A.I.D. EVALUATION SUMMARY - PART I

PD-ABK-533

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT DOT MATRIX TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit:
Mission or AID/W Office USAID/Guatemala - Central America Programs
(ES# _____)

B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan?
Yes ☒ Slipped ☐ Ad Hoc ☐
Evaluation Plan Submission Date: FY 94 Q 2

C. Evaluation Timing
Interim ☒ Final ☐
Ex Post ☐ Other ☐

D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date fo the evaluation report.)

Project No.	Project / Program	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
520-0395	MAYA BIOSPHERE PROJECT	1990	8/96 as of 7/94	10,500 as of 7/94	8,850 as of 7/94

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
1. A policy component to the MBP must be developed, and should address policies directly related to Petén, mainly for land security, colonization, and refugees.	Keith Kline	PROAG signed with CONAMA 8/94
2. A strategy must be developed to: help CONAP to change its role from implementor to effective coordinating and planning entity; strengthen the roles of other GoG entities; and involve the municipalities, local conmunities and other important economic and social groups in the management of the MBR.	Keith Kline	To be considered in FY95 Amendment (5/95)
3. MBR management strategy needs to be re-designed to focus on the core zones.	Keith Kline	5/95
4. All international implementors must develop an institutional close-out strategy.	Keith Kline	5/95
5. A Monitoring and Evaluation component with the objective of effective project design changes during the life of the project must be developed.	Keith Kline	A contract was signed to implement this component (11/93)
6. The mission shall review and modify the project's M&E contract (a "buy-in") to assure better control and compliance in future evaluation.	CO	12/95

APPROVALS

F. Date of Mission Or AID/W Office Review Of Evaluation: (Month) Dec. (Day) 16 (Year) 1994

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission of AID/W Office Director
Name (Typed)	Keith Kline	Enma Diaz	Margaret Kromhout	W. Stacy Rhodes
Signature	[signature]	[signature]	[signature]	[signature]
Date	1/18/95	2/8/95	2/8/95	

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The primary purpose of the evaluation was to measure progress toward achievement of the strategic objective, planned outputs and desired impacts and to recommend actions which will further improve achievements. The evaluation was also designed to measure project impacts in terms of three beneficiary target groups: present users of MBR resources, institutions involved and the MBR itself. The external evaluation was conducted by five specialists with a broad range of experience, contracted under Management System International, MSI .

The major findings and conclusions are:

a) With very weak control mechanisms at its disposal, the MBP is confronting: 1) urgent natural resource needs of impoverished inhabitants; 2) powerful economic interests that make big money from (often illicit) primary resource exploitation; and 3) massive migration and colonization by both the impoverished and the powerful. Nevertheless, the MBP has achieved many objectives already, and is well on its way to achieving others. However, given realities in the Peten, and Guatemala's chaotic political, social and economic situation, it was to be expected that the MBP would require much trial and error experimentation.

b) The project treats the major institutional, social, economic and political forces operating in the Peten as externalities, and not as project components. A policy component must be developed and a process must be initiated for better incorporating into the MBP all important economic and social groups in the Petén.

c) Although all MBP implementors share the same general and even specific objectives, their activities are notably dispersed.The MBR protection strategy needs to be re-designed to focus on the core zones, with conservation stations, control posts, marked limits, patrols and attention to visitors.

d) The MBP administrative decision-making power has been divided between: 1) Guatemala City with a sharing between the office of AID and CONAP and 2) multiple implementors and institutions in the Peten. An assessment should be carried out to determine the most efficient administrative mechanism for the project to decentralize administration. CONAP should focus more on coordination and planning; less on field implementation. An effective coordinating unit should be established in Peten.

e) The project is a central component of USAID-Guatemala's Natural Resource Program whose Strategic Objective is improved management of the natural resource base to support conservation of biodiversity, as measured primarily by the indicator reduction of deforestation trends in selected areas. After just 2 years of field implementation, it is probably too early to measure effects of the MBP on regional deforestation rates.

f) The GoG should do more to assure counterpart funds are made available to all GoG implementors.

g) All organizations should develop strategies for sustainability, transfer and or close-out of activities.

h) Natural forest management activities should be fortified.

The final report provides conclusions, key observations and recommendations on the MBP design and implementation systems; the activities of MBP implementors, providing recommendations for improving individual performance; project administration and financial management. Finally, the report does an analysis of MBP progress using the logical framework as an analytical tool.

COSTS

I. Evaluation Costs

1. Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. $)	Source of Funds
Craig MacFarland/ Team Leader, Juan Carlos Godoy/Nat Res. specialist, Stanley Heckadon/ Anthropologist, Jaime Posadas/ Economist, Roger Popper/Eval. systems	MSI	596-0150-Q-03-1133-00	60,000 (estimated)	MBP 520-0395

2. Mission/Office Professional Staff Person-Days (Estimate) 25 person-days

3. Borrower/Grantee Professional Staff Person-Days (Estimate) 25 person-days

SUMMARY

J. Summary of Evaluation Findings - Conclusions and Recommendations (Try not to exceed the three (3) pages provided
Address the following Items:

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions
- Principal recommendations
- Lessons learned

Mission or Office	Date This Summary Prepared:	Title And Date Of Full Evaluation Report:
USAID/Guatemala-Central American Programs	12/94	8/94 Evaluation of the Maya Biosphere Project

A.- Purpose and Methodology:

The primary purpose of the evaluation was to measure progress towards achievement of the strategic objective, planned outputs and desired impacts and to recommend actions which will further improve achievements. The evaluation was also designed to measure project impacts in terms of three beneficiary target groups: present users of MBR resources, institutions involved, and the MBR itself. The evaluation was carried out in Guatemala City and at various sites in Peten. The methodology used included: a) Review and analysis of documents; b) orientation of the evaluation team; c) Field observation; d) Interviews and meetings; e) Coordination meetings; f) Preliminary reports and g) Presentation of results, conclusions and recommendations.

B.- Findings, Conclusion and recommendations:

Given the reality in the Petén and the social, political and economic context nationwide, it was expected that the MBP would be defined through a "rolling design" process of trial and error, with considerable experimentation during its implementation. There are no similar activities in the tropical Americas far enough advanced to serve as a guide for the project. Considering this, it is important to keep in mind that the project has been and will continue to be a learning process. During its first three years, the MBP has achieved many of its objectives and has made progress towards other objectives. There can be no doubt as to the effort, dedication, and enthusiasm for the MBP demonstrated by the national and international participants in the project. (pg.3-4).

B.1.- Project Design:

The MBP has a solid design, whose objectives and activities show a <u>high degree of internal logic and coherence</u>. The project treats the major institutional, social, economic and political forces operating in the Peten <u>as externalities</u>, and not as project components; some implementors over-emphasize an 'environmental protectionist' perspective. Major <u>institutional forces</u> not sufficiently included in project design are: the municipalities, the army, and the church. Major <u>economic interests</u> not analyzed sufficiently in project design are lumber interests, cattle ranchers, and "chicleros". Major <u>social phenomena</u> treated as externalities by the project are migration from the south, refugees from the north, lack of land tenure or other land security, a climate of violence, corruption, and lack of law enforcement. A major <u>political</u> factor ignored by project design was dependence on the good-will of the Government in power.
<u>Recommendations</u>: A policy component to the MBP must be developed, beginning with policies directly connected to the Peten such as: land tenure policy; settlements and refugees; zoning of nuclear, multi-use and buffer zones; highways, oil pipelines and other infrastructure; corruption and impunity; and stakeholder analysis (who wants what why) for all the above. CONAP, CONAMA, environmental NGOs, and donors need to mount an aggressive campaign which: involves national figures in the defense and survival of the MBR; strengthens the Coordinating Committee for the MBR; and develops new budgetary systems for the MBR. A process must be initiated of incorporating into the MBP all important economic and social groups in the Peten, including the church, the army, lumber interests, live stock interests, chicleros, etc.

B.2.- Project Implementation:

a) Implementation Sequence Instead of a strategy of gradual consolidation initiating from a base in Core Zones, strict "protectionist" control measures were applied by CONAP from the start in the Multi-Use and Buffer Zones. There was no initial establishment of protecting and consolidating control within and around the Core Zones before extending efforts to the Multi-Use and Buffer Zones. The classic sequence of 1) protect; 2) investigate educate, and make policy; and 3) promote sustainable economic activities, makes theoretical but not practical sense in the Peten. When inhabitants already depend on the natural resource for their livelihood, the three components need to be applied simultaneously, or in a different sequence.

