation rate estimates	TSG XXX																	
<b>Project Output 1.C</b>																		
Trade analysis contract awarded	AID XXX																	
Review of draft trade analysis	AID/MIRENEM XXX																	
Distribute final trade analysis	AID XXX																	
<b>Project Output 2.A</b>																		
Enhanced staffing plan in budget	MIRENEM XXXXXXXXXXXXX																	
Project positions fully filled	MIRENEM XXX																	
Construction designs completed	MIRENEM XXX																	

CALENDAR YEAR AND QUARTER	1993		1994				1995				1996				1997			
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Construction schedule confirmed	MIRENEM	XXX																
Initial construction contracts awarded	MIRENEM				XXX													
Vehicle procurement complete	AID/MIRENEM				XXX													
Equipment procurement complete	MIRENEM				XXX													
Project Output 2.B																		
Develop systems terms of reference	TSG		XXX															
Draft system pilot tested	TSG								XXX									
System hardware purchased	TSG				XXX													
System installed in first area	TSG				XXX													
System debugging and training	TSG								XXXXXXXXXX									
System installed in second area	TSG								XXXXXX									
System training and supervision	TSG								XXX									
System installed in third area	TSG								XXXXXX									
System training and supervision	TSG								XXX									
Project Output 2.C																		
Forest Jurisprudence Training						XX			XXX				XXX				XXX	
Forest Jurisprudence Monitoring									XXXXXXX				XXXXXXX				XXXXXXX	
Project Output 3.A																		
Design forester and logger training	TSG					XXX												
Forester training programs	TSG					XXXXX												
Logger training programs	TSG					XXX			XXX				XXX					XXX
Project Output 3.B																		
Public info. grant (PIG) awarded	AID					XXX												
First newsletter issued	PIG					YXXXX												
Public service broadcasts	PIG								XX									
National seminars for media/NGO's	PIG								XXX			XXX			XXX			XXX
Field events for media/NGO's	PIG								XXX			XXX			XXX			XXX
Forest worker of the year awarded	PIG								YXX			XXX			XXX			XXX
Project Output 3.C																		
Initial grant awarded	AID					XXXXXX												
Subsequent grants awarded	AID								XXX			XXX			XXX			XXX
Project Output 3.D																		
Initial grant awarded	AID								XXX									
Subsequent grants awarded	AID											XXX						

ANNEX F

DETAILED DESCRIPTION OF PROJECT OUTPUTS

PROJECT OUTPUT 1.A.  
PERIODIC REVIEW/REVISION OF MANAGEMENT PLAN GUIDELINES

1.0 Background and Statement of Needs

A key component in any program to promote sustainable management of forests managed using polycyclic silvicultural systems (partial cutting and continuous forest cover) is stand level guidelines and regulations. These guidelines must contain the minimum requirements for maintenance of a productive forest ecosystem which includes, the maximum intensity of cutting at any entry, the minimum level of residual growing stock, best management practices for logging operations, and provisions for retention of biodiversity and other non-timber resources. While typically the guidelines and regulations are oriented towards timber production, there is a growing demand for explicit incorporation of non-timber resources which needs to be addressed.

In 1986 the DGF instituted, for the first time, its primary regulatory instrument for promoting stand level best management practices: the requirement for submission of a management plan. Landowners interested in obtaining permission to cut trees on their own land must file a management plan prepared under the direction of a consulting forester (regente). The technical content and procedures for submission and approval are specified in a guide (la guia) published by the DGF. Since its introduction the guide has been a constant target of criticism, particularly by private sector foresters. Much of the criticism has centered on the administrative procedures pertaining to submission and approval of management plans, and specifically the various time limits relating to delivery of documents to the DGF. However, concern has also been expressed about the technical contents which are viewed by many as requiring information irrelevant to good forest management. Perhaps the most significant complaint is that the entire process is simply too time consuming and forces allocation of scarce manpower resources to writing and processing documentation rather than designing, executing, and ensuring compliance with best management practices in the forests where they are needed most. A related consequence is increased costs to landowners which reduces returns and discourages participation.

The DGF recently has taken steps to improve the management plan system with the release of its new guide. The revised version was developed after the completion of a semi-formal but extensive survey of users by the DGF. The DGF needs additional support in its efforts to keep the forest management guide current and useful as the primary stand level regulatory instrument. This is an unending process as new information about improved management practices (technical contents) continually becomes available, and means for improving efficiency in procedures (administrative issues) are devised by both public and private sector foresters. This component of the project will concentrate on providing assistance to the DGF in the process of review and revision of the management plan system. This will be accomplished through the establishment of a permanent and formal advisory committee with representatives from the major parties in the forestry sector. The committee will be financed by USAID with direct funding for the next four years after which support will come from both the private and public sectors. The future costs of the committee are estimated at less than 0.07% of the average retail sale value of lumber which will be easily offset by cost savings gained through increased efficiency in administration of the system. Periodic revisions to the management plan system will also lead to higher standards and improved performance towards the primary goal of promoting sustainable management.

## 2.0 Purpose and Description

The project output will ensure that the content requirements and application and approval procedures for forest management plans are continually and objectively reviewed and revised. The objectives are to promote sustainable management and improve efficiency in the application of this regulation instrument. This will be accomplished by the appointment of a permanent and formal review committee comprised of three people representing: the DGF, the association of forest consultants (los regentes) and academia. The committee will design mechanisms for sector specific and open public review of the management plan system, and organize and coordinate their application. The committee will incorporate the findings from the review process into biannual revisions of the guide issued by the DGF.

## 3.0 Scope of Work

Activities in this component of the project are broken down into two principal areas: 1) review and 2) revision. Activities in both areas will concentrate on addressing both the technical content requirements of the management plans and the administrative procedures required for submission and approval.

### 3.1 Management Plan Review

The review committee will begin by identifying the full range of participants both within and outside of the forestry sector to include in the review process. They will then develop appropriate review mechanisms for the various groups and organize and coordinate their implementation. The results from the review process will be compiled and analyzed in preparation for the drafting of revisions. Specific tasks in this activity include:

- 1.) Establish an office and/or address to receive written comments submitted at any time by interested parties including the personnel to compile and analyze the results;
- 2.) Develop and deliver a total of four workshops over the four-year period to solicit criticisms and suggestions for improvement from interested parties;
- 3.) Devise and implement any other review mechanisms appropriate for soliciting comments on the management plan system; and
- 4.) Compile and analyze the results from all of the elements of review in preparation for the drafting of periodic revisions to the guide.

### 3.2 Revisions to the Guide.

The primary task in this activity is to make revisions to the guide at least biannually. This will be accomplished through monthly meetings of the committee to consider the findings from the review process and to discuss other sources of principally technical information relevant to the drafting of the revised management plan system. Specific elements in this activity include:

- 1.) Conduct monthly meetings to discuss the results of the review process and to consider other relevant information from other sources;

- 2.) Draft revisions to both the technical content and administrative procedures components of the guide on at least a biannual basis;
- 3.) Present the revised guide to the DGF and other representatives in the forestry sector including CODEFORSA, COSEFORMA, CATIE, BOSCOA, and any other appropriate organizations; and
- 4.) Write the final, revised guide after incorporating additional comments on the draft version and deliver the final copy to the DGF.

#### 4.0 Deliverables

This component of the project will have two primary products:

- 1.) The establishment of a mechanism for continual monitoring and updating of technical content and administrative procedures for forest management plans authorized by the DGF.
- 2.) At least two formal revisions to the guide for writing and submission of forest management plans, one in 1994 and the other in 1996.

#### 5.0 Staff

- a. Academic representative, 10 days/yr, 4 years
- b. DGF representative, 10 days/yr, 4 years
- c. Regentes representative, 10 days/yr, 4 years
- d. Executive secretary, half time, 4 years

6.0 Budget (1993 \$)		1994	1995	1996	1997
Year					
A.	Personnel				
	a. Academic rep. \$150/day 10 d.	\$ 1,500	1,500	1,500	1,500
	b. DGF rep. \$150/day 10 d.	\$ 1,500	1,500	1,500	1,500
	c. Regente represent. \$150/day 10 d.	\$ 1,500	1,500	1,500	1,500
	d. Exec. secretary, \$5000/year \$13.7/d	\$ 5,000	5,000	5,000	5,000
B.	Travel				
	a. 4000 km/yr @ \$ .25/km	\$ 1,000	1,000	1,000	1,000
	b. perdiem, 16 days/yr, @ \$ 20/day	\$320	320	320	320
C.	Workshops				
	a. 1 workshop/yr @ \$ 1200/wshp	\$ 1,200	1,200	1,200	1,200
D.	Subtotal	\$12,020	12,020	12,020	12,020
E.	NGO overhead @ 10%	\$ 1,200	1,200	1,200	1,200
F.	Total costs	\$13,220	13,220	13,220	13,220

## APPENDIX FOREST MANAGEMENT PLAN/CUTTING PERMIT SYSTEM REVIEW AND RECOMMENDED CHANGES

### 1.0 Introduction

The process Costa Rican landowners are required to follow by the DGF to follow in order to obtain permission to harvest timber on their own land is both complicated and time consuming<sup>1\*</sup>. The process involves at least nine separate steps and can take up to one year to complete. Two of the more significant elements of the system are: 1) the preparation, submission and approval of a management plan for the forest and 2) the accumulation, and submission of documents required for issuance of a permit to actually cut timber. These two elements correspond to the technical requirements for management and administrative procedures for qualification respectively, and are addressed separately in appendices 13 and 14 in the guide published by the DGF. These two elements of the management plan/cutting permit system have been the constant targets of criticism by, principally, private sector foresters and loggers. While complaints have centered on the administrative procedures, the technical requirements have also been questioned.

The permit system is the primary regulatory instrument used by the DGF to control management activities at the individual farm or stand level. The requirements contained in the guide and, more importantly, compliance in the woods with the regulations have a dramatic effect on the extent to which management practices are actually sustainable. Consequently, the technical content of the DGF guide for management plans and administrative procedures for submission and approval will play an important role in the success or failure of the project in fulfilling its purpose: promoting the adoption of sustainable forest management practices. The following discussion provides a brief review of these two components of the permit system followed by suggestions for improvement which would increase the probability of success for the project. Finally, specific suggestions for conditions precedent are offered for consideration.

### 2.0 Technical Content

The technical content of management plans specified in the guide can be divided into two parts: 1) silviculture and 2) timber harvesting. It is important to recognize that these two components of forest management are intimately linked. Logging is one of the most important silvicultural tools employed by foresters, particularly where more intensive treatments are prohibitively expensive. The quality of logging operations can have a dramatic impact on the success of silviculture, and some foresters have gone as far as stating that adequate control of harvesting may be the only action necessary for the sustainable management of tropical rain forests<sup>2</sup>. However, silviculture represents the planning of stand-level management whereas logging represents implementation, consequently, it is convenient to separate the two for the purpose of review.

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1. Cabarle, B., Bauer, J., Palmer, P., and Symington, M. 1992. BOSCOA: The program for forest management and conservation on the Osa Peninsula, Costa Rica. Project Evaluation Report Prepared for USAID/Costa Rica, 92 pp.

2. Stocker, G.C. 1991. Some thoughts on using ITTO guidelines to achieve sustainable forest management in practice. Discussion paper, Conference of Senior Foresters. Yokohama, July 23-26. ITTO Yokohama, 40 pp.\*.

## 2.1 Silviculture

Technical specifications in the guide relating to silviculture concentrate principally on inventory methods. The emphasis is entirely on obtaining reasonable estimates of the total volume of timber standing and the volume to harvest. The latter is particularly important in future steps in the permit process related to collection of taxes. The specifications include some provisions for maintenance of species diversity through vague comments alluding to fruiting requirements, but only for species included in future management plans. Specifications for the maintenance of a minimum level of residual growing stock are couched in terms of diameter limits rather than the standard approach of using basal area.

Overall the technical requirements related to silvicultural are extremely limited compared to those commonly required in the United States and Canada. While they appear to compare favorably to the criteria laid out by the Rainforest Alliance's "Smartwood" program, neither of these sets of guidelines compare technically to US and Canadian standards. Considering both the US and Canada have been criticized for practicing non-sustainable forestry it is difficult to view the Costa Rican or Smartwood specifications as adequate for defining even best management practices, let alone sustainability by anyone's definition.

The major criticism of this component of the guide is that the emphasis is on counting trees rather than the specification and justification of the appropriate silvicultural prescription including the individual silvicultural treatments. This is not to say that the Government of Costa Rica should legislate silviculture, however, it should insist on the application of conventional stand level planning methods in the interest of promoting high standards of practice. Additional criticisms have been directed at the length of management plans and the inconsistent demands for data and text. Apparently this leads to rejections based on, literally, typographic presentation and organization of material within the plan.

## 2.2 Suggestions for Improving the Technical Specifications Relating to Silviculture.

The following suggestions for additions to the guide include those required to meet the standards specified in the criteria for qualification for the "Smartwood" program of the Rainforest Alliance. Changes which address current shortcomings in this regard are noted.

- 1.) A maximum allowable standard error of estimate must be specified for the initial inventory. This inventory is the only one performed on trees in the 30-60cm range, and these trees will represent a significant portion of the second commercial cut. Clearly planning based on large errors in these size classes is unsatisfactory. An error of, perhaps, 10% by volume and basal area would probably be about right, however, local biometricians should be consulted to decide on the appropriate value(s).
- 2.) The initial inventory should be extended to include trees as small as 10cm to give a more complete picture of the initial stocking and diameter distribution of the stand. This will be required for stand-level simulation which is suggested below.

3.) The inventory should also include non-timber products and provisions for categorizing and quantifying biodiversity. Moreover, sampling and measuring methods must be established with special provisions for both "indicator" and "keystone" species as identified in the REA's. Methods for comparing natural variations in populations to fluctuations induced through management should be devised. This addition is required in section II paragraph "l" of the Smartwood criteria.