Recommendations: The MBR management strategy needs to be re-designed to focus first on the Core Zones, with conservation stations, control posts, marked limits, patrols, and attention to visitors. From the Core Zones outward, design a gradual expansion of presence to the multi-use and buffer zones, understanding and accounting for the realities confronted by the inhabitants who depend on the natural resources. The expansion process must include natural resource users in identification of interests, resolution of conflict, search for consensus, and application of MBR management components. There is a need for a Monitoring and Evaluation component with the objective of effective project design changes during the life of the project.

b) Natural Forest Management.- The disagreement on how to treat concessions to exploit natural forest comes from the implicit (but in this case false) assumption that when the benefits of a forest management activity are analyzed, the appropriate comparison is with the forest in its virgin state. The selection of the appropriate comparison (opportunity cost) should be made on the basis of various factors including: 1) the current treatment of neighboring forests, 2) current activities, plans and desires of the area inhabitants. For a threatened forest, the appropriate comparison may be partial or total destruction of the forest, and not the forest in its virgin state.
Recommendations: All project participants should seriously reflect upon attitudes, analytical models, and actions to date regarding natural forest management, and forestry concessions. Specific plans for demonstration forest management, of both community and commercial types, must be developed, approved, implemented and studied. Community leaders must be trained in Natural Forest Management.

B.3.- Project Management:

a) Institutional Strengthening of CONAP. CONAP, with the support of MBP has not been able to comply satisfactorily with its responsibilities in coordination, planning and implementation, or in managing its own resources and personnel. Recommendation: Institutional strengthening for CONAP must be oriented toward building administrative structures and mechanisms with emphasis on stability of personnel, strategic planning and financing. **b) Decentralization.-** Involvement of Government of Guatemala organizations other than CONAP has been limited to signing agreements. Recommendation: A strategy must be put in place to strengthen CECON, IDAEH, and DIGEBOS, involve the municipalities in implementation and leadership roles, and integrate all players into the MBR Coordinating Committee.

c) An Administrative Mechanism.- The MBP administrative power has been divided between: 1) Guatemala City with a sharing between the office of AID and CONAP, and 2) multiple implementors and institutions in the Peten.
Recommendation: The MBP must decentralize administration toward the Peten, including establishment of an AID/CONAP coordination office with healthy autonomy in administration, technical and budget implementation, and with responsibilities for and powers of planning, coordination, and evaluation. **d) Complementarity of Project Efforts.-** All MBP implementors share the same general and even specific objectives, but their activities are notably disperse and non-complementary. Efforts are scattered to more than 100 communities; in most sites only one implementor is working; and a large portion of activities are distant from the Core Zones.
Recommendation: The MBP must decide between wide coverage, and creation of live examples of integrated sustainable processes; or opt for some balance between "coverage" and "examples". Wide coverage should be the responsibility of government organizations, but government capacity in this regard is questionable at best.

B.4.- Promising field activities:

It is too early to declare activities successful in ecological and economic terms; however the activities described below appear promising.

a) Training of Primary and Secondary Teachers and Students (CARE).- In years 1991 through 1993, 120 "petenero" primary and secondary teachers were trained in environmental education content and pedagogy. 100 of the teachers were from the central zone around Flores, Santa Elena and San Benito, and 20 are from southern Peten, and 75% were native "peteneros". Considering that each teacher has approximately 30 students in their classes, it seems reasonable to estimate a multiplier of 3600 students trained in environmental topics per year. The system for training the teachers was basically empirical, through visits to the Petencito "interpretative path", and school gardens. An additional accomplishment is production of education materials by the teachers, including a monthly supplement "Peten Verde" which appears in the local newspaper "El Reportero". As of May, 1994, 12 issues have been produced, for which demand justifies printing of 3000 copies.

b) Extension in Agroforestry (CARE).- In 1993, after a participative diagnostic process, CARE began agroforestry field extension in 15 communities. Solid extension work has begun with: 1) green fertilizers to improve soils and raise productivity, 2) live fences and trees in pastures, 3) mixed orchards with fruit and lumber trees, 4) management of natural forests on farms, and 5) participative research to improve use of native plants. It is impressive the quality of CARE's extension team, and the collaborative relations with the communities. With only one year in the field, it is early to judge permanent impact, but it is a promising start.

c) Natural Forest Management (Centro Maya).- Centro Maya is giving technical assistance to management of a cooperative-owned forest near the community of Bethel. The cooperative has 93 'caballerias' of primary forest. A small part of the forest is in a Core Zone of the Maya Biosphere; and slash and burn agriculture extends to the forest border. 2740 hectares of the forest will be communally managed in a manner that could be a model for other communities that still have forest. According to the management plan, two primary commercial species (mahogany and cedar) and nine secondary species will be exploited. Since the process is just beginning it is too early to judge impact but the activity is considered as a valuable experiment that should be supported and monitored closely from social and economic point of view.

d) The 'Eco-School for Spanish' (Conservation International-PROPETEN.- In September, 1993 Conservation International took responsibility for the 'Eco-School for Spanish' in San Andres whose purposes are: 1) generate employment and income for "peteneros", and 2) environmental education focused on the Peten for toursit. With a small investment, the "Eco-School" directly and indirectly generates employment and income for 93 people, which means a significant economic contribution in small community like San Andres. Pressure on natural resources is low, and the school functions within the Ministry of Education's System of Extra-curricular Education.

e) Potpurri (Conservation International-PROPETEN).- Pot-pourri consists of ornamental arrangements of botanical material (the majority from "bosque soto") which are collected, dried, died, and packed for commercialization. The factory supported by Conservation International-ProPeten for producing potpourri is in the community El Cruce dos Aguadas. Employment has been generated for 6 people in the factory, and 117 providers of primary material. Profit margins vary widely, depending on quantities and packaging. At this time, the first 700 pound export shipment of potpourri is arriving at 19 stores in the US.

B.5.- The MBP and USAID-Guatemala's natural resource strategic objective.-

The MBP is a central component of USAID-Guatemala's Natural Resource Program whose Strategic Objective is <u>improved management of the natural resource base to support conservation of biodiversity</u>, as measured primarily by the indicator <u>reduction of deforestation trends in selected areas</u>. The evaluation's assessment of the relationship between the MBP and variables such as 'deforestation rates' is based, not on scientific data, but on anecdotal evidence and logic. The MBP has three prongs for reducing deforestation rates within the MBR:

a) Reserve Administration: If the MBP is to influence USAID's deforestation objective, the MPB should focus primaruly on: i) prevention of illegal logging and, ii) control of road building which leads to corn farming and cattle raising.

b)Environmental Education: is probably effective in changing knowledge and attitudes of children and perhaps effective with urban adult populations as well. MBP education efforts, should also be concentrated massively on groups and threats responsible for depredation of forests and biodiversity.

c) Development of Sustainable Alternative Economic Activities has been successful in spots. However, i) There is a poorly defined mix of broad coverage, "living examples" and strategies; and ii) There is focus almost exclusively on small farmers, and very little work with the loggers and cattle ranchers largely responsible (together with small farmers) for depredation of the MBR. During the next two years, Management Systems International (MSI), under contract to the MBP, will provide a continual presence in the Peten with the objective of making planning and decisions more strategic, scientific and participative.

This evaluation was conducted during May and June of 1994. The final report was received on August 21, 1994.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation summary: always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

1.- Full Evaluation Report
2.- Matrix of priority recommendations being applied through adjustments in Project Implementation.
3.- Letters to the evaluation team.
4.- Scope of work.

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

As requested, the evaluation team provided an independent assessment of project activities. They did a commendable job of working constructively with project personnel in the field, during the evaluation process, to provide insight and suggestions for improving focus and impacts. However, the MBP is a large and complicated project, covering a geographic area the size of El Salvador, with little communications infrastructure. Therefore, the team was not able to visit and assess in any detail the majority of project interventions. Given these limitations, numerous errors appear in the evaluation report and, in some cases, led to conclusions and recommendations which the Mission considers unfounded.

While the scope of work may have been overly ambitious, specific topics in the SOW which the evaluation did not adequately address include the following:

a) **Strategic Design Issues.** The evaluation did not recommend the optimal component mix and funding levels during the next stages of implementation (both under present resource constraints and assuming additional funding becomes available in 1995). It also did not respond to the following questions: Given lessons learned to date, what modifications in the logical framework are recommended? Is the Monitoring and evaluation plan realistic and implementable? Does it provide reliable measures of progress towards goals and objectives? Are existing and proposed methods for obtaining and analyzing data appropriate? What improvements are recommended or the objectives-outputs-indicators matrix for the project?. In terms of the sustainability of the project, the evaluation did not answer the following questions: Are activities implemented in a way which favors continued development and sustainability? What can be done to improve the persistence of ongoing improvements in management of the MBR?.

b) **Assessment of Impact and Progress to date.** The document is weak in measuring progress toward achievement of the strategic objective, planned outputs and desired impacts and does not measure progress of the project as a whole. The evaluation was also designed to measure project impacts in terms of three beneficiary target groups: present users of MBR resources including women as a subset, institutions involved and the MBR itself. Unfortunately, the document submitted only described the second target group. Furthermore, the evaluation did not address the issues of: i) how appropriate and effective (analysis of cost and contributions) have individual project components and subcomponents been to date? ii) given experience to date in the project and elsewhere, how effective can they be expected to be in the future?, iii) What are the implications of relative effectiveness in terms of design modifications and distribution of funds?.

c) **Management Issues.** The analysis of the pros, cons and cost effectiveness of the project management structure within AID, NGOs and GOG project participant institutions is very weak.

d) **Financial Issues.** The evaluation did not address the pros and cons of the 50% match stipulation for NGOs, the match for the GOG and the relevance and adequacy of AID funding compared to project objectives and needs in the RBM.