4.) The guide should provide more technical information for the fruiting habits of all woody species or at least the commercial ones. Information is probably lacking on most species, but the data that exist should be included to help foresters plan operations in a way that preserves the long-term regenerative capacity of the genetic base. The information would ideally include:

- a.) minimum size or approximate age of fruiting.
- b.) spacing required for pollination.
- c.) pollinating and seed dispersal agents.
- d.) frequency, seasonal timing, and abundance.
- e.) zonal or climatic variations.

5.) Specifications relating to residual stocking levels should be expressed in terms of basal area of dominants and co-dominants. Restrictions on the cutting of smaller diameter trees should be eliminated as these prevent cleanings and improvement cuttings and promote high grading (a well recognized effect of diameter limits). Recommended maximum sized openings according to species chosen for future management should be included.

6.) The guide should require that a cutting cycle (uneven-age management) or length of rotation (even-aged management) be specified for each cutting unit. Cutting cycles should be justified using a standard stand simulation model which should be made available at low cost to practicing foresters. These additions are required by section II paragraphs "e" and "o" of the Smartwood criteria. The needed software will be developed as part of the Operational Research component of the project.

7.) The guide should require a detailed specification of the silvicultural prescription to be applied to each treatment area (cutting unit). The prescription should contain a complete schedule and description of silvicultural treatments for at least one cutting cycle or rotation, including specification of the anticipated stocking level and species composition of natural regeneration within a stated period of time.

8.) A post logging survey of damage to timber and other resources and impact on protected areas must be conducted in order to qualify for certification (section II, paragraph "m", and section III, paragraph "d" and "e"). Currently this is only required in Costa Rica for forests qualifying for the CAFMA program.

9.) Permanent plots must be established to qualify for certification (section II, paragraph "n"). Only CAFMA forests are required to do this at this time in Costa Rica.

10.) The exact content (sections) and format for presentation of the management plans should be specified. A standardized template should be developed along with supporting inventory data processing programs to be distributed to practicing foresters at low cost. This would lead to a decrease in the length of management plans and an increase in efficiency of the review process given all plans would look exactly the same, differing only in the actual text and numbers in the tables.

These improvements could be included in the first rewrite of the guide to be undertaken by the formal Review Committee which is part of the proposed project. This Review Committee would be well advised to consult the content and format of presentation in similar management guides in the US, Canada, and elsewhere. Such a review would provide ideas for specific changes and promote awareness of international practices.

## 2.4 Harvest Plan and Supervision

The technical specifications for planning, implementation, and supervision of logging operations are limited to a total of eight items, three of which appear in the appendix on procedures. Two (2) pertain to the justification of skidding equipment and a limitation on the use of large bulldozers. Three (3) relate to the location, marking, and use of skid trails. One (1) concerns directional felling. One (1) pertains to the avoidance of protected areas and protection of residual trees, and one (1) relates to the maximum disturbed area in gullies and flat ground. This final specification is the only one which expresses limitations on activities numerically, but is still incomplete as it states allowed disturbance in meters of road rather than square meters (units of area) or percent of total area. Without numerical guidelines or regulations, compliance becomes an issue of interpretation and the taking of responsibility by DGF personnel, both of which field staff are apparently hesitant to do. Clear, non-negotiable limits on performance must be established.

The technical specifications in the guide relating to planning, implementation and supervision of timber harvesting operations are grossly inadequate and do not begin to compare to those current applied to operations in the Pacific Northwest of the United States and British Columbia, Canada. They also fall far short of what was required in the New England Area ten years ago. These comments apply equally to the criteria specified in the "Smartwood" program headed by the Rainforest Alliance.

## 2.5 Suggestions Relating to the Planning and Management of Logging Operations

The following suggestions include those needed to qualify for certification in the Smartwood program. Such additions are noted:

- 1.) Road and landing construction and, in particular, the design and construction of drainage structures must be treated in detail. This is unquestionably the greatest shortcoming of the current version of the guide. A comprehensive review of current practices in other countries is required. Initially this process should concentrate on culvert design (sizing), installation/construction, and maintenance for stream crossings based on risk assessment procedures and the availability of rainfall and/or streamflow data. Ditch relief culvert spacing and sizing should also be addressed in the first revisions to the guide.
- 2.) Road standards must be established giving specifications for all components (ditches, subgrade, grade, running surface, cleared right-of-way, cut and fill slopes, travel speeds etc). These will form the basis for all other specifications related to construction and maintenance.
- 3.) Erosion and sedimentation control of all kinds must be specified including the size and location of buffer strips and management practices within the strips (section III, paragraphs "c" and "f"). A stream classification system should be chosen or developed which would form the basis of the specifications.

- 4.) Disposal procedures for cut material and organic matter must be specified (section III, paragraph "i").
- 5.) Bridge construction, which is often a superior alternative to culverts due to the reduced soil and streambed disturbance, must also be addressed, for instance specification of the maximum size stream (m<sup>3</sup>/sec of peak flow) for which culverts can be used.
- 6.) Maximum slopes for both truck roads and skid trails must be specified (section II, paragraph "i", currently at 40-50%). The specifications should be broken down by equipment and road type which is not done by Smartwood.
- 7.) Maximum allowable area of disturbed soil (exposed mineral soil) should be expressed as a percentage of the total area harvested instead of meters of road.
- 8.) Maximum slopes for harvesting with bulldozers (around 50% is usually considered max for these machines) and maximum slopes for felling must be stated (60% section III, paragraph "g").
- 9.) Recommended skidding and felling practices (methods for directional felling for instance) including the lead of the timber (the direction trees are pointing) are needed. These are required in section III paragraphs "h", and "j").
- 10.) Specifications for the reporting of fuel and lubricant spills and the procedures for cleanup, or at least where to drain the oil out on site should be stated.
- 11.) The issue of timber utilization standards must be addressed more clearly. Ideally standards should be based on an economic analysis of marginal log sizes with some flexibility built-in to make the system sensitive to changing economic conditions. The specifications should include average top-log diameter and minimum merchantable log size (volume).
- 12.) A comprehensive treatment of post logging procedures for cleanup and closure of roads (section II, paragraph "p", and section III, paragraph "k") is required.

Like the list for the silvicultural content, this list is incomplete. However, the items shown could, perhaps, be included in the first rewrite. In this case the Review Committee should consult with the personnel managing technical training component of the project who will be developing handbooks for logging planning, practices, and supervision. These project staff should also consult existing similar manuals in the US, Canada and elsewhere as a source of ideas and to promote awareness of international standards.

### 3.0 Administrative Procedures

The section on administrative procedures lays out in detail the steps and documentation required of the consulting forester in order to obtain permission to cut trees. The guide also indicates that there is a period during which the DGF will accept documents for consideration. This period is announced publicly each year. The major items required by the DGF are:

- 1.) A formal solicitation or filing of intent.
- 2.) The authorization of use of roads by the appropriate municipality.
- 3.) A copy of the legally registered plan (map) of the property.
- 4.) The certification of land ownership.
- 5.) The management plan including all associated documents (maps, inventories etc.)

There are some variations on this series of requirements depending on the number of owners, however, generally the list applies to everyone. Once the management plan has been approved, the review process for a cutting permit in a single year can begin. The program of annual cuttings is specified and delineated in the management plan. For any given year, the forest tax must be paid in advance of cutting based on the volume estimated from the 100% commercial census included in the cutting permit application. Additionally a bond or guaranteed certificate must be paid after which cutting can be approved. Cutting and transport of logs can only occur legally during the so-called timber period (Jan 1-May 31) except for in the Atlantic zone where logging occurs year-round. Once enough logs have accumulated in the various landings to initiate transport, the consulting forester must scale the logs and present a report to the regional office which is checked and then log tags are issued. This process continues until all the timber has been cut and removed. Supposedly for cutting in future years, the consulting forester needs only to submit:

1. A formal intent to cut or solicitation.
2. Approval for use of the roads by the Municipality.
3. A certification of land ownership.

In practice, it appears the entire process has to be repeated including the submission of a new management plan in order to secure a new cutting permit.

At first glance the requirements do not appear to be onerous. However, the major complaint is that the period for receiving documents is too short and that the validity of some submissions expires before all the required documents can be accumulated. Furthermore, many times DGF regional staff appear hesitant to take responsibility for authorizing and reviewing the documents. Often times documents are sent to the legal department of the DGF if there are any questions. Such actions along with the generally hesitancy exhibited by many staff members causes delays which lead to the problem mentioned above. Apparently the DGF waits to receive all submissions for a given year before they start the review process. This leads to the build up of an immense workload which results in lengthy delays in the approval of cutting permits. Commonly, approval comes near the end of the "timber period" which leads to rushed operations in the woods compromising performance.

### 3.1 Recommended Changes to the Administrative Procedures

The following represent some suggestions for how the current procedures could be changed to improve efficiency without risking performance in the woods.

1.) Allow an open submission (year round) for documents required for management plan and cutting permit approval (eliminate the existing annual period for receipt of documents). Review, authorize, and date stamp all documents as they arrive. Once all the requirements are met, issue a number to the plan insuring a sequential review and guarantee approval or denial within 30 days. Establish a database system for supporting the processing of management plans and cutting permits.

2.) Make the management plans multi-year in practice. Each year require the consulting foresters to submit an intent to cut (solicitation) and to file any changes to the other documentation. It should be the responsibility of the forester to get approval from the Municipality for use of the roads, and to check to ensure the property has not changed hands (new owner). The cutting permit should be approved on this basis and the issuance of tags done as usual.

3.) Define in detail the hierarchy of decision making and the level to which questions concerning individual components of the management plan/cutting permit system can go before a decision/ruling must be made. As part of this have a complete but short list of cases in which the legal department can be consulted.

4.) Publish in detail the procedures for scaling logs along with acceptable measurement errors. Write and distribute to all practicing foresters a computer program for calculating the volume of logs and presenting the report requesting log tags in a standardized format.

5.) Solve the "people problem"! This is by far the biggest obstacle to improving efficiency in the DGF. Incentives and rewards must be devised to encourage both efficiency and high standards of performance. Rewards based solely on the number of errors caught by personnel will bring the administrative processing of paperwork to a complete standstill.

#### 4.0 Recommended Conditions Precedent

Items number 1 and 2 in the suggestions for modifications to the administrative procedures should be conditions precedents to the project. These two changes are within the legal jurisdiction of the DGF, that is, do not require a change in the forest law. Both items will reduce the cost of preparing paper work significantly. They will also help distribute the annual cutting and transport throughout the timber period (dry season) more evenly which will provide a more favorable environment for high standards of performance in the woods. This more even distribution of timber flow will also help avoid backups at the road checkpoint stations proposed as part of this project.

PROJECT OUTPUT 1.B.

OPERATIONAL RESEARCH TO IMPROVE THE QUALITY  
OF SUSTAINABLE FOREST MANAGEMENT PRACTICES  
AND FOREST HABITAT MONITORING

**PROJECT OUTPUT 1.B.**  
**OPERATIONAL RESEARCH TO IMPROVE SUSTAINABLE FOREST**  
**MANAGEMENT PRACTICES AND FOREST HABITAT MONITORING**

**1.0 Background and Statement of Needs**

The design of sustainable forest management practices at the stand (farm), regional, and national levels requires the application of modern forest management planning methods. Forest management planning, and in particular, the determination of sustainable annual allowable volumes of timber to cut in the various regions of Costa Rica is an essential part of a program for regulation and support of the forestry sector. Silvicultural prescriptions for individual stands and regional cutting levels must be sustainable to support a viable and profitable industry. At the present time Costa Rica does not perform any kind of analysis to determine sustainable levels of timber harvesting. In this sense, cutting is completely uncontrolled.

Forest management planning at any level is a dynamic exercise. The levels of cutting and other forest management activities including planting, tending, and changes in land use (park set asides for example) vary with time, often rapidly as additional information and sophistication are introduced into planning sessions. Similarly, the state of the economy as a whole and the forestry sector specifically have a dramatic effect on forest planning. Consequently, forest planning and the setting of cutting levels must be reviewed continually. This means the country requires a full-time staff and fully operational, computer-based planning system. This component of the project will lead to the establishment of an autonomous, self-financing institution for promoting sustainable forest management at the farm, regional, and national levels.

**2.0 Purpose and Description**

The purpose of this output will be to finance research and development of sustainable forest management practices applicable in Costa Rica. The primary goal is the development of standardized procedures and computer-based analytical tools for stand-, regional-, and national-level forest management planning including explicit incorporation of biodiversity as a management objective. This will be accomplished through the support of a research team at the Forestry Department at the Centro de Investigacion en Integracion Bosque Industria (CIIBI) at the Institute of Technology of Costa Rica (ITCR). This capability will enable Costa Rica to engage in analytically-based strategic planning in the forestry sector at all levels. In particular, this capability will support decision making on the allocation of financial and other resources among alternative management activities for maximizing economic and social returns on investment.

This component of the project will concentrate on applied research in crucial areas of interest in both the public and private sectors. Researchers at CIIBI will be contracted to develop planning tools and methodologies for Costa Rica through both original research and the adaptation of existing technology. The work will center on the development of specific products and services required by private industry and the DGF.

**3.0 Scope of Work**

The work to be performed in this component of the project is categorized into three principal areas of activity:

forest resource inventory, resource production (growth and yield), and resource supply analysis. Each task is an integral part of the establishment of an in-country planning and analysis capability for servicing both the public and private sector.

### 3.1 Forest Inventory

Complete and accurate inventory data are essential for forest management planning at any level. Inventory data include all physical, biological and sociological resources currently supported on the forest. For regional and national planning activities, these data must be in one of the many commercially available geographic information systems (GIS) to facilitate analysis.

Specific tasks in this activity include the following.

- 1.) Establish standard methods for conducting forest inventories to be used by foresters in the development of forest management plans. Incorporate the information and methods contained in the REA's for the pilot areas on inventory methods for non-timber resources especially "keystone" and "indicator" species.
- 2.) Develop a computer model for compilation of forest resource inventory data which will be made available to all practicing foresters.
- 3.) Establish and coordinate a national forest inventory system for collection and compilation of aggregate data required in the analysis of regional and a national forest management planning activities.
- 4.) Consult with existing organizations within the country which have GIS/Satellite imagery processing capabilities in the development of a methodology for monitoring land use changes in C. R.
- 5.) Coordinate a nation-wide land use classification study in cooperation with existing organizations, (BOSCOSA for example) and propose areas for inclusion in protected areas, to promote watershed protection and/or maintain biodiversity.
- 6.) Produce estimates of the rate of loss of relatively undisturbed primary forest habitat in CR for biannual reporting in 1994 and 1996.

### 3.2 Resource Production

Information on the production rates and dynamics of all forest resources (growth and yield data in the case of timber) is also critical for forest management planning at any level. Data on the expected yields of all resources in response to all potential management activities are needed. With respect to timber this requires that response curves (growth and yield) be developed for every combination of forest type, soil, topography, existing stocking, and silvicultural prescription. These data are entirely lacking at present, however, estimates can be generated by informed experts with the help of stand-level growth and yield models. Acquisition and analysis of growth data is one very important reason why a full-time, permanent staff are required.

Specific tasks in this activity include the following.

- 1.) Review the literature and specify standard methods for the establishment of permanent and semi-permanent sample plots for continuous forest resources inventory to be used by practicing foresters in primary, secondary, and plantation forests.
- 2.) Consult the REA's for the three pilot areas and establish standard methods for inventory and monitoring population dynamics of non-timber resources focusing on indicator and keystone species.
- 3.) Develop and coordinate a national forest growth and yield data collection and analysis system based on the permanent plot system.
- 4.) Review the literature, choose, and modify a stand-level growth and yield simulation models for use in the design of sustainable silvicultural prescriptions in primary, secondary, and plantation forests.

### 3.3 Resource Supply Analysis

Resource supply analyses are critical for strategic planning in the forestry sector at both the regional and national levels. Such analyses require the statement of goals or at least historic levels of activity (cutting for example) for all potential interventions. This includes data on the current and projected needs and capabilities of the various industries within the forest sector. These data are required for incorporating the current and expected demand for raw material from the forests into strategic management planning, and represent the explicit consideration of where the forest industries currently are and where they want to be in the future. Specific tasks in this activity include:

- 1.) Adapt an existing forest resource supply planning model for use in C.R.;
- 2.) Train staff at CIIBI in the use of the model by performing a series of case studies for individual companies, and for the three pilot areas of the project;
- 3.) Produce estimates of the annual sustainable timber harvest from all sources (natural forest and plantations) for the three primary timber producing regions of Costa Rica and compare the findings to estimates of annual demand;
- 4.) Determine the minimum cost alternatives for resolving the expected shortfalls in supply; and
- 5.) Collect, compile, and publish stumpage price data regionally on an annual basis. Distribute the information to other parties also willing to publish the results including the project personnel managing the public information campaign.

### 4.0 Project Deliverables

The principal result of this component of the project is the establishment of the capability within an existing institution to engage in strategic planning for the forestry sector. This will permit Costa Rica to chart its own course in the development of a plan for recovery of its forests and maintenance of self-sufficiency with respect to timber supply. The project will also produce the following specific products:

- 1.) A computer model for compiling standard inventory data available to all practicing foresters;
- 2.) Specification of standard procedures for conducting forest inventories in the preparation of forest management plans, including measures of biodiversity;
- 3.) A stand simulation model for designing sustainable silvicultural prescriptions available for use by all practicing foresters;
- 4.) A national system of permanent plots for research in growth and yield of forest resources; and
- 5.) A computer model for conducting resource supply analyses to be used in strategic planning for the forestry sector and in the establishment of sustainable annual timber harvests.

#### 5.0 Staff Requirements

- A. Planning Expert, 10 months @ 4 days per month.
- B. Project Leader, 48 months 1/3 time.
- C. Programmer/analyst, 48 months full time.
- D. Project technicians (2), 48 months, full-time.

#### 6.0 Budget (US\$)

The budget estimates which follow were based on the assumption that only the computer software needs to be purchased. All computer hardware will be supplied by CIIBI.

6.0 Budget (1993 \$)	Year	1994	1995	1996	1997
A.	Software purchase updates	16,000	1,000	1,000	1,000
B.	GIS Data purchase	22,000		22,000	
C.	Equipment Global Positioning Handheld Units	10,000			
D.	Personnel				
	Planning Expert	12,000			
	Project Leader	12,000	12,000	12,000	12,000
	Programmer/analyst	15,000	15,000	15,000	15,000
	Technicians (2)	22,000	22,000	22,000	22,000
E.	Travel	4,800	4,800	4,800	4,800
F.	Publications/ Workshops	1,500	1,500	1,500	1,500
G.	Subtotals	115,300	56,300	78,300	56,300
H.	CIIBI Overhead (10%)	11,530	5,630	7,830	5,630
I.	TOTALS	126,830	61,930	86,130	61,930

## 7.0 Work Plan and Schedule of Activities

The work will be organized as follows. For the first three months, project staff, equipment, and commercial computer software will be acquired and the offices setup at CIIBI. During the next three months staff will be involved in the acquisition of data, the review of available application software, and establishment of the data base system for storage and retrieval.

Also during months 3-6, the Planning Expert will supervise the installation and initial modifications to the planning software, and begin training in its use. Modifications to the inventory, stand simulation, and planning software will continue through the final six months of first year. The initial resource supply analysis case studies will be completed by the eighth month of the first year including initial estimates of the sustainable annual cut for a single region. Data acquisition for the other regions will proceed, and estimates of sustainable annual allowable cuts for all forest regions will be made by the end of the first year. Estimates of the existing remaining area in relatively undisturbed natural forest will be made by the end of the first year.

Work during years two, three and four will concentrate on refinement of the inventory, stand simulation, and resource supply planning models. Data acquisition will continue for all regions, and a plan for a nation-wide inventory and permanent sample plot system for monitoring growth and yield will be produced within the first three months of the second year. The estimates of annual allowable harvests will be refined and issued by the end of the second year.

PROJECT OUTPUT 1.C.  
FOREST PRODUCT TRADE REGIME RESEARCH

## PROJECT OUTPUT 1.C. FOREST PRODUCTS TRADE REGIME ANALYSIS

### 1.0 Background and Statement of Need

The deforestation rate of Costa Rica is among the highest of Latin America, and today about half of all land with forest vocation is deforested. At present, only about 250,000 hectares of productive forest remain, and at the observed rates of net deforestation, it is estimated that by the end of the century the country will have to import about 2 million m<sup>3</sup> of board on a yearly basis.

The agricultural frontier has expanded rapidly since 1950 at the expense of the natural forests. During the period 1950-84, the agricultural hectareage increased from 4 to 12 percent of the total area of the country, while fields for livestock increased from 12 to 33 percent. The greater part of the forest outside of the National Parks are privately owned by individuals who were basically subsistence crop and animal producers and to whom the forests was an obstacle to productive activities. Consequently, the forests were cut and left to rot in most instances, or the trees sold cheaply to loggers. It is estimated that today 60 percent or more of the deforestation occurs on small farms in remote areas, where farmers create pastures for cattle.

The relatively low commercial value of the stumpage has induced low utilization rates of forest products; only about 20 to 30 percent of the standing commercial volume is actually used; the rest is wasted in the fields and at the mills. Logs of less than 3.36 meters long or 40 cm in diameter are rarely accepted by the mills. Other logs that are cut lack commercial value and are thus discarded.

Despite the dearth of serious evaluations, it is now recognized that restrictive forest product trade policies combined with other policies in the forest sector undervalue timber and non-timber forest products, and act as major disincentives for forest industry and woodland owners to operate in a more sustainable fashion (Johnston et. al., 1992; Stewart, 1992). International trade policies often include log export bans or taxes and high tariffs on imported forest products, which combine to subsidize and protect local industries which are often inefficient.

Stewart (1992) showed that the log export ban, the discouragement of sawnwood exports, and high import tariffs on processed products all combined to reduce the prices of sawnwood, logs and stumpage, and to increase the profitability of downstream processing to the point where economic rents were being captured.

### 2.0 Purpose and Description

The purpose of this study is to determine the actual magnitude of trade distortions in the forest sector and assess how the current trade regime affects the structure of forest products prices, in general, and stumpage prices in particular, and to tell how changes in trade policies could promote or constrain the adoption of sustainable forest management practices.

### 3.0 Scope of Work

The study consultant will:

- a) describe all tariff and non-tariff restrictions to trade with particular attention to whole log exports and imports, and intermediary products such as dimension lumber, plywood and some finished products;
- b) calculate border prices for a basket of forest products (logs, lumber, plywood, parquet) and compare them to corresponding domestic prices, and compute nominal protection coefficients for each product;
- c) use the nominal protection coefficients, the import tariff structure, quantification of non-tariff barriers and approximate cost structure of downstream processing (doors, furniture) to estimate private and social value added, as well as effective protection coefficients;
- d) on the basis of the above calculations, determine where the country's comparative advantage lies in the forest sector, and make specific recommendations for acquiring comparative advantage in other activities and for exploiting current advantages;
- e) examine possible scenarios for relieving import and export controls on forest products, carefully assessing their likely impact on stumpage, as well as intermediate and finished good prices and the operations of land owners, loggers, sawyers and woodworkers; and
- f) in this regard, determine what industrial structure (and production activities) would prevail in the future under a free trade regime that is also free of monopolistic influences. Recommend whether Costa Rica would continue to manufacture and export plywood or change to export more logs, sawnwood and other products and import logs and plywood of high quality, and determine if the country will have comparative advantage in the manufacture of furniture, doors and other products after the changes.

### 4.0 Budget (1993 \$)

Year 1994

A.	Personnel	
	a. Principal researcher 50 days at \$280/day	14,000
	b. Forest industry consultant 10 days at \$150/day	1,500
B.	Travel	
	a. Per diem 20 days at \$20/day	400
	b. Surface transportation	200
C.	Workshop	7,800
D.	Miscellaneous	2,700
E.	Total Cost -	26,600

PROJECT OUTPUT 2.A.  
DGF FIELD OPERATIONS STRENGTHENING

## PROJECT OUTPUT 2.A. DGF FIELD OPERATIONS STRENGTHENING

### 1.0 Background and Statement of Needs

Efficient and effective support and control of field operations in the forestry sector by the DGF depends on two factors. First, there must be well-designed regulatory instruments which both reward compliance and permit the timely and efficient identification of violations of the law. Currently these consist of the management plan/cutting permit system, log tags for tracking the transport of cut volumes, and a set of procedures for applying these two instruments. Second, there must be sufficient resources for application of the regulatory instruments in the form of labor, buildings, and equipment. Padilla et al identified the lack of such resources as a major deficiency in the regulation and control of field operations in the forestry sector by the DGF. \*3

The development and allocation of sufficient resources for effective application of the regulatory instruments include the following. First, the kinds of human resources must be identified and specific job descriptions developed. Second, the number of each kind of position required in a given area or region must be justified using a systematic and logical methodology, that is, given clear work norms or standards that can be reasonably expected of employees (e.g. management plans reviewed per month) and the level of work expected to be generated in an area annually (e.g. number of management plans submitted for approval). Once staffing requirements by project site are available, equipment and infrastructure needs can be addressed. Finally, staff must be trained in the use of the regulatory instruments and enforcement of the law.

The project addresses the needs related to development of well-designed regulatory instruments in outputs 1A, periodic review and revision of the management plan guidelines, 1B, operational research, and 2B, computer based inventory and monitoring system. These components will promote the establishment of concise, unambiguous regulations and control procedures which allow consistent and timely application and avoid arbitrary interpretation by enforcement staff. The project component described here involves the job design and allocation plan for DGF personnel within the three pilot sites including provisions for adequate logistic and physical resources. This component is primarily an activity of the Costa Rican Government and, specifically, the DGF. It represents their contribution to the project of both proprietary and PL480 funds. Staff training is addressed in outputs 2B, 2C, and 3A.

### 2.0 Staff Requirements and Job Descriptions.

An analysis of the staffing requirements in each of the three pilot site locations was completed in cooperation with the DGF. Job descriptions were developed for each type of job including specific duties and the hierarchy of command. A total of forty (40) people are required as shown below:

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3. Padilla, R.M., Garza, E.S., and Rojas, R. 1991. Findings and recommendations for forestry law enforcement and control of illegal logging and log transportation. Report submitted to the United States Agency for International Development, Mission Costa Rica, July 15, 1991, 33 pp.

Director (1)  
Forest Engineers (7)  
Forest Technicians (7)  
Forest Inspectors (18)  
Secretaries (4)  
Cooks (3)

## 2.1 Project Director

The Project Director will be stationed in the central office of the DGF in Tibas. The Director will be responsible for supervising the activities of all other DGF dedicated project staff and will coordinate the exchange and processing of regulation and control information at the national level. He will also be responsible for coordinating interaction between the DGF project dedicated field staff and all other staff in the DGF regions and central office.

## 2.2 Forest Engineers

The Forest Engineers will be responsible for servicing a specific client base consisting of approximately 10 active forest management plans per year. All activities of the Forest Engineers will be located within one of the three Pilot Project sites. Three (3) will be stationed in the Curena (North Zone), three (3) will be stationed in the Osa Peninsula (South Zone), and one (1) will be stationed in the Talamanca (Atlantic Zone). The allocation to the Atlantic zone will increase by one in years 1995 and 1996 to give a total of three (3) by the end of 1995 given that demands on this office are expected to grow as a result of the project. Forest Engineers will be assigned to each area according to the number of active management plans at any one time. One Forest Engineer will be designated as the Field Office Supervisor who will oversee the activities of all other office staff.