All our concerns regarding compliance with the scope of work were transmitted to the evaluation team (see letters attached). Unfortunately, the issues mentioned in this section were not included or poorly addressed in the final document.

MAYA BIOSPHERE PROJECT EVALUATION
RECOMMENDATIONS/FOLLOW UP ACTIONS

PRIORITY RECOMMENDATIONS	FOLLOW-UP ACTIONS	RESPONSIBLE
Redesign the MBR's protection and management strategies to focus more on management of nuclear zones and gradually expand to multiple-use and buffer zones.	CONAP has defined as priority to work in the nuclear zones, in particular, Sierra de los Lacandones and Laguna del Tigre. The 1995 work plans of the MBP implementors should reflect this priority. Realistic plans on control, with a better definition of roles and responsibilities of each institution are required. Management plans by priority zone, including appropriate infraestructure, are necessary.	CONAP AID NGOs
Develop a policy component with national approach and focusing in Peten, which can address important and difficult issues, such as: land tenure, population/settlement, refugees/desplaced, etc.	The policy component was incorporated to the MBP. The conditions precedent required for the implementation, are being complied. It is required to make the Advisory Committee operative and to initiate specific activities in response to specific needs.	AID CONAMA
Change CONAP's role from implementor to regulating, coordinating and planning entity.	CONAP's Institutional Strategy reflects this strategic change. CONAP's work plan should be in accordance with this change. Technical Assistance provided to CONAP should reinforce this change as a priority.	CONAP
Institutional Strengthening to CONAP should be focused on management structures, staff, planning and financing.	The support being provided to CONAP through TNC is oriented to strengthen CONAP's internal structures. Furthermore, CONAP will be supported with the contracting of non-personal services (AID). It is necessary to define the support required and request it.	TNC AID
CONAP should make the necessary efforts to transfer counterpart funds, mainly to CECON e IDAEH, in order to strengthen their presence in the nuclear zone. It is suggested to channel funds through NGOs.	CONAP has signed agreements with CECON and IDAEH and it is expected that both institutions submit their work plans to receive financial support. At CONAP's request, more technical assistance may be provided to speed up these activities.	CONAP CECON IDAEH AID
Descentralize the Project to Peten through the establishment of a coordinating unit with personnel from CONAP and AID. Provide CONAP with technical and administrative assistance in order to descentralize and strengthen the institution.	AID, through MSI contract, has a coordinator based in Peten. The advisory provided to CONAP by TNC, as well as the non-personal services contracted by AID, will be oriented to promote the descentralization to Peten. The Project Administration (CONAP/AID) agreed to prioritize actions and make decisions to respond to the needs/requests from Peten.	CONAP AID MSI TNC

Develop the MBR Consulting Committees and strengthen the Coordinaning Committee defined by Law 5-90.	The MBR Consulting Committee has been created; it is necessary to analize the effectiveness of the results. It is required to reactive the Coordinating Committee of the MBR.	CONAP MSI
The activities implemented by local and/or foreign NGOs should have an institutional close-out strategy, including self-sufficiency technical, administrative and financing objectives.	AID is requesting the NGOs to include this strategy in the 1995 work plans.	AID ONGs CONAP
Implement a realistic and effective strategy to incorporate other sectors in the administration of the Reserve (GOs, local organizations - church, army, communities, municipalities, other NGOs).	It is required to define forums and meetings (who, how, where, funds, etc.). These should be focused in concret issues such as, zoning, management rights/responsibilities of the MRB natural resources.	CONAP ONGs
Strengthen natural forestry management actions as much for non-timber as for timber products.	A wide concensus on this topic is lacking. The Consulting Committee could collaborate in this aspect. Continue supporting the Centro Maya forest management activities. Analize the possibility to involve other entities in this issue (CATIE/OLAFO). Define who will implement these activities and where.	AID CONAP CM
Implement the Monitoring and Evaluation Component in order to promote and make possible a redesign process, and fluid, effective and efficient adjustments during Project implementation.	The Monitoring and Evaluation Component has been implemented through the MSI contract. Adjustment and acceptance of indicators by the involved institutions is required. Quantitative baseline and minimum information required on impacts should be improved.	AID MSI
Define an organizational structure and a functional process on coordination and communication among components which promotes integration and synergy.	Coordination and communication among components exist through periodic meetings of the Consulting Committee and through the coordination done by the MSI liason officer. More joint collaboration is required by geographic areas and for priority campaigns. There is a need to define Project priorities concerning subcomponents and implementors' activities and target areas. Specifically, everybody should work toward the same goal, contributing to solve the more important problems as well as to attend priority areas (nuclear zone).	AID CONAP MSI ONGs

OTHER RECOMMENDATIONS	FOLLOW-UP ACTIONS	RESPONSIBLE
Train community leaders on conflict resolution and natural resources management.		CONAP ONGs
Develop an institutional communication strategy for CONAP		CONAP TNC
Produce an active and strong influence on the prevention of ilegal cutting of trees in the MBR, the construction of highways and opening of breaches.		
Continue supporting CONAP in the development of its Strategic Plan and in solving its financial problems.		TNC MSI
Support the development of operating and management plans for the nuclear zones.		TNC MSI ONGs
Contribute with CONAP to zoning and limits changes in the Reserve.		TNC
Demarcation of nuclear zones.		TNC ONGs
Identify local NGO(s) and begin providing the support to strengthen them.		TNC
Initiate actions to guarantee financial sustainability for the MBR.		TNC
Agroforestry Extension in populated areas, including communities in the MBR and specifically, in the ones near nuclear zones.		CARE
Initiate actions on the interpretation of other nuclear zones.		CARE WCS
Train CONAP's staff on extensionism.		CARE
Continue training teachers throughout Peten.		CARE
Continue with the forestry management at Bethel		CM
Implement a program on improved agriculture and livestock in Cooperative Bethel.		CM
Promote the use of native forage plants.		CM

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EVALUATION OF THE MAYA BIOSPHERE PROJECT

USAID/Guatemala Project # 520-0395

August 1994

Submitted by:

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6. **REFERENCES**

LIST OF ACRONYMS

AID	Agency for International Development
AIMPE	Lumber Industry Association of the Peten
AMPI	Women's Association of the Peten
ARCAS	Association for the Rescue and Preservation of Wild Animals
BID	Inter-American Development Bank
CARE	CARE
CATIE	Tropical Center for Agricultural Research and Education
CDC	Center for Data on Conservation
CEAR	Committee to Care of Refugees
EEC	European Economic Community
CECON	Center for Conservation Studies
CI	Conservation International
CIDA	Canadian International Development Agency
CINCAP	Peten Center for Information on Nature and Handicrafts
CIREM	Center for Research and Revival of Mayan Eco-Systems
CONAMA	National Commission on the Environment
CONAP	National Council for Protected Areas
CUDEP	University Center of the Peten, San Carlos University
DIGEBOS	Forestry Directorate
DIGESA	Agricultural Services Directorate
DIGESEPE	Livestock Services Directorate
FUNDARY	Mario Dary Foundation
GO	Governmental Organization
ICTA	Institute for Agricultural Science and Technology
IDAEH	Institute of Anthropology and History
IICA	Inter-American Institute for Agricultural Cooperation
INGUAT	Guatemalan Tourism Institute
MSI	Management Systems International
M&E	Monitoring and Evaluation

EVALUATION OF THE MAYA BIOSPHERE PROJECT: EXECUTIVE SUMMARY

I. INTRODUCTION

1.1 The Maya Biosphere Project (MBP)

In August, 1990 the Agency for International Development (AID) of the US Government signed an agreement with the Government of Guatemala (GOG) to support the Maya Biosphere Reserve (MBR) which covers approximately 1.5 million hectares. The implementers of the MBP are the GOG's National Council for Protected Areas (CONAP), The Nature Conservancy (TNC), Conservation International (with the Guatemalan NGO Propeten), the Centro Maya, the Peregrine Fund, and ARCAS (Association for the Rescue and Conservation of Wild Animals).