Specific job duties of all Forest Engineers including the Field Office Supervisor will include:

1. Timely review and approval of qualifying management plans including at least one field visit and the filing of a site visit report;
2. Timely review of all documents required in applications for annual cutting permits including the issuing of log tags to the consulting forester and at least one field visit prior to the initiation of cutting and the filing of a site visit report;
3. At least one field visit to each active logging site to assess compliance with the approved harvest plan and the filing of a site visit report;
4. At least one field visit to each logging site after logging is completed and the filing of a site visit report;
5. Input and maintenance of management plan and cutting permit files in the database system including cross referencing with truckload volume scale data to insure compliance with approved cut volumes;
6. Issuing violations (denuncias), collecting and preserving evidence, and testifying in court proceedings for cases of non-compliance associated with the execution of the management plans and annual cutting permits; and
7. Servicing all other needs of the consulting foresters for the client base related to GOGR incentives and related activities.

### 2.3 Forest Technicians

The Forest Technicians will be responsible for providing support to the Forest Engineers and will report to the Field Office Supervisor. Initially, two (2) will be stationed in the Curena, two (2) in the Talamanca, and three (3) in the Osa. Job duties of the Forest Technicians will be the same as those which currently apply to such positions in the DGF including:

1. Conducting field site visits of active logging sites to check for compliance with the execution of the management plan and cutting permit conditions; and
2. Review of applications for non-management plan cutting permits and timely approval of those which qualify.

### 2.4 Forest Inspectors

The Forest Inspectors will staff the road checkpoint stations 24 hours a day, 7 days per week for the five months of the timber period (January 1 through May 31). This will require 6 Inspectors for each of three checkpoints giving a total of 18 staff. Three will be full-time, acting as guards for the 7 months outside of the timber period. Forest Inspectors will be responsible for all activities associated with the operation of the road checkpoint stations including:

1. The measuring and recording of truckload log scale data for all trucks which pass through the check station, and the entering of such data in the database for cross referencing with management plan and cutting permit information;
2. Checking the validity of log tags on all trucks and ensuring that they are securely attached; and
3. Issuing violations (denuncias), collecting evidence, and testifying in court proceedings in cases of non-compliance with the Forest Law.

### 2.5 Secretaries

Secretaries will perform the standard duties required of such positions in the DGF. One (1) will be stationed in each of the field offices, and another assigned to the Project Director in the central office.

### 2.6 Cooks

The field Cooks will perform the standard duties required of such positions in the DGF. One (1) will be assigned to each of the field offices.

3.0 Annual Budget, 1993 (138 colones/US\$)

Year	1994		1995		1996		1997	
	GOCR	PL480	GOCR	PL480	GOCR	PL480	GOCR	PL480
<b>I. Personnel</b>								
A. Dir., @ \$16,900/yr	16,900		16,900		16,900		16,900	
<b>B. Forest Engineers, 7 in 94, 8 in 1995, 9 in 96/97 @ \$9893/yr</b>								
1. Perdiem, @ \$94.25/mo.	69,251	7,917	79,144	9048	89,037	10,179	89,037	10,179
2. Diff. @ \$94.25/mo.	7,917		9048		10,179		10,179	
<b>C. Inspectors</b>								
1. 3 full t. @ \$6123/yr	18,369		18,369		18,369		18,369	
a. diff. @ \$94.25/mo	3,393		3,393		3,393		3,393	
2. 15 1/2 yr. @ \$ 471/ a. diff. @ \$87/mo	42,390 7,830		42,390 7,830		42,390 7,830		42,390 7,830	
<b>D. Forest Technicians</b>								
1. 7 full time @ \$6123/y	42,861		42,861		42,861		42,861	
a. Perdiem @ \$87/mo.		7,917		7,917		7,917		7,917
b. diff. @ \$87/mo.	7,917		7,917		7,917		7,917	
<b>E. Secret., 4 @ \$3297/yr</b>								
1. diff., 3 @ \$94.25/mo.	13,188 3,393		13,188 3,393		13,188 3,393		13,188 3,393	
<b>F. Cooks, 3 full time @ \$2826/yr.</b>								
1. diff., @ \$94.25/mo.	8,478 3,393		8,478 3,393		8,478 3,393		8,478 3,393	
G. Sub-Total	245,280	15,834	256,304	16,965	255,528	18,096	267,328	18,096
<b>II. Equipment</b>								
<b>A. Pickups</b>								
1. Purchase 8 in 1994, 1 in 1995 and 1996, \$18,000 each		144,000		18,000		18,000		
2. Fuel, 30,000 km/yr. \$.04/km		9,600		10,800		12,000		12,000
3. Maintenance, \$1800/yr.		14,400		16,200		18,000		18,000
<b>B. Motorcycles</b>								
1. Purchase 10 @ \$2000 ea		20,000						
2. Fuel, 30,000 km/yr @ \$.02/km		6000		6000		6000		6000
3. Maintenance, \$240/yr		2,400		2,400		2,400		2,400
<b>C. Other</b>								
1. Radios, 6 @ 1200 ea.		7,200						
2. Other		56,800						
D. Sub-Total		260,400		53,400		56,400		38,400

3.0 Annual Budget, 1993 (138 colones/US\$)

Year	1994		1995		1996		1997	
	<u>GOCR</u>	<u>PL480</u>	<u>GOCR</u>	<u>PL480</u>	<u>GOCR</u>	<u>PL480</u>	<u>GOCR</u>	<u>PL480</u>
III. Buildings and Office Space								
A. Cureña								
1.								
		50,000		15,000				
2.				10,000				
B. Talamanca								
1.								
		50,000		15,000				
2.				10,000				
C. The Osa								
1.								
		50,000		15,000				
2.				10,000				
D. Sub-Total		150,000		75,000				
IV. Grand Totals	211,437	460,077	221,330	180,339	231,223	110,601	231,223	92,601

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PROJECT OUTPUT 2.B.  
COMPUTER BASED INVENTORY AND MONITORING SYSTEM

## PROJECT OUTPUT 2.B. A COMPUTERIZED INVENTORY AND MONITORING SYSTEM

### 1.0 Background and Statement of Needs

The Padilla et. al. \*4 reported indicated that sawmills process approximately twice the volume of timber authorized for harvesting through the cutting permit and log tag systems. There are two primary reasons for the discrepancy: illegal cutting and underestimation of log volumes in log decks. Taxes due on harvested timber are collected based on the volume of logs for which tags are legally issued, consequently, the GOCR is failing to collect a considerable sum. Viewed another way, the annual cut of timber in the country is essentially twice the authorized volume thus accelerating the depletion of the already scarce timber resources. While achievement of 100% compliance within the permit system is a desirable goal, such a development has serious timber supply implications for the existing forest industries of the country. These issues will be addressed in the Operational Research for Sustainable Management component of the project.

The current mechanism for controlling cutting and collecting taxes on timber is a system based on log tags. Tags are issued by the DGF to a consulting forester (regente) acting on behalf of a land owner for transport of cut logs from stands approved for cutting through the permit system. The agent files a report with the DGF requesting a certain number of tags once a sufficient number of logs has accumulated for transport to begin. The report includes an estimate of the volume based on measurements of logs or felled trees made by the agent. The DGF compares the request with the original volume estimate in the permit application made from measurements on the standing timber as a check to prevent over cutting. If all is in order the tags are issued and the agent attaches them to the logs, the logs are trucked and delivered, and finally they are removed at the sawmills where they are held in safekeeping for the DGF. The DGF collects the tags and then verifies them against the corresponding cutting permit to insure the approved volume was harvested.

The current system for controlling cutting and collecting taxes is inefficient and ineffective. While the Padilla et al. report concluded that the system of tags could be functional, substantial revisions are required for this to be realized. One suggestion made in the report was to design and implement a database system for tracking the history of cutting permits approved by the DGF. Such a system would result in considerable savings of time and effort as well as increased effectiveness in controlling illegal cutting and greater efficiency in collecting taxes. The system would augment the positive changes recently made by the DGF in which agents for the land owners are used for log measuring and tagging instead of DGF staff.

### 2.0 Purpose and Description

This project output will design and implement a system for control and enforcement of legal cutting of timber in Costa Rica. The backbone of the system will be a database computer program which will be used by enforcement personnel stationed at road checkpoints to verify that passing log trucks contain only legally cut timber. The database system will be employed nationally but maintained locally.

Authorization for cutting and the issuing of permits and tags will be done regionally and the required entries made to the database system at the regional offices. Up-to-date versions of the database system will be distributed to all regional checkpoint stations as required. Road checkpoints will become the primary point of interdiction in the enforcement process. Staff will be trained appropriately in the collection of evidence and legally required procedures to insure successful prosecution of guilty parties. Such training will be provided through the jurisprudence training component of the project. Training in this component will concentrate on the use of the database system and complimentary programs, and log scaling methods.

In addition to the primary function of the control of legal cutting, the database system will also be designed to support regional and national planning activities. Information collected on the number of permits, volume harvested, and timing of logging and transportation activities will be available to both regional and national planning personnel in the DGF as well as staff in the Operational Research component of the project. Such information will be useful in the host of analyses pertaining to timber supply, particularly the geographic distribution of demand for timber and cutting activities.

### 3.0 Scope of Work

Work in this component of the project is divided into two areas: 1) design and development of the database system for cutting permits and 2) design of the revised structure of the permit system, as it relates to enforcement including the procedures for DGF road checkpoint staff.

#### 3.1 Design and development of the database system

The computer system for assisting in the control of legal cutting should be programmed using one of the commercially popular database management systems. A design team will be formed, and through consultation with existing enforcement staff they will design the system. Copies of the system will then be distributed to the various regions which will, independently, maintain regional files on permits. This decentralized approach is consistent with the new distribution of responsibilities for permit review and approval within the DGF. Periodically, updated files will be delivered to the central DGF office in San Jose.

Specific tasks in this part of the study include:

- 1.) Review ongoing efforts by the DGF to computerize operations to insure this component of the project is complimentary;
- 2.) Design, write and test, a database management system for tracking timber harvesting cutting permits including the volume of timber removed from each site;
- 3.) Design, write and test a complimentary program for use by regional office DGF staff for computing the volume of logs contained in the agents report requesting tags;
- 4.) Design, write and test a program for the handheld computers for entering log scale information by truckload and the require software for registering truckload data in the database system;
- 5.) Write complete documentation for all of the programs including design documents, programmer's guides, and user's guides;
- 6.) Design, test, and implement an appropriate security and backup system;

- 7.) Fully test the system and make any required modifications prior to operational deployment; and
- 8.) Train regional enforcement and other DGF staff in the use of the system.

### 3.2 Structure and Procedures in the Revised Permit System.

The road checkpoint stations will become the primary point of interdiction in the new system for control and enforcement. Consequently, many of the previously required steps in the permit/tagging process will be eliminated and the procedures employed by checkpoint staff will change. The design team will address the following points:

- 1.) Specify the revised process structure in permit/tagging system for enforcement;
- 2.) Design and specify the revised procedures for road checkpoint staff in the collection of log volume data by truck load to be recorded for each permit;
- 3.) Insure the new procedures and data entry requirements are incorporated correctly into the database system and complimentary programs;
- 4.) Write a complete procedural manual for log scaling procedures for log trucks;
- 5.) Train the DGF road checkpoint staff in the log scaling procedures; and
- 6.) Communicate with project staff working on the design of jurisprudence training for enforcement staff in the development of field procedures and assist in the writing of an appropriate field manual.

### 4.0 Outputs

There will be five major outputs from this component of the project:

- 1) A fully tested and operational database management system for tracking the history of cutting permits including the volume harvested;
- 2) A complimentary program for calculating log volumes and issuing tags to landowner agents;
- 3) DGF regional staff fully trained in the use of the system;
- 4) A manual of procedures for DGF checkpoint personnel for log scaling and recording data on truckloads of logs; and
- 5) DGF regional road checkpoint staff fully trained in log scaling and data entry procedures.

### 5.0 Staffing Requirements

This component will require a staff of three: a computer programmer with expertise in database systems, an expert on log scaling procedures, and one representative from the DGF. The DGF representative will supervise the activities of the programmer and scaling expert in the development of the computer program and scaling procedures, respectively. Time requirements for the staff are shown below:

- a. DGF representative, 12 months @ 5 days/month
- b. Computer programmer, 12 months, full time
- c. Scaling expert, 12 months, half-time

6.0 Budget (1993 \$)

Year	1995	1996	1997
<b>A. Hardware</b>			
8 microcomputers 386, 120 MB/HD, 4 meg ram @ \$ 1500/unit	12,000		
6, handheld computers @ \$2500/unit	15,000		
3, dot matrix printers @ \$ 333/unit	1,000		
3, UPS @ \$333/unit	1,000		
3, power stabilizers @ \$ 100/unit	300		
<b>B. Software, (8 copies each)</b>			
database management system @ \$ 500/copy	4,000		
wcrd-processing program @ \$ 300/copy	2,400		
other @ \$ 300/computer	2,400		
<b>C. Staff</b>			
programmer 12 months @ \$ 1250/month	15,000		
scaling expert 12 months @ \$ 1000/month	12,000		
<b>D. Travel</b>			
2000 km/month @ .25\$/km	6,000		
per diem, 10 days per month @ \$ 20/day	2,400		
<b>E. Miscellaneous computer supplies</b>			
	1,500		
<b>F. Maintenance</b>			
		5,000	5,000
<b>G. Subtotal</b>			
	75,000	5,000	5,000
<b>H. NGO Overhead (10%)</b>			
	7,500	500	500
<b>I. TOTAL</b>			
	82,500	5,500	5,500

PROJECT OUTPUT 2.C.  
FORESTRY JURISPRUDENCE TRAINING AND MONITORING

PROJECT OUTPUT 2.C.  
FOREST JURISPRUDENCE TRAINING AND MONITORING

1.0 Background and Statement of Needs

The problem of successful enforcement of the Forest Law is compounded by the lack of any credible deterrent to would-be violators. There is considerable anecdotal evidence from sources such as FUNDECOR, COSEFORMA, and the DGF which indicates that, while at times and in places a substantial number of violations are issued, very few result in convictions. Atmetlla and Luis reported that only 10% of the arrests in Costa Rica for all so-called ecological violations result in convictions <sup>5</sup>. For deterrents to function as designed they must be applied otherwise criminals assign low risks to illegal acts and their frequency and severity increase.