According to the Project Paper, the project's Goal is: Improve the long-term economic well-being of Guatemala's population through the rational management of renewable natural resources. The project's Purpose (which leads to the Goal) is: to improve management of renewable natural resources and protection of biological diversity and tropical forests in the Maya Biosphere Reserve (MBR). To achieve the objectives, the project consists of three complementary components which are: management of the reserve itself, environmental education, and development of economic activities which use the reserve's tropical natural resources in "sustainable" fashion. Project funds include $10.5 million from AID, and $11.9 million of counterpart resources from the Guatemalan Government, and international Non-Governmental Organizations. The project began during 1991 and 1992, reached its mid-point towards the end of 1993.

1.2 This Evaluation of the Maya Biosphere Project

The objective of this evaluation of the MBP is to assess progress toward the achievement of project objectives, and recommend adjustments and actions which increase their achievement. The Evaluation Team consisted of Dr. Craig MacFarland and Juan Carlos Godoy, who are both biologists and experts in reserve and biodiversity management; Dr. Stanley Heckadon, an anthropologist; Jaime Posadas, an economist, and Dr. Roger Popper expert in analysis and evaluation of projects. Synthesis of project documentation and monitoring data was provided by Claudio Saito of USAID-Guatemala. The bulk of the evaluation took place between the 10th of April, and the 10th of May 1994.

1.3 The Maya Biosphere Project in a World Context

The Peten is a classic example of the complex and difficult social, economic, and natural resource problems occurring around natural forests throughout tropical America. With very weak control mechanisms at its disposal, the MBP must confront: 1) urgent natural resource needs of impoverished inhabitants; 2) powerful economic interests that make big money off primary resource exploitation; and 3) massive migration and colonization by both the impoverished and the powerful.

The MBP has achieved many objectives already, and is well on its way to achieving others. However, given realities in the Peten, and Guatemala's chaotic political, social and economic situation, it was to be expected that the MBP would require much trial and error experimentation. Therefore it is not surprising that the Evaluation Team found components and aspects that could benefit from modification and change of focus.

II. PROJECT DESIGN

In general terms, the MBP has a solid design, whose objectives and activities show a high degree of internal logic and coherence. Nevertheless, the project addresses environmental problems in the Peten at the margins rather than 'head on'.

According to the Evaluation Team's analysis of documents and discussion, there are two basic causes for the MBP's 'marginality: 1) The project treats the major institutional,

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MBP	Maya Biosphere Project
MBR	Maya Biosphere Reserve
NGO	Non-Governmental Organization
N.P.	National Park
PROSELVA	The Project for Saving the Peten
RENARM	Regional Natural Resource Management Project (USAID)
RODALE	Rodale Institute
SIGAP	Guatemalan System of Protected Areas
SEGEPLAN	General Secretariat for Economic Planning
TNC	The Nature Conservancy
TFAP	Tropical Forest Action Plan
UICN	International Union for the Conservation of Nature
UNEPET	Planning Unit for the Peten
USAC	San Carlos University of Guatemala
WCS	Wildlife Conservation Society
WCTI	Wildlife Conservation Trust International

social, economic and political forces operating in the Peten as externalities, and not as project components; or problems to be addressed by the project; 2) The project depends heavily on 'environmental protectionist' notions of how to protect biodiversity, and who should be involved in the endeavor.

Major institutional forces not actively included in the project are: the municipalities, the army, and the church. (Recently some effort has been made to involve municipalities.) Major economic interests not analyzed or dealt with seriously by the project are lumber interests, cattle ranchers, and "chicleros". Major social phenomena treated only as externalities by the project are migration from the south, refugees from the north, lack of land tenure or other land security, a climate of violence, corruption, and lack of law enforcement.

A major political factor left unmanaged by the project was dependence on the good-will of the Christian Democrat Government in power at the project's inception. In the first place, support by that government (which created the MBR) consisted more of talk than it did of resource allocation and action. In the second place, after two years, the Christian Democrats lost a presidential election, transferring power to a regime that did not place priority on environmental issues, and was suspicious of endeavors begun by Christian Democrats.

Recommendations:
The MBR must be explicitly conceived of as an area that unites: 1) total protection of biodiversity and ecological processes with human interference in Nuclear Zones; 2) the conservation and sustainable use of natural resources in Multi-Use Zones; and 3) the production of goods and services for the region's inhabitants (including ecological restauration) in Buffer Zones.

During the next phase of execution a policy component to the MBP must be developed. It should begin with policies directly connected to the Peten such as: land tenure policy; settlements and refugees; zoning of nuclear, multi-use and buffer zones; highways, oil ducts and infrastructure; corruption and impunity; and stakeholder analysis (who wants what why) for all the above.

CONAP, CONAMA, environmental NGOs, and donors need to mount an aggressive campaign which: involves national figures in the defense and survival of the MBR; strengthens the Coordinating Committee for the MBR; and develops new budgetary systems for the MBR.

A process must be initiated of incorporating into the MBP all important economic and social groups in the Peten, including the church, the army, lumber interests, live stock interests, chicleros, etc.

III. PROJECT IMPLEMENTATION SYSTEMS

3.1 Implementation Sequence

Dependence on "environmental protectionist" notions about how to protect and manage wildlands and biodiversity is reflected in project implementation decisions (where to do what, when, and with whom).

Geographic Sequence:
Instead of a strategy of gradual consolidation with a base in Nuclear Zones, strict "protectionist" control measures were applied all at once in the Multi-Use and Buffer Zones. There was no initial establishment of protecting and consolidating control within and around the Nuclear Zone before extending efforts to the Multi-Use and Buffer Zones.

Sequence of Activities in Time: The classic sequence of 1) protect; 2) investigate educate, and make policy; and 3) promote sustainable economic activities makes theoretical but not practical sense in the Peten. When inhabitants already depend on the natural resource for their survival and economic profit, the three components need to be applied simultaneously, or in a different sequence.

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Recommendations:
The MBR protection strategy needs to be re-designed to focus on the Nuclear Zones, with conservation stations, control posts, marked limits, patrols, and attention to visitors.

From the Nuclear Zones outward, design a gradual expansion of presence to the multi-use and buffer zones, understanding and accounting for the realities confronted by the inhabitants who depend on the natural resources. The expansion process must include natural resource users actively in identification of interests, resolution of conflict, search for consensus, and application of MBR management components

There is an urgent necessity for developing a Monitoring and Evaluation component with the objective of effective project design changes during the life of the project.

3.2 Natural Forest Management

A heated disagreement has developed around how to treat concessions to exploit natural forest. It is the opinion of the Evaluation Team that much of the disagreement comes from the implicit assumption made by "environmental protectionists" that when the benefits of a forest management activity are analyzed, the appropriate comparison is with the forest in its virgin state.

The selection of the appropriate comparison (opportunity cost) should be made on the basis of various factors including: 1) the current treatment of neighboring forests, 2) current activities, plans and desires of the area inhabitants. For a threatened forest, the appropriate comparison may be partial or total destruction of the forest, and not the forest in its virgin state.

Recommendations:
All project participants do a soul search regarding attitudes, analytical models, and actions to date regarding natural forest management, and forestry concessions.

A process of confrontation, resolution, and forging of consensus must be applied to natural forest management, and forest concession issues. Specific plans for demonstration forest management, of both community and commercial types, must be developed, approved, implemented and studied.

Community leaders must be trained in Natural Forest Management, possibly through CATIE/RENARM's Natural Forest Management component.

IV. PROJECT MANAGEMENT

4.1 Institutional Strengthening of CONAP

CONAP, with the support of MBP has not been able to comply satisfactorily with its responsibilities in coordination, planning and implementation, or in managing its own resources and personnel.

Recommendation:
Institutional strengthening for CONAP must be oriented toward building administrative structures and mechanisms with emphasis on stability of personnel, strategic planning and financing.

4.2 Decentralization

The MBP Project Paper mentions the necessity of strengthening CECON, IDAEH, and DIGEBOS so that can do their part in implementing the MBR. In reality, though, involvement of Government of Guatemala organizations other than CONAP has been limited to signing agreements.

Recommendation: For the next phase of the MBP, a strategy must be put in place to strengthen CECON, IDAEH, and DIGEBOS, involve the municipalities in implementation and leadership roles, and integrate all players into the MBR Coordinating Committee.

4.3 An Administrative Mechanism

There appears to have been no detailed analysis of administrative mechanisms for the MBP. Basically, since the beginning, MBP administrative power has been divided between: 1) Guatemala City with a sharing

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between the office of AID and CONAP, and 2) multiple implementors and institutions in the Peten.

Recommendation: Quickly, the MBP must decentralize administration toward the Peten, including establishment of an AID/CONAP coordination office with healthy autonomy in administration, technical and budget implementation, and with responsibilities for and powers of planning, coordination, and evaluation.

4.4 Complementarity of Project Efforts

Although all MBP implementers share the same general and even specific objectives, their activities are notably disperse and non-complementary. Efforts are scattered to more than 100 communities; in most sites only one implementer is working; and a large portion of activities are distant from the Nuclear Zones.

Recommendation: The MBP must decide between wide coverage, and creation of live examples of integrated sustainable processes; or opt for some balance between "coverage" and "examples". Wide coverage should be the responsibility of government organizations, but of course it is easy to doubt government capacity in this regard.

V. PROMISING FIELD ACTIVITIES

It is too early to declare activities of the Maya Biosphere Project successful in ecological and economic terms; however the activities described below appear promising. (Detailed analysis and recommendations regarding the activities appear in the full evaluation report.)

5.1 Training of Primary and Secondary Teachers and Students (CARE)

In years 1991 through 1993, with small resources and in coordination with the Ministry of Education, 120 "petenero" primary and secondary teachers were trained in environmental education content and pedagogy. 100 of the teachers were from the central zone around Flores, Santa Elena and San Benito, and 20 are from southern Peten, and 75% were native "peteneros". Considering that each teacher has approximately 30 students in their classes, it seems reasonable to estimate a multiplier of 3600 students trained in environmental topics per year.

The system for training the teachers was basically empirical, through visits to the Petencito "interpretative path", and school gardens. The Evaluation Team attended an Earth Day parade which gave impressive evidence of high interest among students in environmental activities.

An additional accomplishment is production of education materials by the teachers, including a monthly supplement "Peten Verde" which appears in the local newspaper "El Reportero". As of May, 1994, 12 issues have been produced, for which demand justifies printing of 3000 copies.

So far there has been no evaluation to measure the effect of environmental education on attitudes and behavior of children and the community. An interesting aspect of environmental education is the role that children play as 'change agents'.

5.2 Extension in Agroforestry (CARE):

In 1993, after a participative diagnostic process, CARE began agriforestry field extension in 15 communities. Solid extension work has begin with: 1) green fertilizers to improve soils and raise productivity, 2) live fences and trees in pastures, 3) mixed orchards with fruit and lumber trees, 4) management of natural forests on farms, and 5) participative research to improve use of native plants. The Evaluation Team was impressed by the quality of CARE's extension team, and by their collaborative relations with the communities. With only one year in the field, it is early to judge permanent impact, but it is a promising start.

5.3 Natural Forest Management (Centro Maya)

After an initial forest inventory and analysis by Conservation International, Centro Maya is giving technical assistance to management of a cooperative-owned forest near the community of Bethel. The cooperative has 93 'caballerias' of primary forest. Some of the forest is in a Nuclear Zone of the Maya Biosphere; and cut and burn agriculture extends to the forest border. 2740 hectares of the forest will be communally managed in a manner that could be a model for other communities that still have forest. According to the management plan, two primary commercial species (mahogany and cedar) and nine secondary species will be exploited. The forest is divided into 20 blocks, with cutting cycles of 15 years.

Since the forest management process is just beginning, it is early to judge impact, but the Evaluation Team considers the activity to be a great experiment that should be supported throughout the rest of the MBP. The process must be monitored closely, from social and economic as well as technical points of view. Special attention must be paid to the possible departures from the management plan toward: 1) quick economic benefit; and 2) use of funds originating in the forest to enlarge livestock activities in which the community is involved and very interested.

5.4 The 'Eco-School for Spanish' (Conservation International-PROPETEN):

In September, 1993 Conservation International took responsibility for the 'Eco-School for Spanish' in San Andres whose purposes area: 1) generate employment and income for "peteneros", and 2) environmental education focused on the Peten for tourist. With a small investment, the "Eco-School" directly and indirectly generates employment and income for 93 people, which means a significant economic contribution in small community like San Andres. Pressure on natural resources is low, and the school functions within the Ministry of Education's System of Extra-curricular Education.

5.5 Potpourri (Conservation International-PROPETEN)

Pot-pourri consists of ornamental arrangements of botanical material (the majority from "bosque soto") which are collected, dried, died, and packed for commercialization. The factory supported by Conservation International-Propeten for producing potpourri is in the community El Cruce dos Aguadas. Full time employment has been generated for 6 people in the factory, and 117 providers of primary material. Profit margins vary widely, depending on quantities and packaging. As of this writing, the first 700 pound export shipment of potpourri is arriving at 19 stores in the US.

VI. THE MBP AND USAID-GUATEMALA'S NATURAL RESOURCE STRATEGIC OBJECTIVE

The MBP is a central component of USAID-Guatemala's Natural Resource Management Program whose Strategic Objective is improved management of the natural resource base to support conservation of biodiversity, as measured primarily by the indicator reduction of deforestation trends in selected areas.

The MBP has made several attempts at data series and projections with the intention of showing a relationship between the project and deforestation rates. The Evaluation Team carefully examined the data and models, and concluded that they are not yet reliable or complete enough for assessing MBP's contribution.

Particularly unconvincing is MBP's use of:

- One data source (TFAP) and a high deforestation rate (4.0 %/yr) to caculate a 'historical tendency' and predict the future without the project; and
- Another data source (SEGEPLAN) with a lower deforestation rate (about 2.0 %/yr for the 1980s) to measure project impact.

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Without solid data or models, it was necessary to base analysis of the MBP-deforestation relationship, not only on deforestation statistics, but also on systematic answers to the question: How direct and how massive is the relation between: a) MBP accomplishments, and b) human groups and behaviors that deforest the Peten? Material and tools for answering the question included: observation, interviews, documents, and AID's Logical Framework scheme for evaluating projects.

Even with solid data on deforestation rates in and around the project area, this 'qualitative and logical' analysis would be essential. Cause-effect relationships can almost never be proven with numbers alone, and this is especially true in the Peten where so many powerful socio-economic forces operate in difficult to predict ways.

Assessment of the relation between the MBP and deforestation rates begins with the observation that the MBP consists of three components: 1) reserve administration, 2) economic alternatives, and 3) environmental education. Summarized, and expressed without Logical Framework jargon, the assessment of the relation of each component to deforestation rates is as follows:

1) Reserve Administration: The MBP has been relatively effective at communicating the existence and location of the MBR, and the general idea that it is illegal to cut trees and hunt certain animals in the Nuclear Zones.

However MPB building of institutions which implement controls and norms for governing natural resource management are, for a number of reasons, weak. If the MBP is to influence USAID's deforestation objective, then Reserve Administration must be especially strong in: a) prevention of illegal logging and, b) control of road building which leads to corn farming and cattle raising.

2) Environmental Education is probably effective in changing knowledge and attitudes of children and perhaps effective with urban adult populations as well. MBP education efforts, however, are not concentrated massively on groups and threats responsible for depredation of forests and biodiversity.

3) Development of Sustainable Alternative Economic Activities has been successful in spots. However: a) There is a poorly defined mix of broad coverage and "living example" and strategies; and b) There is focus almost exclusively on small farmers, and very little work with the loggers and cattle ranchers largely responsible (together with small farmers) for depredation of the MBR.

In summary, this analysis concludes that the MBP, as currently implemented, can have only slight effect on USAID-Guatemala's Strategic Objective Indicator 'reduction in deforestation rates'. The effect can be strengthened, and even become significant, to the extent that the recommendations in this evaluation are taken seriously and implemented.

The Evaluation Team recognizes that due to weak data and analysis models, the assessment of the relationship between the MBP and variables such as 'deforestation rates' is more qualitative, and logical than quantitative. During the next two years, Management Systems International (MSI), under contract to the MBP, will provide a continual presence in the Peten with the objective of making planning, evaluation and decisions more strategic, quantitative and participative. The person with the responsibility for providing this Monitoring and Evaluation service is Mr. Juan Carlos Godoy who was member of this Evaluation Team.

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1. INTRODUCTION

1.1 The Maya Biosphere Project (MBP)

In August, 1990, The Agency for International Development of the Government of the United States (USAID) signed a six-year agreement with the Government of Guatemala enabling the National Council of Protected Areas (CONAP), and other governmental and non-governmental organizations, to carry out a series of activities to support the Maya Biosphere Reserve (MBR). The MBR, established through decree law #5-90, has an extension of approximately 1.5 million hectares. The Maya Biosphere Project or MBP was originally named Mayarema Project.

The long term Goal of the project is "to improve the economic well-being of the Guatemalan people through the proper management of renewable natural resources". The Purpose of the MBP is "to improve the use of renewable natural resources and protect the biological diversity and tropical forests of the MBR." The project proposes to accomplish its objectives through three complementary components, which are: 1) strengthening the administration of the reserve, 2) environmental education and environmental awareness activities, and 3) development of economically and ecologically sustainable economic alternatives.