The reasons for the low frequency of successful prosecution in cases involving the Forest Law and related legislation extend throughout the enforcement chain <sup>6</sup>. First, uncertainty exists with respect to the geographic boundaries of the various legal jurisdictions in the country. Judges and other officials are inclined to delay or even dismiss cases on these grounds. Second, there are problems with the interpretation of the law by judges and prosecuting attorneys. Such officials are often unfamiliar with the contents of the Forest Law and the technical language included in reports filed by investigators as part of the evidence. This leads to confusion and ultimately lenient interpretation or misinterpretation and dismissal. Problems also exist with public officials such as DGF employees, the local police, and others responsible for issuing the violations. These "front-line" personnel have never been instructed in methods for collecting and preserving evidence, techniques for giving testimony, and suffer from a lack of understanding of their responsibilities in the application of the laws. Finally, and perhaps most importantly, the general public does not give sufficient weight to reducing this kind of crime. Compared to more serious offenses, violations against the environment are viewed as trivial. A direct effect of this attitude is low motivation on the part of everyone involved in the prosecution process which in turn results in the assignment of low priority to such cases.

Clearly, for the ~~¥sufficient resources for effective regulation¥~~ component of the project to be successful a jurisprudence training activity is required. The training effort must be directed towards key personnel throughout the prosecution chain. In addition, resources must be allocated to the monitoring of court cases to insure diligence on the part of prosecutors and a higher success rate for convictions. This component of the project addresses these needs.

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5. Atmetlla, A. and Luis, J. 1992. Propuesta para el proyecto de capacitación legal en la prevención y denuncia de delitos ecológicos. CEDARENA, San Pedro, Costa Rica, 18 pp.

6. Madrigal, P. 1992. La administración de justicia para la protección de los recursos naturales. 2o. Congreso Nacional Forestal, San José, Costa Rica, Nov. 1992. 10 pp.

## 2.0 Purpose and Description

This project output will support the training and continuing education of judicial officials, employees of the DGF, local police, and interested public citizens in jurisprudence activities, and the monitoring of court cases involving violations of the forest law. The objective of the activity is to create functional deterrents to crimes which compromise the success of efforts to increase adoption of sustainable forest management practices. This component of the project will involve the design and delivery of a comprehensive program for jurisprudence training directed exclusively in the three pilot areas. In addition, a case monitoring capability will be established and employed in the three pilot areas for the duration of the project. The activity will be contracted to an independent NGO by the project's primary grantee.

## 3.0 Scope of Work

The work in this component of the project will be divided into three activities: 1.) investigation and short-course design 2) short-course delivery and 3) case monitoring.

### 3.1 Investigation and Short Course Design

Work in this component will begin with the review of the Forest Law and related legislation, particularly that which applies to the use of consulting foresters (regentes) and other recent modifications or additions. This work will identify the responsibilities and authority of key personnel in the enforcement chain including DGF forest engineers, technicians and inspectors. Jurisdiction maps will be prepared for the three pilot project areas and the content, delivery format, and logistical plan for the jurisprudence training short-course will be developed. Specific tasks in this phase of the work include:

- 1.) Review the current Forest Law and related legislation which applies to forest management activities and produce responsibility and authority descriptions for all key personnel in the enforcement chain;
- 2.) Prepare detailed jurisdiction maps for the three pilot project sites;
- 3.) Develop the curriculum and logistical plan for the jurisprudence short-course including locally-based case studies; and
- 4.) Communicate with other project personnel involved in the development of sufficient resources for enforcement in the design and development of adequate physical resources, administrative procedures, and regulatory instruments.

### 3.2 Short-course Delivery.

Work in this phase will involve the delivery of jurisprudence training short-courses to key personnel in the three pilot project areas. The first sessions will be given in the first year followed by a refresher course in year three. Key personnel include judges, prosecuting attorneys, court clerks and secretaries, DGF Foresters, technicians and inspectors, local police and other interested parties. Specific tasks include:

1. Delivery of one two-day training session in each of the three pilot project areas to key personnel in the enforcement chain in 1994;
2. Modify the curriculum as needed between sessions to improve effectiveness and address issues which arise in individual sessions;
3. Redesign the curriculum after the second year of case monitoring activities (see below) to address issues inhibiting successful prosecution; and
4. Delivery of one two-day refresher course in each of the three pilot project areas to key personnel in the enforcement chain in 1996.

### 3.3 Monitoring

Work in this phase will involve the continuous monitoring of the progress of court cases involving violations of the Forest Law and related legislation beginning in the second year of the project. The objective is to motivate judges and associated personnel to move quickly and efficiently in the handling of cases, and to report on the success of such cases. In addition, information on problems that arise in the prosecution of cases will be collected and analyzed as a means for improving the content and delivery of the short-courses on jurisprudence training. Specific tasks are:

1. Design and implement a mechanism for tracking the progress of court cases involving violations of the Forest Law that originate from the project pilot areas;
2. Council judges, prosecuting attorneys, and other court officials in the processing of court cases including the maintenance of a register of expert witnesses;
3. Compile and submit a written quarterly report on the number of violations, and progress of court cases to the "public information on sustainable forest management" component of the project for inclusion in the newsletter;
4. Compile information on issues that arise in the hearing of court cases which inhibit speedy handling and successful prosecution to provide feedback in the design of the refresher short-courses; and
5. Provide "on-call" legal support to the DGF and other staff regarding issues that arise in all aspects of enforcement.

### 4.0 Deliverables

There are three primary deliverables from this component of the project.

1. Initial jurisprudence training of 90 key personnel in the enforcement chain.
2. Development of a monitoring and reporting service for court cases involving the Forest Law and related legislation.
3. Refresher jurisprudence training of 90 key personnel in the enforcement chain.

## 5.0 Staff Requirements

In the first and third year of the project this component of the project will be supervised by a Senior Attorney in the lead NGO chosen to manage the activity. The responsibilities of this person will be to direct the development of the course material, review the existing law, and oversee the jurisdiction mapping. The Senior Attorney will also lead the delivery of the three short-courses.

The Senior Attorney will be supported by a Junior Attorney who will do most of the research and development of the course material. This person will also organize the logistics of the short-courses and participate in the delivery of the material. The Junior Attorney will also develop and implement the case monitoring activity of the component. This person will be supported by a Student Attorney.

Finally, additional experts will be contracted to participate in the delivery of the short-courses.

6.0 Budget (1993 \$)		1994	1995	1996	1997
Year					
I. Personnel					
A.	Senior Attorney, part-time 1994/96, @ \$500/mo.	6,000		6,000	
B.	Junior Attorney, half-time @ \$1000/mo.	12,000	12,000	12,000	12,000
C.	Student Attorney half-time @ \$250/mo.	3,000	3,000	3,000	3,000
ii. Short-courses, 2 days,					
3 in 1994 and 1996					
A.	Judicial Officials 10 officials/course, \$70/day	4,200		4,200	
B.	Direct costs, 3 officials food, lodging, transport \$200 <sup>c</sup> /course	6,000		6,000	
C.	3 additional support Staff \$1000/course	3,000		3,000	
III. Travel and Miscellaneous					
A.	Fuel, 12,000 km/yr/1994/96 6,000 km/yr/1995/97 \$.25/km	3,000	1,500	3,000	1,500
B.	Per diem, 30 days/yr @ \$ 20/day	600	600	600	
C.	Copying and preparation of course materials	1,500	1,500	1,500	500
IV.	Subtotal	39,300	18,600	39,300	17,000
V.	Overhead a 10%	3,930	1,860	3,930	1,700
VI.	Total	43,230	20,460	43,230	18,700

PROJECT OUTPUT 3.A.  
SUSTAINABLE FORESTRY TECHNICAL TRAINING

PROJECT OUTPUT 3.A.  
SUSTAINABLE FORESTRY TECHNICAL TRAINING

1.0 Background and Statement of Needs

One of the greatest impediments to sustainable management in tropical moist forests is the amount of damage caused by commercial logging operations. It has been estimated that for every tree cut one is destroyed and another is damaged, and that up to 30% of the soil surface is disturbed <sup>7</sup>. The direct impact on loss of the future crop in the short term through damaged and destroyed trees combined with the long-term negative effects of soil erosion on site productivity seriously compromise the already marginal economics of sustained forestry operations. Related studies have also shown that through improved logging techniques soil and residual tree damage can be substantially reduced. <sup>8</sup> What's more, these improvements lead to reduced logging costs through less road building, decreased down time, and greater overall efficiency. These direct savings could translate into higher stumpage prices to the landowner which would help encourage participation in, and commitment to, long-term sustainable management.

Improved logging is only possible through the training of both loggers and foresters in the planning and execution of timber harvesting operations. <sup>9</sup> The lack of attention paid to this important aspect of forester training in University programs is well documented. Similarly, the almost complete lack of programs designed specifically for loggers is recognized worldwide. At the same time, increased attention is being focused on best management practices in tropical rain forests including close scrutiny of logging methods by international groups interested in promoting sustainable management through the certification of forestry operations. The Costa Rican forestry sector must develop and implement intensive and extensive logger and forester training programs designed specifically to improve logging practices in order to promote sustainable management of its remaining natural forests. Such a program is absolutely essential if Costa Rica is to become a player in the international market. This component of the project will assist in the establishment of two unique but integrated training programs, one for foresters and the other for loggers. The programs will be designed to bring timber harvesting operations up to internationally accepted levels of performance and will insure the raising of standards through self financing programs of continuing education.

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7. Arentz, F. 1992. Training in logging techniques for sustainable forestry. Tropical Forest Management Update, ITTO, 2(3):7-8.\*

8. Hendrison, J. 1990. Damage-controlled logging in managed tropical rain forests in Surinam.. Wageningen Agricultural University.

9. Henrich, R. 1987. Introduction to appropriate forest operations in supporting rural development. In: Appropriate Forest Operations. Proceedings of FAO/Finland Training Course. Philippines.

## 2.0 Purpose and Description

This project output will provide technical training to the two most important groups within the forestry sector with respect to the implementation of sustainable management: practicing foresters and loggers. The objective of the training programs is to educate these two groups in the design and implementation of all aspects of forest operations that maintain or enhance the productive potential of forests.

This will be accomplished through the development and implementation of two integrated but unique training programs: one for DGF and consulting foresters and the other for loggers and DGF technicians. The foresters program will include both theoretical and field work, and will be developed in cooperation with the Colegio de Ingenieros Agronomos (CIA). The logger program will be essentially 100% practical field instruction and will be delivered on active logging sites to promote participation by loggers. The possibility of cooperating with the Instituto Nacional de Aprendizaje (INA) in the design and implementation of the loggers program will be explored.

## 3.0 Scope of Work

Work in this component of the project will be divided into three activities: 1) design and preparation of training programs; 2) delivery of programs; and 3) continuing education.

### 3.1 Design and Preparation

Work on this activity represents the startup phase of this component of the project. A design team will be created that will develop the logistics and curriculum of the two training programs. This will include preparation of all written material and other teaching aids. Specific tasks in this activity will include:

- 1.) Design, distribution, and analysis of a diagnostic survey of the logger community to assess numbers, location, and educational skills to support planning of the curriculum and the logistics of delivery;
- 2.) Prepare of two handbooks, one on best management practices for consulting foresters, and the other on best logging practices for loggers;
- 3.) Produce of a video on best logging practices to be used in the logger training program;
- 4.) Develop of logistic plans for delivering the forester training program and the logger training program including location of facilities, timing, and contracting of required personnel;
- 5.) Design, publication and distribution of the first newsletter announcing the programs including a schedule of times and places and a complete description of the purpose and contents of each program; and
- 6.) Solicit the cooperation and contributions of the CIA, BOSCOA, and CODEFORSA in all aspects of design for the foresters training program.

### 3.2 Delivery of Training Programs.

Work on this activity will concentrate on the delivery of the two training programs, one for foresters, and the other for loggers. Field and classroom sessions will be delivered in cooperation with BOSCOA in the south, CODEFORSA in the north, and an appropriate organization in the Atlantic zone. Specific tasks include the following.

- 1.) Deliver two sessions per year of a two day foresters training program for four years. Each session will accommodate up to 20 foresters.
- 2.) Deliver five sessions per year in each of the three targeted regions for four years. Each session will accommodate up to 10 loggers and will be run in the field on one or more of the active logging sites of the participating loggers.
- 3.) Modify the curriculum and logistical components of the two training programs as needed during the three years.

### 3.3 Continuing Education.

The goal of Continuing Education activities is to maintain awareness within the practicing forester and logger communities of the importance of best management practices. Elements in this activity will be designed to expand the number of people exposed to formal training and to raise the standards of performance beyond the basics addressed in the original program. Specific tasks will include the following.

- 1.) Design, write, publish, and distribute a quarterly newsletter reporting on the progress of the training programs, international news on training, technical and operational developments in improved forest management and logging, and news about good loggers and foresters in CR.
- 2.) Establish and implement a system for making field checks on the performance of loggers and foresters with respect to best management practices. Prepare a position paper on the feasibility of logger certification by the end of the third year of the program.
- 3.) Design the curriculum and a plan for delivery of a refresher course for graduates of the original program to begin after the fourth year.

### 4.0 Deliverables

In this component of the project there will be five major products.

- 1.) 160 DGF and consulting foresters trained in the design, execution, and compliance of best forest management practices.
- 2.) 400 loggers and DGF technicians trained in best logging practices.
- 3.) Two fully developed and operational training programs, one for foresters and one for loggers and DGF technicians.
- 4.) The infrastructure for establishment and maintenance of a national logger certification program including provisions for periodic review.
- 5.) A nationally circulated newsletter on best forest management practices including logging methods.

## 5.0 Staff Requirements

An Executive Director will head this component of the project working 50 days per year. He will be responsible for the design of both programs and the preparation of the required material. He will be supported by an Executive Assistant for a period of two months who will supervise the production of the training video and the diagnostic survey of loggers. He will also require a secretary for two months to assist in the preparation of written material.

The Executive Director will also be responsible for the delivery of the Foresters Training Program with the help of three additional Experts. He will supervise the publication of the newsletter, and all continuing education activities. Three additional Extension Specialists will be required for delivering the logger training programs, one for each region of the project. They will be trained by the Executive Director in the first year and each will work full-time for six months and give 5 training sessions per year. They will be supported by a half-time secretary for the six months.

## 6.0 Budget (1993 \$)

	Year	1994	1995	1996	1997
<b>I. Personnel</b>					
a.	Executive Director, 50 days/yr. @ \$150/day	\$ 7,500	7,500	7,500	7,500
b.	executive assistant, 2 months, @ \$1000/month	\$ 2,000			
c.	Secretary, 2 months, full time, 6 months half time @ \$350/month	\$ 1,750	1,750	1,750	1,750
d.	forestry training, 3 experts, \$200/session, 2 sessions/yr	\$ 1,200	1,200	1,200	1,200
e.	logger training, 3 Extension Staff 6 months/yr @ \$1000/month	\$18,000	18,000	18,000	18,000
<b>II. Travel</b>					
a.	preparation, 5000 km @ \$.25/km	\$ 1,250			
b.	preparation per diem, 10 days @ \$20/day	\$ 200			
c.	logger training, 1500 km/mo/staff for 3 Extension Staff and 6 months @ \$.25/km	\$ 6,750	6,750	6,750	6,750
d.	logger training, per diem, 20 days/mo/staff, 3 staff, 6 months, @ \$20/day	\$ 7,200	7,200	7,200	7,200
<b>III. Miscellaneous</b>					
a.	Participants direct cost logger training, 100 loggers/yr @ \$ 40/logger	\$ 4,000	4,000	4,000	4,000
b.	Video Production	\$ 1,500			
c.	Handbooks, 500 copies @ \$3.00/copy	\$ 1,500			
d.	Newsletter publication and distribution, 4 issues/yr, 300 copies/issue @ \$0.35/copies\$	\$ 420	420	420	420
e.	Other	\$ 500	500	500	500
IV.	Subtotal	\$53,770	47,320	47,320	47,320
V.	CIIBI Overhead @ 10%	\$ 5,377	4,732	4,732	4,732
VI.	TOTALS	\$59,147	52,052	52,052	52,052

- 3.) Organize and provide local banquets, barbecues, logger competitions, and other events during which local residents can be recognized and rewarded for their participation in implementing sustainable forest management practices; and
- 4.) Communicate with key project personnel managing other components as a means for identifying opportunities for conducting the events listed above as well as in the design of additional activities.

#### 4.0 Deliverables

The primary output from this component of the project will be an increase in the level of awareness of the general public of Costa Rica about the challenges facing the forestry sector and steps the government is taking to address those challenges. In particular, the public will have a better understanding of the role of sustainable forest management in the preservation of their forests which should promote a socially more favorable environment for those choosing to adopt such practices. In addition there will be the following specific products.

- 1.) 3 TV and 3 radio public service announcement spots to be broadcast during the first year.
- 2.) A total of 12 field events for informing the local print and broadcast media and local environmental NGO's about project developments and progress towards promoting sustainable forest management.
- 3.) A total of 12 similar national seminars.
- 4.) The establishment of a national newsletter reporting on sustainable management within the country with a domestic and international circulation of 300 each.
- 5.) The establishment of a "forest worker of the year" and "forester of the year" award to be financed by private industry.

#### 5.0 Staff Requirements

This component of the project will be supervised by a Project Executive from the lead NGO chosen to manage the work. The Project Executive will work 1/3 time supported by a 1/2 time secretary. Major writing assignments will be handled by contract.

6.0 Budget, First Year Details  
Year

	1994	1995	1996	1997
I. Personnel				
a. Project Executive, 1.5 days/wk, 52 wks @ \$100/day	\$7,800	7,800	7,800	7,800
b. Secretary, half-time, 12 mos./yr @ \$400/month	\$4,800	4,800	4,800	4,800
c. Contract writing	\$7,000	7,000	7,000	7,000
II. Field and In-town Events				
a. 3 field events/yr @ \$1700/ev.	\$5,100	5,100	5,100	5,100
b. Information package, field events, \$ 500/event	\$1,500	1,500	1,500	1,500
c. 3 In-town event/yr @ \$600/ev.	\$1,800	1,800	1,800	1,800
d. Pride building events, banquets, awards, barbecues etc.	\$5,000	5,000	5,000	5,000
III. Public Service Announcements				
a. TV, series of 3, production costs only, programming free	\$1,000			
b. Radio, series of 3, production cost only, programming free	\$ 600			
IV. Publications				
a. Letterhead, logo, newsletter initial design	\$ 800			
b. Letterhead printing,	\$ 400			
c. Newsletter, 5 issues/yr, 600 copies/issue, \$1.15/copy	\$3,450	3,450	3,450	3,450
V. Miscellaneous				
a. Cellular phone purchase	\$795			
b. Phone and Fax charges, \$50/mo.	\$600	600	600	600
c. Computer purchase	\$1,000			
d. Office supplies, @ \$100/mo.	\$1,200	1,200	1,200	1,200
e. Other	\$ 500			
VI. Subtotal	\$43,335	38,250	38,250	38,250
VII. Overhead 10%	\$ 4,333	3,825	3,825	3,825
VII. TOTALS	\$47,665	42,075	42,075	42,075

PROJECT OUTPUT 3.B.

PUBLIC INFORMATION ON SUSTAINABLE FOREST MANAGEMENT

## PROJECT OUTPUT 3.B. PUBLIC INFORMATION ON SUSTAINABLE FOREST MANAGEMENT

### 1.0 Background and Statement of Needs

A critical element in the strategy for promoting the adoption of, and commitment to, sustainable forest management is public awareness and participation. Society must recognize, encourage, and reward individuals and groups who elect to make their living in the forestry sector and, through their daily activities, advance the cause of sustainable forestry. Such support by friends and neighbors is, perhaps, the most powerful means for motivating people to pursue forestry as an alternative to other land uses such as cattle raising. Citizens also must put pressure on their elected officials to act aggressively and positively to create the political and economic environments which favor sustainable development of forests. Finally, the public often has first-hand knowledge of what actually is going on in the woods, and, consequently, has an important role to play in the reporting on both good and bad practices.

The primary sources of information for the general public are the print and broadcast media. Local NGO's also contribute through both their direct membership and by helping to focus media attention on issues important to the forestry sector. The media can literally make forestry a current affair simply by providing continual, effective reporting, particularly if the stories contain a strong element of human interest. This kind of coverage serves to inform and excite people both of which are critical components in generating public awareness and participation. The media and, more importantly, NGO's can also contribute to promoting sustainable management through international reporting. Recent developments in Costa Rica regarding certification of forestry operations by independent, international review organizations (green seal) is a perfect example of how involvement by these groups might encourage improved forest management practices.

While Costa Rica has a reputation for environmental awareness originating principally from its world renowned national park system, understanding and active involvement in the forestry sector is essentially nonexistent. The country needs to establish a campaign for increasing public participation in the support of sustainable development of its remaining productive forests which must be conducted through the local media and NGO's. This component of the project will assist in the design and implementation of such a campaign by providing support to an existing, independent NGO. The overall task of the NGO is to empower the citizens of Costa Rica to take a more active, and in fact, dominant role in the planning and decision making at the national level for the forestry sector.

### 2.0 Purpose and Description

This project output will increase reporting of the local print and broadcast media and NGO's on sustainable management practices, forestry law, and regulation and enforcement activities in the forestry sector. The objective is to increase the awareness of the general public of forestry issues, and, in so doing, encourage popular support for sustainable forest development of the remaining productive forests. This will be accomplished by providing support to an existing, local NGO for the development of an information campaign for the media and environmental NGO's. The campaign will be comprised of local, regional, and national media and public service events as well as community-level activities designed to focus attention on human interest elements of sustainable forest management practices.

### 3.0 Scope of Work

The scope of work for this component of the project is divided into two primary activities: 1) media and NGO information campaign and 2) community-level promotional events

#### 3.1 Media and NGO Information Campaign

The lead NGO will design and implement a comprehensive information campaign for the local print and broadcast media and environmental NGO's with the goal of increasing reporting on forest sector activities. Activities pertaining to demonstrable examples of sustainable forestry, developments in forestry law, and control and enforcement of forestry operations will be targeted. Specific tasks in this activity are:

- 1.) Contract for and supervise the production of a series of 3 public service announcements for TV with the intention of alerting the general public to the challenges facing the forestry sector in its efforts to attain long-term sustainability;
- 2.) Contract for and supervise the production of a series of 3 public service announcements for Radio with the same purpose;
- 3.) Organize and conduct 3 regional field events per year for the media and environmental NGO's targeted at specific developments in the project involving the participation of the DGF and forestry sector NGO's;
- 4.) Organize and conduct 3 national seminars for the media and environmental NGO's also targeting specific project developments and involving the DGF and forestry NGO's;
- 5.) Design, publish, and distribute 5 issues per year of a newsletter reporting on forestry sector issues and project developments; and
- 6.) Establish and maintain direct contacts with key project personnel involved in the management of other components as a source of information and ideas for media field events, national seminars, and newsletter stories.

#### 3.2 Community-level Promotional Events

The purpose of this activity is to build pride within local communities and at the national level for positive achievements in the practice of sustainable forestry and to encourage local awareness and involvement in enforcement activities. This will be accomplished by conducting promotional events for recognizing and rewarding personal performance in these areas. Specific elements in this activity include:

- 1.) Organize and conduct regional and national competitions for forest worker of the year and forester of the year to be funded primarily by contributions from the private sector and judged by an independent technically competent organization;
- 2.) Coordinate with the "green stamp" program in the development of a campaign for advertising movements of such timber along highways;

3.0 Annual Budget, 1993 (138 colones/US\$)

Year	1994		1995		1996		1997	
	GOCR	PL480	GOCR	PL480	GOCR	PL480	GOCR	PL480
<b>I. Personnel</b>								
A. Dir., @ \$16,900/yr	16,900		16,900		16,900		16,900	
B. Forest Engineers, 7 in 94, 8 in 1995, 9 in 96/97 @ \$9893/yr	69,251		79,144		89,037		89,037	
1. Perdiem, @ \$87/mo.		7,917		9,048		10,179		10,179
2. Diff. @ \$87/mo.		7,917		9,048		10,179		10,179
C. Inspectors								
1. 3 full t. @ \$6123/yr	18,369		18,369		18,369		18,369	
a. diff. @ \$87/mo		3,393		3,393		3,393		3,393
2. 15 6 mos./yr. @ \$ 471/	42,390		42,390		42,390		42,390	
a. diff. @ \$87/mo		7,830		7,830		7,830		7,830
D. Forest Technicians								
1. 7 full time @ \$6123/y	42,861		42,861		42,861		42,861	
a. Perdiem @ \$87/mo.		7,917		7,917		7,917		7,917
b. diff. @ \$87/mo.		7,917		7,917		7,917		7,917
E. Secret., @ \$3297/yr	13,188		13,188		13,188		13,188	
i. diff., 3 @ \$87/mo.		3,393		3,393		3,393		3,393
F. Cooks, 3 full time @ \$2826/yr.	8,478		8,478		8,478		8,478	
i. diff., @ \$87/mo.		3,393		3,393		3,393		3,393
G. Sub-Total	211,437	49,677	221,330	51,939	231,223	54,201	231,223	54,201
<b>II. Equipment</b>								
A. Pickups								
1. Purchase 8 in 1994, 1 in 1995 and 1996, \$18,000 each		144,000		18,000		18,000		
2. Fuel, 30,000 km/yr. \$.04/km		9,600		10,800		12,000		12,000
3. Maintenance, \$1800/yr.		14,400		16,200		18,000		18,000
B. Motorcycles								
1. Purchase 10 @ \$2400 ea		4,000		20,000				
2. Fuel, 30,000 km/yr @ \$.02/km		6000		6000		6000		6000
3. Maintenance, \$240/yr		2,400		2,400		2,400		2,400
C. Other								
1. Radios, 6 @ 1200 ea.		7,200						
2. Other		56,800						
D. Sub-Total	4,000	260,400	53,400		56,400		56,400	

PROJECT OUTPUT 3.C.

FIELD NGC SUPPORT

## PROJECT OUTPUT 3.C. LOCAL NGO SUPPORT

### 1.0 Background and Statement of Needs

Small farmers play a critical role in the forest sector of Costa Rica, as the main element causing deforestation through the conversion of land from forests, for which they perceive little or no economic benefit, to agriculture, which is the only economic land use they understand. Changing the behavior of these small landowners, whose individual impact is limited but who together are responsible for the majority of destruction of Costa Rica's natural forest habitat, is the focus of this project, the purpose of which is to promote the adoption of sustainable forest management practices. Forest landowners will be more likely to adopt sustainable forest management practices if those practices provide them with an economic benefit that competes with traditional land uses.