The funding for the MBP includes US$ 10.5 million from USAID, and US$ 11.9 million in counterpart funds from the Government of Guatemala and the international NGOs involved with the project (CI, CARE, TNC, RODALE, and the Peregrine Fund).

The Maya Biosphere Project, whose components started at various times during 1991 and 1992, reached an approximate midway point at the end of 1993. With this in mind, and in fulfillment of the terms of reference for the monitoring and evaluation (M&E) component, this external evaluation was undertaken. The evaluation is also part of an internal adjustment process necessary for a project which is experimental and flexible, and which confronts many uncertainties. Two internal evaluation exercises, completed in October of 1992 and November of 1993, provided background for the this evaluation.

1.2 The Objective of the Evaluation

The primary objectives of this evaluation of the MBP to: 1) assess progress toward the achievement of its original goals and desired impact, and 2) recommend the actions and adjustments necessary to improve the realization of these goals.

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1.3 The Evaluation Team

Five specialists with a broad range of experience were contracted to perform the evaluation of the MBP:

- Dr. Craig MacFarland: President of the Charles Darwin Foundation for the Galapagos Islands; professor in the Department of Resources for Tourism and Recreation at the University of Idaho; instructor in Resources for Recreation and Environmental Architecture at Colorado State University; independent consultant for natural resource management in the tropical Americas.

- MSc. Juan Carlos Godoy: biologist, former coordinator of the National Commission for the Environment of Guatemala; former director of CECON; former coordinator of the Program for Biodiversity and Protected Areas for the IUCN/ Central America; specialist in protected area planning.

- Dr. Stanley Heckadon: anthropologist, former Director of INRENARE in Panama; member of the Smithsonian Institute, Panama; researcher on rural natural resource use, and institutional development; independent consultant.

- Mr. Jaime Posadas: agricultural economist; experience with promoting non-traditional exports; specialist in micro-enterprise development; independent consultant.

- Dr. Roger Popper: social and management scientist; expert in the evaluation and analysis of projects; MSI representative in Guatemala.

The evaluation team received the assistance of Mr. Claudio Saito of USAID-Guatemala, who prepared an excellent synthesis of progress reports and other background information.

1.4 Methodology

The evaluation was carried out during two phases in Guatemala City (April 10 to 12, and May 1 to 10) and at various sites in the Department of El Peten (April 13 to 30). The methodology used included:

a. Review and analysis of pertinent documents;
b. Orientation of the evaluation team;
c. Field observation;
d. Interviews and meetings;
e. Coordination meetings of the evaluation team;
f. Writing of preliminary reports;
g. Presentation of results, conclusions and recommendations.

Information gathering consisted of at least: 20 meetings with groups of implementers, observers, and beneficiaries; 25 field observation visits and trips; and 20 in-depth interviews with individual observers and beneficiaries. Not counted are analysis of documents; interviews by individual team members; or numerous meetings and with individual implementers.

1.5 The Maya Biosphere Project (MBP) in the National Context, the Latin American Context and the Global Context

The situation in the Peten is a classic example of the multiple and complex problems that afflict natural forests throughout the tropical regions of the Americas. The Peten is one of the largest tropical ecosystems in Central America, and the MBR is one of the largest protected areas in the region. The MBP is of extreme importance for the Peten, for Guatemala, for the Americas, and for the world because of its sheer size, high biodiversity, and because of the lessons than can be learned for the management of tropical regions.

In light of the continued colonization of the northern Peten, the MBP is an extraordinary case study of a confrontation between:

1) A model for conserving biodiversity over the medium term which emphasizes: a) protective measures, and b) regulation and control over the use of natural resources.

2) The combination of the pressing material needs of marginal groups, and the economic interests of powerful commercial groups that deal in primary products (natural resources).

The Maya Biosphere Project confronts a complex and problematic situation, replete with internal contradictions, in terms of:

- The socio-economic characteristics and conditions of the population in other regions of the country;
- Human settlements in the Peten;
- The socio-economics of the settlements, political-military factors, and their impact on the region's biodiversity and the natural resource base.

1.6 Trial and Error- Positive Achievements

Given the reality of the Peten and the context of Guatemala, it was expected that the MBP would be defined through a process of trial and error, with considerable experimentation during its development. There are no magic solutions, nor are there similar activities in the tropical

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Americas far enough advanced to serve as a guide for the MBP. Considering this, it is important to keep in mind that the project has been and will continue to be a learning process.

Thus, it is not surprising that the evaluation team has found that project components, as well as other aspects of the project, could benefit from modifications, and a changes of focus. Many of the evaluation's recommendations are based on hind-sight, and would not have been possible without the experience accumulated throughout the project.

During its first three years, the MBP project has achieved many of its objectives, and has made progress towards other objectives. There can be no doubt as to the effort, dedication, and enthusiasm for the MBP demonstrated by the national and international participants in the project, as well as USAID-Guatemala. The evaluation team congratulates that implementors of the MBP on their accomplishments to date.

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2. MBP DESIGN AND IMPLEMENTATION SYSTEMS: Conclusions, Key Observations, and Recommendations

2.1 THE MBP DESIGN

Conclusions:

In general, the project has a solid design and a high level of coherence and logic with respect to its overall goal, and the specific objectives of the three principal components. The plan for the project's fourth component (planning, monitoring and evaluation, and technical assistance) is well designed and thorough in support of the three principal components.

2.2 THE ROLE OF GOVERNMENT POLICY

Conclusions:

Implicit in the design of the Maya Biosphere Project is that the fundamental causes of environmental degradation in the Peten are rooted in the region's economic system. The regional economic system is characterized by a strong concentration of economic power, and production based on activities (agriculture, livestock, forestry), where ecological conditions act as factors that limit production. The lack of policies to stimulate alternative forms of development, and the lack of political will to enforce policies that do exist, exacerbate the problem. An increased need for land and increasing migration are also contributing factors.

So far, the MBP has seen the region's fundamental problems as not addressable by the project. Nevertheless, fundamental, socio-economic problems were principal themes of the two annual internal evaluation meetings in October of 1992 and November of 1993. In these meetings, no concrete solutions as to how to confront these obstacles were generated however. In particular, issue of regional land tenure and natural resource use rights were not included in the original project design, but are now recognized as crucial.

Recommendation:

It is strongly recommended during the next stage of project execution (1994-1996) that a policy component of the project be developed. This component should not be complicated by focusing on all the aspects of national policy pertaining to development, economic stability, etc. It could begin with a focus on the policy aspects which pertain to the Peten region, with other aspects being included during the development process. A timely execution of this component is essential if the project hopes to recuperate opportunities that may have been lost during its first three years.

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Issues which require analysis include:

- A model for economic development of the Peten; Agrarian policy, including land tenure, security and use;
- Population policy and strategies - refugees and settlements;
- Forestry concessions and concessions for use of non-lumber products;
- Detailed zoning of nucleus areas, multiple use areas, and buffer zones;
- Roads, pipelines, and development infrastructure;
- Corruption and impunity;
- Stakeholder analysis as it pertains to the above themes.

2.3 AN ASSUMPTION OF POLITICAL SUPPORT

Conclusions:

The designers of the MBP and MBR took advantage of a favorable political atmosphere (the presidency of Vinicio Cerezo), during which the highest circles of Guatemalan Government favored environmental conservation. This strategy had already contributed to the creation of CONAMA, CONAP, and the Maya Biosphere Reserve (MBR).

Despite a brief mention in the project paper of the possible consequences of a change in administration in Guatemala at the end of 1990, <u>there was a general assumption</u> that the Christian Democrats would continue in power for another four years. In addition the project paper suggested that political support of environmental efforts would not be affected by a change in administration, nor by the dissolution of CONAMA and CONAP.

The Project Paper lacked in-depth analysis of the political sentiment at the time (1987 to 1990) as it related to environmental policies, and in particular, CONAMA, CONAP, and the Maya Biosphere Reserve (MBR). The Project Paper also lacked an analysis of possible consequences of a change in administration, as occurred with the election of Jorge Elias Serrano.

Recommendation:

CONAP, CONAMA, the appropriate environmental NGOs, and international donors must urgently mount a campaign to accomplish the following objectives:

- Involve figures of national prominence in the defense and survival of the MBR;
- Strengthen the Coordination Committee of the MBR;
- To develop new mechanisms for the MBR's budgetary execution, particularly as it relates to CONAP;
- Develop new consultative committees for specific issues relating to the MBR; and
- Maintain continual participation in the NGO Forum and the Council for the Development of Region VIII.

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2.4 AN IDEOLOGY OF ENVIRONMENTAL PROTECTIONISM

Conclusions:

According to basic MBP and MBR documents, as well as opinions of a variety of participants and observers of the project, the general spirit of the project from its inception has been one of environmental protectionism.