Local non-governmental organizations (NGOs) play an important role in delivering services to small landowners in rural Costa Rica. Agricultural cooperatives and other such producer-owned enterprises provide small landowners with economies of scale for the processing and marketing of agricultural products and the purchase of inputs. Forestry and natural resources management is an increasingly important subject around which local NGOs are being organized at the grass roots level. However, the majority of these efforts are currently focussed on reforestation, rather than management of natural forest on private land.

Local NGOs that focus on the sustainable management of existing forests offer great potential for involving farmers, because these forests are a resource from which farmers can receive economic benefit in the short term at the same time that long-term productivity is promoted. Reforestation, on the other hand, provides an economic return only after a relatively long period of tree growth. Empirical evidence indicates that landowners are indeed, responding to this opportunity.

On the Osa Peninsula, one of the Reforma project three pilot areas, USAID's BOSCOA Project is developing forest management plans for landowners. BOSCOA has also supported the formation of AGROMUEBLES, an NGO involving forest landowners that operates a sawmill and woodworking shop to add value to owners' trees.

The Asociación ANAI works with local landowner associations in the Talamanca region, another of the Reforma project's pilot areas. One of these associations, ASICODES (Asociación San Miguelena de Desarrollo Social), promotes single tree selection with oxen from owners' lands and adding value to owners' non-traditional, as well as traditional, tree species through primary processing with a portable sawmill and fabrication of furniture and other products. ASICODES also promotes ecotourism through CASACODES, a lodge with access to the tropical forest on paths through members' forests.

This project component will strengthen local organizations' abilities to promote the adoption of sustainable forest management practices by private forest owners by procuring services from them to complement other project activities or by providing goods or services to the organizations.

Participation by these local organizations will strengthen this project through contacts at the grass roots level with small forest landowners. These contacts will at the same time increase farmers' awareness of the benefits from forests and provide participatory input into the project. Participation by local communities in forest management is an important element of USAID's Environmental Strategy, and has been accepted as a dogma for sustainable forest development in both the forest-related agreements from the United Nations Conference on Environment and Development and by the International Tropical Timber Organization.

## 2.0 Purpose and Description

The purpose of this component is to strengthen local institutions' ability to promote the adoption of sustainable forest management practices within the pilot areas.

### 2.1 Description of Local NGO Support Program

Opportunities and needs for local organizations to provide services or receive support will be identified by USAID and the primary grantee during the implementation of other project activities. The ability of local NGOs to promote sustainable forest management in the project pilot areas (La Curena, the Talamanca Region, and the Osa Peninsula) will be increased through procurement by the primary grantee of: (1) services from the local NGOs working in the project pilot areas; or (2) in-kind goods or services for those organizations. Final decisions on all procurement actions will rest with USAID.

### 2.2 Services Provided by Local NGOs

The primary grantee will contract with local NGOs to promote the adoption of sustainable forest management practices within the three project pilot areas. Examples of services that NGOs could be contracted for would be provision of consulting services and transferring technology to small landowners.

Possible examples of consulting services would be preparation of forest inventories, preparation of forest management plans and annual cutting plans, processing paperwork with the Direccion General Forestal to enter land into the Régimen Forestal and obtain cutting permits, supervising extraction of forest products by loggers or harvesters of non-timber forest products, or marketing forest products to obtain the best possible prices. Local NGOs might provide such consulting services to landowners on a reimbursable basis, with repayment once timber is sold. In that way, the NGO could then reuse the funds to provide consulting services to other landowners.

NGOs could carry out training workshops for small landowners to teach them how to carry out forest management practices themselves. Workshops could be given on improving the value of secondary forest by releasing crop trees from competition, determining the volume of trees and logs, minimizing erosion from farm roads, skidding logs with oxen, and other farm-level forestry techniques.

### 2.3 Goods and Service Provided to Local NGOs

The primary grantee will also procure goods and services for local NGOs to enhance their ability to promote sustainable forest management practices by landowners.

Technical assistance could be provided to landowner organizations to improve their administrative procedures, plan their activities, design and produce brochures and other resources for landowner training in forest management, or improve primary and secondary processing of forest products and design of manufactured items.

The ability of local NGOs to promote sustainable forest management practices might be strengthened by providing specific goods. These could include informational materials on sustainable forest management practices that they could disseminate to forest owners or critical equipment and supplies that the NGOs need to carry out a specific promotional activity.

Informational material that NGOs could disseminate might include appendices to the Management Plan Guide with information on seed phenology and regeneration requirements of individual species or forest types, guidelines for protecting skid roads from the erosive effects of water during and after harvest, or information on prices and markets for non-traditional tree species.

Timely procurement of critical goods, whether a vehicle, a computer, forestry supplies, gasoline, per diem, or other goods, can act as a catalyst to enable local NGOs to carry out specific activities to promote sustainable forest management by landowners.

#### 2.4 NGO Support Criteria

Opportunities and needs for support to local NGOs will be identified by USAID and the primary grantee during the implementation of other project activities. Local NGOs involved in project implementation may directly request the acquisition of goods and services. When a specific opportunity or need is identified, USAID, the primary grantee, and the local organization will jointly develop a contract to procure the goods and/or services.

Requests from local NGOs for procurement of goods and services must contain: (1) an explicit description and schedule of the proposed activities, clearly indicating what how the goods or services will be used; (2) a clear explanation of how the activities will directly promote adoption of sustainable forest management practices on private land within the project area and complement other project activities; (3) an explanation of how the proposed activities, or any outputs or impacts resulting from the activities, will be sustained in the future once USAID assistance ends; (4) an explanation of the applicability of the proposed activities or their outputs beyond the pilot area where they will take place and the likelihood that such application will occur; (5) a description of the organization's previous and current activities in the targeted area, including its relationship with the local associations or individuals participating in the proposed activities; and (6) a concise budget for the proposed activities indicating the degree of cost-sharing, in cash or in kind, from the recipient organization.

#### 3.0 Budget

A total of \$200,000 is budgeted for this component, to be dispensed through simple procurement actions by the primary grantee. USAID retains the right to final decisions on procurement contracts.

PROJECT OUTPUT 3.D.  
MARKET AND TRADE DEVELOPMENT

## PROJECT OUTPUT 3.D. MARKET AND TRADE DEVELOPMENT

### 1.0 Background and Statement of Needs

In response to increased concern regarding the loss of forest habitat and biological diversity, and to complement the establishment of an extensive system of national parks and biological reserves, Costa Rica has developed a comprehensive regime designed to legislate, regulate, and police the cutting of trees by owners of primary forest land, and the transport, processing, and marketing of forest products. The farm level costs involved in the "command and control" approach by the Direccion General Forestal (DGF) serves as a strong disincentive to manage forests for timber production, and the fact that actual forest harvest rates are two to three times that formally approved by the DGF shows that this approach has been ineffective in controlling deforestation.

The non-governmental forest sector in Costa Rica is not yet sufficiently organized to serve as a countervailing force to demand accountable forest policy administration by governmental agencies. To date, certain elements of the forest sector have been able to influence government policies in their favor, but these have created unintended economic distortions with impacts elsewhere in the sector that have encouraged continued deforestation. There is an urgent need for a unified effort representing all of the various elements of the forest sector; landowners, loggers, primary and secondary processors, and merchants. A single organization could be formed that represents all of these elements and incorporates their perspectives. Such forest sector organization would be a positive force to identify appropriate roles for the DGF and promote a sector based on competitive markets, comparative advantage and free trade. Helping such an organization identify its role and function, and begin providing service to its membership is a promising approach to encouraging its formation.

A number of associations broadly representing the Costa Rican forest sector are in the process of establishing such an organization, tentatively called the Federacion de Asociaciones Forestales de Costa Rica. USAID assistance to this organization could play a vital role in launching it down an appropriate path benefitting the sector. However, the organization is currently in too incipient a stage to legally receive direct project assistance.

Much of the international trade in forest products is a commodity type of trade, involving large quantities of relatively uniform products, such as dimension lumber, plywood, and pulp and paper products. Costa Rica has little competitive advantage in this type of market, especially from natural forests, because of the heterogeneity of the forest resource. The international trade in tropical hardwood involves a much closer relationship between producer and buyer, in which the buyer seeks a specific product, frequently with precise dimensional requirements. Pieces that have received partial secondary processing, such as furniture blanks that can supply a more automated assembly installation in the United States, are frequently traded. Costa Rica has a potential competitive advantage for this type of trade, because of its high quality timber species, educated but economical work force, and proximity to U.S. markets, if producers learn to function in this type of market, which is quite distinct from the domestic market.

At this time, international forest products buyers have no central office to phone, fax or visit to make initial inquiries about producers and the species and types of wood products available in Costa Rica. An office that would put potential buyers in touch with potential producers could make a valuable contribution to international forest product trade development. Such an office should be freely accessible to all potential producers in the forest sector.

There are few dimensional and quality standards for Costa Rican forest products, no grading system, and no premium paid for dried, graded, or sorted lumber. Under this unsophisticated domestic market, there has been little incentive for forest industry to invest in quality processing equipment. Costa Rican producers will have to upgrade their processing equipment in order to meet quality standards and compete in the international hardwood market. Compilation and dissemination of information on suppliers of equipment would make a valuable contribution to this effort.

Many forest products consumers in developing countries are concerned over the loss of biological diversity and global climate change from tropical deforestation, and would like to avoid purchase of tropical forest products that are not sustainably produced. Austria lifted its requirement to label the sustainability of tropical forest products traded there only after severe criticism from tropical countries at the International Tropical Timber Council meetings last November, and the Netherlands is considering a ban on import of tropical forest products that are not sustainably produced. Several United States cities and States have restrictions on the use of public monies for purchase of tropical forest products. Participation by Costa Rican forest products producers in a program that would certify that the products are produced under "good management" might offer the potential of a price differential, or "green premium," for these products. Certifying organizations charge fees for their site inspections, country-specific criteria for good management must be developed, and guidelines to track the "chain of custody" of products from well-managed forests must be developed.

## 2.0 Purpose and Description

The purpose of this component is to support market development and trade opportunities based on the comparative advantage of Costa Rica's forest products in the international marketplace. This will be accomplished through a grant component to: (1) contract or procure studies and services to promote forest products market development and trade in sustainably produced forest products; and (2) procure personal services, equipment, supplies, and travel for a forest products trade support office of a non-governmental organization that represents the forest sector. The USAID proportion of the cost of this component will diminish from approximately 60 percent in the first project year to approximately 40 percent in the final project year.

### 2.1 Forest Product Trade Promotion

Funding from this component will cover the costs of activities to strengthen international market development and trade opportunities for Costa Rica's sustainable produced forest products. Possible activities could include, but are not restricted to:

- o studies of the market for tropical forest products in the United States (and possibly other countries) with recommended strategies for gaining access to that market by Costa Rican forest products;

- o facilitation of information exchange between initial inquiries from international buyers and potential producers, including coordination among producers so that buyers' quantity needs can be met;
- o promotion of Costa Rican forest products in international markets;
- o collection and dissemination of information on sources of forest products harvesting and processing equipment to promote sustainable management, improve processing quality, and meet international buyer needs for dimensions and quality standards;
- o collection and dissemination of information on forest products prices within Costa Rica and in international markets;
- o development of criteria for good forest management in Costa Rica to be used for "Green Seal" certification, disseminate this information to producers, coordinate certification of individual producers, and develop procedures to follow the "chain of custody" for products from certified producers; and
- o a program of training, transfer, and promotion of technologies for Costa Rican forest products producers to understand and fulfill international norms for product quality, quantity, and pricing and to access international markets.

## 2.2 Forest Sector Reforma Office

The primary project grantee will procure personal services, equipment, supplies, and international travel for a forest products trade support office of a non-governmental organization that represents the forest sector. USAID funds will be used to provide a forest products trade specialist to the office, to purchase capital goods for operation of the trade support office, and to cover a diminishing proportion of the cost of international travel over the life of project, while the forest sector organization will cover the recurrent costs for the duration of the project, as well as an increase share of capital and program costs.

## 3. Scope of Work

Activities in this component are broken down into two principal areas: (1) direct procurement of studies or services by the grantee in support of international forest products trade and market development; and (2) procurement of personal services, equipment, supplies, and travel for a forest products trade support office of an organization representing the Costa Rican non-governmental forest sector.

### 3.1 Trade Development Activities

The grant recipient will either contract studies or procure other services to promote domestic and international trade in forest products in Costa Rica. Activities may include, but are not necessarily restricted to, those activities listed under section 2.1 above. Opportunities will be sought to incorporate the assistance of an International Senior Executive Corps Volunteer to carry out studies on potential international markets for Costa Rican forest products. The ideal Senior Executive Service Volunteer would be a retired executive from a U.S. forest products company or forest products trade organization.

The executive council of the non-governmental forest sector organization will prepare scopes of work for studies or services to promote domestic and international trade in forest products in Costa Rica. The grantee will follow a procurement process consistent with USAID guidelines to develop a short list of contractors to carry out the study or provide the service. The executive council will then select the contractor to carry out the activity from the short list, subject to the approval of the USAID project manager.

The primary grantees will be prohibited from contracting itself to carry out studies or provide other services. Services and studies will be procured by the grantee following procedures consistent with USAID procurement guidelines.

### 3.2 Funding of the Forest Products Trade Office

A formative non-governmental forest sector organization will submit a proposal to the primary grantee identifying:

- (1) functions and staffing needs for its forest products trade development office;
- (2) terms of reference for office staff; and (3) an office budget, including equipment and supplies and clearly showing the counterpart costs covered by the organization.

Prior to approving support from the grant recipient to the non-governmental forest sector organization, USAID will evaluate the organization's bylaws and determine whether the organization broadly represents the various elements of the forest sector: landowners, loggers, primary and secondary processors, and merchants. The organization should represent all of these elements and be managed under democratic principles in which each member has full opportunity to advance their perspectives. In order to receive support, the organization must be formally organized under Costa Rican law by the end of the first project year.

The organization will submit to the primary grantee the proposal for funding of the forest products trade support office. Once the grant recipient and USAID have approved the proposal, the grant recipient will procure personal services, capital goods, and international travel for the office.

## 4. Deliverables

This component of will have primary products from two sources:

### 4.1 Contracted by Grant Recipient

- (1) studies of the market for tropical forest products in the United States (and possibly other countries) with recommended strategies for access to that market by Costa Rican forest products, possibly carried out by an International Senior Executive Corps Volunteer ;
- (2) a program of training, transfer, and promotion of technologies for forest products producers to understand and fulfill international norms for product quality, quantity, and pricing and to access international markets.

- (3) development of criteria for good forest management in Costa Rica to be used for "Green Seal" certification, dissemination of this information to producers, coordination of certification of individual producers, and development of procedures to follow the "chain of custody" for products from certified producers.

#### 4.2 Forest Products Trade Support Office

- (1) facilitation of information exchange between initial inquiries from international buyers and potential producers, including coordination among producers so that buyers' quantity needs can be met;
- (2) collection and dissemination of information on forest products prices within Costa Rica and in international markets;
- (3) promotion of Costa Rican forest products in international markets; and
- (4) collection and dissemination of information on sources of forest products harvesting and processing equipment to promote sustainable management, improve processing quality, and meet international buyer needs for dimensions and quality standards;

#### 5. Staff

##### 5.1 Primary Grantee

No additional staff is envisioned for the primary grantee under this component. Studies and services will be acquired consistent with USAID procurement guidelines.

##### 5.2 Forest Products Trade Support Office

- |    |                                  |                    |
|----|----------------------------------|--------------------|
| a: | Executive Director               | 4 years, full time |
| b: | Forest Products Trade Specialist | 4 years, full time |
| c: | Office Assistant                 |                    |
|    | 4 years, full time               |                    |

#### 6. Budget (annual costs)

PROJECT OUTPUT 3D -- MARKET AND TRADE DEVELOPMENT -- BUDGET (1993 \$)

Item	Year	19 94		19 95		19 96		19 97		LO P	
		USAID	FSO	USAID	FSO	USAID	FSO	USAID	FSO	USAID	FSO
<b>A. Trade Studies and Services</b>		20,000	0	20,000	0	15,000	0	10,000	0	65,000	0
<b>B. Trade Support Office</b>											
<b>B.1 Personnel - Sub-Total</b>		24,000	36,000	24,000	36,000	24,000	36,000	24,000	36,000	96,000	144,000
Executive Director \$2500/mo			30,000		30,000		30,000		30,000		120,000
FP Trade Specialist \$2000/mo		24,000		24,000		24,000		24,000		96,000	0
Office Assistant \$500/mo		0	6,000	0	6,000	0	6,000	0	6,000	0	24,000
<b>B.2 Equipment and Supplies</b>		8,733	10,300	0	5,300	0	5,300	0	5,300	5,733	26,200
1 386 microcomputer		1,500	0	0	0	0	0	0	0	1,500	0
1 laser printer		1,500	0	0	0	0	0	0	0	1,500	0
1 UPS		333	0	0	0	0	0	0	0	333	0
1 power stabilizer		100	0	0	0	0	0	0	0	100	0
Word processing program		300	0	0	0	0	0	0	0	300	0
Database management system		500	0	0	0	0	0	0	0	500	0
Fax Machine		1,500	0	0	0	0	0	0	0	1,500	0
Photocopy rental @ \$100/mo		0	1,200	0	1,200	0	1,200	0	1,200	0	4,800
Utilities (including phone)		0	2,400	0	2,400	0	2,400	0	2,400	0	9,600
Office furniture		0	5,000	0	0	0	0	0	0	0	5,000
Office supplies		0	1,200	0	1,200	0	1,200	0	1,200	0	4,800
Office rental		0	500	0	500	0	500	0	500	0	2,000
<b>B.3 Travel - Sub-Total</b>		24,800	4,800	3,200	8,400	1,800	10,000	0	11,800	29,600	34,800
International Travel		3,000	0	2,000	1,000	1,000	2,000	0	3,000	6,000	8,000
International per diem		1,800	0	1,200	600	600	1,200	0	1,800	3,600	3,600
1 4x4 vehicle		20,000	0	0	0	0	0	0	0	20,000	0
P.O. & L.		0	2,400	0	2,400	0	2,400	0	2,400	0	9,600
Maintenance and parts		0	0	0	2,000	0	2,000	0	2,000	0	6,000
Local per diem		0	2,400	0	2,400	0	2,400	0	2,400	0	9,600
10 days/mo @ \$20/day											
<b>B. Sub-Total</b>		54,533	51,100	27,200	49,700	25,800	51,300	24,000	52,900	131,333	205,000
<b>TOTAL: OUTPUT 3D</b>		74,533	51,100	47,200	49,700	40,800	51,300	34,000	52,900	196,333	205,000

Note: FSO = Forest Sector Organization contribution

## ANNEX G

### SOURCES OF INFORMATION FOR THE UNIT COST ANALYSES

Information used in developing the budgets appearing in the detailed descriptions of REFORMA project outputs (provided in Annex F) was obtained during the months of May and June 1993 from those believed to be the most knowledgeable sources. The following is a summary of the sources of such information. Note that ITCR stands for Instituto Tecnológico de Costa Rica, DGF stands for the Dirección General Forestal, and NGO's stands for non-governmental organizations.

#### I. PERSONNEL

ITCR professor daily rates	quotes from professors salary history from AID
Component directors	quotes from DGF and NOG's
Forest Engineers	quotes from DGF and ITCR
Forest Technicians	quotes from DGF
Forest Inspectors	quotes from DGF
Secretaries	quotes from DGF, ITCR, and NGO's
Cooks	quotes from DGF
Planning Expert	salary history from AID
Programmer/Analyst	quotes from ITCR
Attorneys	quotes from CEDARENA and UICN
Judicial Officials	quotes from UICN
Extension Experts	quotes from ITCR (note: these are for forest engineers)
Other experts	quotes from ITCR

#### II. TRAVEL

Per diem	quotes from ITCR and DGF
Mileage	ITCR current charge-out rate
Purchased vehicles, fuel, maintenance	USAID/Costa Rica (Enrique Barrau)

### III. WORKSHOPS

All workshops

quotes from ITCR and NGO's

### IV. COMPUTER PRICES

Micro, handhelds, printers, UPS's  
etc. by local firms

recent quotes given to ITCR stabilizers,

### V. COMPUTER SOFTWARE

All kinds

telephone quotes from vendors and  
specialized sources

### VI. SATELLITE DATA

Digital data

direct quote from supplier

### VII. BUILDINGS/FURNITURE

All buildings and offices

USAID/Costa Rica (Enrique Barrau  
and Jamie Gomez)

### VIII. NEWSLETTERS

All newsletters

quotes from NGO's and ITCR

### IX. DIRECT COSTS FOR TRAINING

Food, lodging, etc.

per diem rates for foresters

### X. VIDEO PRODUCTION

Training video for loggers

quote from ITCR

**ANNEX H  
PROJECT MODIFICATIONS TO ADDRESS MITIGATIVE MEASURES  
SUGGESTED IN THE ENVIRONMENTAL ASSESSMENT**

**PROJECT MODIFICATIONS TO ADDRESS MITIGATIVE MEASURES  
SUGGESTED IN THE ENVIRONMENTAL ASSESSMENT**

**1.0 Introduction**

The environmental assessment (EA) for the USAID project on Forest Regulation for Sustainable Management (now called Regulation for Forest Management: REFORM) was completed in February of 1993. The EA contains a total of nine (9) specific recommendations for "measures to mitigate or manage environmental consequences" of the project. The purpose of this paper is to respond individually to the suggestions contained in the report.

**2.0 Individual Responses**

The following list of responses is referenced by number to the numbered measures appearing in section 4.1 on page 33 of the EA. A brief title or quote is also provided.

**2.1 Rapid Ecological Assessments (REA's).**

An REA has been completed for the Osa \*2. (one of the project pilot areas) and another is underway in the Talamanca region and will be completed by the time the REFORM project begins. USAID will arrange to have an REA completed for the Curena region during the first year of the project. Deficiencies in the Soto (1992) report will be addressed in the study design for the Curena REA to insure the required information is obtained. The results from the Curena study will be compared and transferred to the other two areas as a means for resolving deficiencies in the other two REA's. Any outstanding information gaps will be addressed by contracting BOSCOsa (in the Osa) or other local experts to complete supplemental studies.

**2.2 Use of the Information Obtained from the REA's.**

The design of the project has provided for the use of the information obtained from the REA's in the following components:

- a. Periodic Review/Revision of Management Plan Guidelines (project output 1.A.).
- b. Operational Research to Improve Sustainable Forest Management Practices and Forest Habitat Monitoring (project output 1.B.).
- c. Sustainable Forestry Technical Training (project output 3.A.)

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1. Tolisano, J., Frumhoff, P. and Lawton, R. 1993. Environmental Assessment FRSM: Forest Regulation for Sustainable Management Project, Costa Rica. Biodiversity Support Program, 41 pp.\*.

2. Soto, R. 1992. Evaluación Ecológica Rápida. Elaborado por: Fundación Neotrópica, Programa Boscosa. San Jose, Costa Rica.

A detailed explanation of how each of the individual suggestions lettered "a" through "d" in this comment is given below.

#### 2.2.a. "Tree selection, directional felling, ..."

The Sustainable Forestry Technical Training component of the study will include the publishing of two handbooks on "best management forestry practices", one targeted for loggers, and the other for practicing foresters (consultants, DGF, others). These handbooks will contain detailed recommendations and operational examples of methods for minimizing the impact of all aspects of timber harvesting on residual trees and soil. Both handbooks will include a comprehensive section on the design and construction of drainage structures. The material in the handbooks will form the basis of the field training for loggers and foresters.

#### 2.2.b. "... regenerative capacity or the genetic base ..."

The Periodic Review/Revision of Management Plan Guidelines component of the project will address changes in the management plan guide required to insure adequate provisions for maintenance of the natural genetic base. A suggestion for inclusion in the first revision which appears in appendix 1.A.-1, in the project paper addresses this point specifically: provide technical information on tree fruiting requirements for species for which the information currently exists.

#### 2.2.c. "Indicator and keystone species ..."

The inclusion of information on the measurement and monitoring of indicator and keystone species and habitat requirements is also addressed in the Periodic Review/Revision of Management Plan Guidelines component of the project as well as the Operational Research component. The project paper contains suggestions for inclusions in the first revision of the management plan guide regarding inventory of non-timber products, and indicator and keystone species. The committee in charge of coordinating the review and revision work will be instructed to consult the three REA's to determine other mechanisms for incorporating biodiversity explicitly into stand-level planning activities. Early revisions will also concentrate on improved specifications for logging operations aimed at increased protection of regional biotic communities. The Operational Research component will address land set aside issues.

#### 2.2.d. "Short-courses..."

The findings of the REA's will be incorporated into the handbooks and training curriculum developed under the Sustainable Forestry Technical Training component of the project

#### 3.0 "Lands which would best serve ..."

The Operational Research component of the project will coordinate a cooperative effort to create land-use maps for the pilot areas and regions of the country and will explicitly address the classification and designation of protected areas. This analysis forms the basis for forest management planning at the local, regional, and national levels which is the focus of this component of the project.

#### 4.0 Collaboration with BOSCOA

The REFORM project will cooperate with the BOSCOA staff in all appropriate activities on the Osa Peninsula. At a minimum this will include:

- 1) Logger training.
- 2) Land-use study and mapping for the Osa.
- 3) Collection and processing of forest inventory and growth data.

#### 5.0 "...facilitate research in each pilot site ...".

The Operational Research component is designed specifically to address the research needs related to land-use, forest inventory, growth and yield, and forest management planning including the explicit incorporation of biodiversity as a management objective.

#### 6.0 "...borrow pits for road construction..."

Appropriate road construction methods will be included in the Technical Training and the Management Plan Review components of the project. Detailed specifications and operational practices will be developed and published in the training handbooks and future versions of the management plan guide. These specifications will include treatment of borrow pits and road cuts and fills.

#### 7.0 "...roadways can pass flows from a minimum of a 25-year storm."

The Management Plan Review component of the project will concentrate on the development of comprehensive procedures for drainage design including culvert sizing for stream crossings given the available data on either rainfall or stream flow and an explicit consideration of risks from culvert failures. Culvert design and installation will also be addressed in the handbooks published for the Technical Training component of the project.

#### 8.0 "...removal of streamside vegetation".

The Management Plan Review component of the project will concentrate on the development of appropriate management practices for streamside vegetation including the size of, and possible treatments in buffer zones. These will be based on available data on slope/soil stability, and water temperature/crown cover relationships as well as existing stream classification systems suitable for tropical rain forests.

#### 9.0 "...ensure that tree plantations..."

The principal focus of the project is on sustainable management of natural forest. However, national demands for timber have a direct effect on the amount of pressure placed on the remaining natural forests. The Operational Research component of the study will include explicitly the current and potential contribution of both plantations and secondary forests towards meeting annual demands. Regarding stand-level management, the Review and Revision of Management Plan Guidelines component of the study will address issues related to management of plantation forests including soil conservation efforts.

ANNEX I  
BIBLIOGRAPHY OF PROJECT RELATED ANALYSES

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