The basic documents of the MBP and MBR emphasize the following:

- Studies of natural resources, natural processes, and their traditional uses in current practice;
- Methods for the protection of nature;
- Education of the population as to the importance of protecting natural resources (using the "hard sell" mentioned in the project paper).

The above sharply contrasts with the relatively little attention given to the following elements in the same documents:

- The complex and delicate socio-economical patterns which characterize the Peten, as well as those national patterns which effect the region;
- Political-military factors which influence everything that happens in the Peten; and
- The effects of the Peten's status as an important border region between three countries.

Aspects of the planning and implementation of the MBP which were strongly influenced by the "protectionist" ideals of its authors and executors include:

- Strategies for managing parks, reserves, buffer zones, and multi-use zones.
- The temporal sequence of strategies and activities; and
- The management of natural forest.

2.4.1 Strategies for Managing Parks, Reserves, Buffer Zones, and Multi-use Zones.

Conclusions:

Instead of employing a gradual "from the inside out" consolidation based in the region's nuclear zones, strict protectionist measures were immediately applied in the multiple-use and buffer zones. There was no initial strategy to build environmental protection and control in and around the nucleus zones before trying to extend it to the other areas. There was also no clear strategy, on the part of CONAP and the other executors of the MBP, as to where (which zones of the MBR), and how (with which components, in what sequence) to begin the management of the MBR.

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Recommendation:

Before the next phase of the project (1994-1996) it is recommended that the strategy of protection and management of the nucleus zones be redesigned. The strategy should be based in the nuclear zones, with conservation centers, control posts, well-marked boundaries, organized watch patrols, and controlled visitation. After this a strategy should be developed to establish a gradual presence in the multiple-use and buffer zones, which allows understanding of users and socio-economic realities of these regions.

2.4.2 The Sequence of Strategies and Activities

Conclusions:

The current implementation sequence of: 1) protection, 2) analysis and education, 3) sustainable activities, makes theoretical sense, but has little practical validity for the Peten. In a situation where users are already dependent on an areas natural resources, these three steps must be implemented simultaneously, or in a completely different order.

Recommendation:

When inhabitants of a region are already dependent on local natural resources, the first step taken must be to analyze and understand the situation before implementing any type of restriction. With active participation of the local population, the project must forge a process of discussion among groups with conflicting interests, a process of conflict resolution, and eventually a process of consensus building with respect to the administration of the reserve and the use of its resources.

During these processes there will probably be some loss in the natural resource base until agreements can be made and restrictions implemented. The risks of the "bottom-up and inside-out" approach are less than those faced by a project enforced from the "top down", which has started to evoke a rejection by the local population if the MBR, and eventually a far greater loss of the Peten's resources.

2.4.3 Environmental Protectionism and the Management of Natural Forests.

Conclusions:

A marked disagreement has developed concerning forestry concessions, particularly in the Multi-Use Zones. It is the opinion of the evaluation team that this disagreement is founded in the implicit assumption that, when analyzing the benefit of a management activity in a natural forest, the "appropriate comparison" for the forest is its original state.

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The selection of the appropriate comparison should be based on various factors, including among others: 1) The current treatment of neighboring forests and tendencies of adjacent regions; 2) Current activities, desires, plans and possibilities of the local inhabitants. For a forest threatened by destructive agriculture, the appropriate comparison (opportunity cost), is the level of the threat and the probability that the forest will disappear. On the other hand, for a forest that is not threatened the "appropriate comparison" is a virgin forest.

Recommendations:

1. All actors must do soul searching regarding their interests and actions with respect to the management of the natural forests and forest concessions. They must keep in mind the necessity for broad consensus on any and all experiments with community and industrial forest concessions.

2. The MBP should use its influence and other incentives in strong support of a conflict resolution process, and should actively participate in forging consensus. The project should develop experiments with forestry concessions in collaboration with the community and industrial interests.

3. The MBP should participate in sub-zoning of the Maya Biosphere Reserve (MBR) and its multiple-use zones, as well as the establishment of concessions for communities.

4. The MBP should train local leaders to lead the process of consensus building. The CATIE/RENARM Production activity in Natural Forest Management already has an excellent proposal which could serve as the base for implementation of this recommendation. In general, insightful ways to involve local interests in the project should be continually explored.

2.5 RELATIONS AMONG INSTITUTIONS

Conclusions:

Despite the fact that the MBP design mentions the need to strengthen CECON, IDAEH and DIGEBOS to improve their role in the implementation of the project, in reality:

1. The technical analysis of the institutions involved in the design of the project was handled superficially;

2. While the technical analysis suggests that CONAP could manage all levels of the reserve, from political to operational, that institution has yet to fulfill its part of Decree 4-89 as it pertains to the MBR.

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3) The involvement of other organization besides CONAP will be limited until the signing of additional agreements.

Recommendation:
For the next phase of the project (1994-1996) it is recommended that the MBP do the following:

1) Strengthen IDAEH and CECON for the management of a most nuclear zones in the MBR;
2) Strengthen DIGEBOS to support (though not necessarily control) forest management in the multiple-use and buffer zones;
3) Directly involve municipalities as mangers of multiple-use zones; and
4) Institutionalize integration of the agencies which make up the Coordination Committee of the MBR.

The first step in the elaboration of this strategy should be an in depth analysis of the administrative and technical abilities, and weaknesses of the involved institutions, followed by a sound plan to strengthen them.

It is recommended that CONAP contract a technical specialist exclusively responsible for support of other government institutions. The specialist's job is to help them develop the necessary funds for the MBP and to strengthen their work initiatives within the MBR.

2.6 SOCIO-INSTITUTIONAL ANALYSIS AND THE INCORPORATION OF ALL STAKEHOLDERS

Conclusions:
The <u>institutional analysis of the MBP</u> fails to fully examine the primary interest groups and organizations active in the Peten, which include:
-Local government (municipalities);
-The military and the church;
-Private commercial associations;
-Local cooperatives and **campesino** groups;
-and local NGOs.

The project documents are brief and superficial in their <u>analysis of the institutions of the Peten</u>, and in the identification of potential local counterparts for the project. Within the institutional analysis and the design of the MBP two strong tendencies emerge with respect to the management of the MBR:

- A "top down" tendency in implementation with directives coming from Guatemala City and the USA to the Peten; and

- A strong tendency to concentrate on institutions who are members of the <u>environmental and conservation</u>

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movement, overlooking other actors of potentially significant importance.

The social analysis is well prepared but shows faults in the areas of: 1) The structure and function of economic power of the region, 2) the regional social groups, and 3) the impact of the civil war and the creation of refugees. Overall there has been little incorporation into the MBP of important social and economic interest groups such as loggers, ranchers, gum producers, municipal leaders, the church, and the military.

Recommendation:
The MBP must begin the incorporation of the economic and social interest groups mentioned above into the project redesign and implementation. It is recommended that the involvement of interest groups begin immediately, during 1994, with some actors becoming involved in the consultative process, and others becoming implementors of some components of the project. This implies, however, a complex process of conflicting interests, conflict resolution, and consensus building. This process should not be undertaken all at once, with large-scale community meetings. At first, the process should be a gradual incorporation of certain principal groups with a slow addition of other important actors as they are identified should take place.

Various techniques may be used in elaborating upon this process, including: small workshops in which actors with mutual geographical or resource interests are brought together; larger operative planning seminars with a wider variety of actors; the creation of issue specific task forces; broader public meetings (hearings) with mass participation; etc. Each of these techniques should be implemented depending on the status of the project, or the emergence of a specific issue or conflict. Skilled specialists in each of these techniques should be brought in to assist CONAP, USAID, and other primary institutions in catalyzing these types of functions.

The project design took into account the advantages of working with international NGOs in the execution of the MBP, but did not analyze their implications for the continuity of activity beyond the life of the project. For this reason, a process must be begun to include local NGOs and other groups society as managers and implementers of PBM and RBM activities.

2.7 AN ADMINISTRATIVE MECHANISM FOR THE MBP

Conclusions:
Despite brief mention of a decentralized project design in the project paper, there was no detailed analysis of an implementation mechanism, nor was there a design to implement this decentralization. From the beginning the

design of the MBP concentrated the administrative, leadership and decision-making power at two points, those points being:

a. The offices of USAID and the Executive Secretary of CONAP, where the ultimate power of the project resides, and

b. At the Peten level, where local power lies with the numerous international executors of the project.

Recommendation:

It is recommended that the project decentralize administrative power towards the Peten with the establishment of a project coordination office (CONAP-USAID) in the region. This office should have autonomy over the budgetary and technical aspects of the project, and should have significant power over the processes of planning, evaluation, and coordination. This would include the responsibility of staffing the local office with qualified leaders, administrators, and technicians.

2.8 AN ADJUSTMENT AN REDESIGN PROCESS

Conclusions:

One of the most interesting components of the MBP design was its fourth component: monitoring and evaluation to facilitate a process of fluid and effective redesign and adjustment for the project throughout its implementation.

At the beginning of the MBP some adjustments were made to the project's execution, including additions to the Agroforestry Extension Program (of CARE) and to the Centro Maya/RODALE Farm Project. The addition of the Spanish Language Eco-School Project, within the low impact tourism Program of CI/PROPETEN was also approved.

However, design adjustments of the project, based on an M&E process, have been limited, and based on a series of local meetings, rather than being based on a continuous mechanism of dialogue, coordination, and follow-up. Monitoring and evaluation has also been limited by the fact that the project administration is headquartered in Guatemala City and not the Peten.

Recommendation:

During the next phase of the MBP the organizational structure and a functional process for the frequent redesign and adjustment of the project must be established. Such decisions and activities of redesign will largely become the responsibility of: 1) a CONAP-AID coordination office and the MBP based in the Peten; and 2) the Monitoring and Evaluation specialist who will work full-time in the Peten, under contract by MSI.

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2.9 COMMON OBJECTIVES AND COMPLEMENTARITY OF EFFORTS

Conclusions:

All things considered the various implementing actors of the project share the same objectives, and the specific objectives stated in the MBP and the MBR. Despite a shared vision, however, MBP implementers do not act in concert.

- At the level of project execution, the implementing actors act in a very isolated manner. There has not been sufficient open discussion as to which should be the primary priorities of the project, as it pertains to project components and overall strategy.

- To date the project has supported activities in over 100 communities, villages and settlements, in the multiple-use and buffer zones.

- In the vast majority of these sites there is only one principal economic or social project activity, with only one executor, and activities are only vaguely connected to the conservation of the Maya Biosphere Reserve.

- In the few cases where more than one project executor is working in the same area, the activities are generally unrelated.

- The scatter of efforts throughout the region has exacerbated the "territorialism" of the NGOs working in the Peten and the MBR.

- Another vital issue is that the majority of project activities have been oriented towards communities of the buffer zones, and not towards communities which represent a direct threat to the nuclear zones.

Recommendation:

The MBP must decide whether the it wants: 1) to operate throughout a vast area of the Peten with little impact; 2) to create strong examples of a living integrative process, in far fewer areas, or 3) to opt for a combination of the two. The goal of reaching broad regional coverage is probably a role which for the Guatemalan Government, or other USAID projects, or projects of other donors.

It will be necessary to establish priorities on how much emphasis to place on the buffer zones versus the multi-use zones. The evaluation team is inclined to concentrate on the multiple-use and buffer zones closest to the Maya Biosphere Reserve (MBR).

3. THE ACTIVITIES OF MBP IMPLEMENTORS: Conclusions, Key Observations and Recommendations

3.1 NATIONAL COUNCIL FOR PROTECTED AREAS, CONAP

3.1.1 Conclusions and Key Observations

Efforts to strengthen CONAP, CECON, IDAEH, and DIGEBOS in administration of the MBR have been insufficient. The responsibility for this lies with CONAP, TNC, and USAID-Guatemala. Financial resources have been available but not properly put to use.

CONAP has been a poor project implementor, due to lack of administrative capacity, and technical inability to carry out assignments and functions. The result has been financial and administrative disorder, including failure to liquidate and make use of rotating funds in a timely manner, and a serious backlog in flow of funds from the Guatemalan Government and from USAID itself. Annual work plans have not been developed, nor are there overall operational plans. The centralized nature of budget management, with total authority given to the Executive Secretariat in Guatemala City, has inhibited the development of CONAP, and management of the MBR.

The reality in the field is that CONAP has little control over the MBR. Its presence in the MBR is as weak as it has ever been. The Coordination Committee of the reserve does not function. CONAP is suffering from institutional weakness and mistrust.

Since mid-1993 the number of control posts in the region has not grown. Consequently, the removal of trees from the MBR area, and the daily invasions of the area for the extraction of non-wood products, has continued with little control.

CONAP has yet to strengthen the capacity CECON and IDAEH to control and police the nuclear areas of biological, and archaeological interest under their jurisdiction.

On a more positive note:

- CONAP has developed a number of mobile control operations for the areas of highest degradation, at the same time implementing programs of technical assistance and public awareness.

- By mid-1993 CONAP had developed 95 radio programs, made 684 local visits, conducted seven workshops, and had nine public discussions. However, the public awareness programs and other messages have not followed a specific, well-organized communication strategy.

3.1.2 Recommendations for CONAP

Administrative Strengthening

It is vital that USAID give priority to strengthening of CONAP. The following measures will be necessary during the next two years: 1) Continue administrative strengthening of CONAP as planned by TNC, 2) Strengthen and decentralize the budget management for Region VIII, 3) Mobilize all Rotating Funds to finance the MBR, and 4) Develop organizational and functional manuals such as the one on "Norms and Procedures".

It is recommended that priority be given to administrative mechanisms, particularly for personnel, planning, and finance. Specifically, this will require: 1) permanent job slots, 2) salaries that comply with civil service code; 3) contracting of high level technicians and specialists; 3) revision of the institutional organigram, 4) new coordination mechanisms.

A Role as Planner and Coordinator for CONAP

The proper future role for CONAP is to combine forces with other actors involved in the MBR. As a part of the National System for Protected Areas (SIGAP), CONAP should pool resources with USAID, and other external actors (European Community, IDB, Germany, Spain, Denmark, etc..).

CONAP should contract the necessary personnel to immediately evaluate its own activities as an institution, and follow that with a systematic planning exercise. CONAP's technical team must develop a series of norms and policies which put into practice 1) natural resource laws; and 2) The MBR Master Plan.

Decentralization to Other Organizations

Larger amounts of counterpart funds should be transferred to CECON and IDAEH in order to strengthen their presence in nuclear zones other than Tikal National Park.

CONAP should widen its responsibilities to cover regions other than then Peten. To this end it should transfer funds in *Quetzales* to the appropriate NGOs to enhance this process.

CONAP should delegate to DIGEBOS responsibility over activities related to the use of lumber resources in the

multiple-use and buffer zones of the MBR. In this respect CONAP should transfer more funds and resources to DIGEBOS than the amount designated in the MBP.

Natural resource management responsibilities of the municipalities and local base organizations must be organized by CONAP. The responsibilities of officials in districts under CONAP control must be re-thought. Interviews by the evaluation team showed that officials supposedly responsible for natural resource protection had not read the Master Plan, and were relying on bulletins from 1990 for their information.

Conservation stations should be developed in nuclear zones in conjunction with CECON and IDAEH, and control posts should be established in the multiple-use zones. These posts should function in concert with municipal officials, municipal charging of fees for resource extraction.

Decentralize to a Wider Range of Nuclear Zones

Project activities should be reoriented towards all the nuclear zones of the MBR. Effective control exercised in the multi-use zone by various institutions (municipal leaders, National Army, National Police, Estate Guard, etc.) should work in conjunction with, and support the objectives of, CONAP.

The evaluation team recommends the cessation of district control operations as they are functioning at present. There should be immediate efforts to: 1) strengthen a protection and management presence in the nuclear zones of the Reserve other than Tikal (*Laguna del Tigre, Mirador, Dos Lagunas, Rio Azul, Nakum, Yaxha, El Peru, El Repasto, Bethel* among others); 2) mount a radio/communications system (CONAMA's authorized frequency could be used); and 3) revitalize the supply system for the conservation stations and control posts.

A Research Program

CONAP should have someone design a Maya Biosphere Reserve research program, in cooperation with the CDC, CECON, the School of Agronomy at Universidad de San Carlos, the Universidad del Valle in Guatemala, the *Peregrine Fund*, WCTI and WCS.

The research program should investigate lesser-known issues, such as the aquatic biodiversity. It will also be important to execute a series of studies which illustrate the economic and social benefits of the development and preservation of the MBR.

CONAP should give priority at the highest political level, to confirmation of the MBR Coordination Committee. CONAP must also strengthen the existing coordination mechanisms such as: 1) participation in the Development Council of Region VIII, and 2) frequent communication with UNEPET.

The Image of CONAP

It is critical that the NGOs which receive funds from the MBP gain a positive attitude toward CONAP. There is no doubt that the environmental NGOs have become tired of working with CONAP, and leery of being associated with CONAP's negative image. CONAP must find ways to renew relations with the region's NGOs, and facilitate the flow of project funds to the organizations. The obligation of the NGOs to support the Reserve administration is law.

CONAP should develop a new institutional communication strategy, which will allow it to reestablish its image based upon the principles of sustainability, the pursuit of government objectives, and its own institutional strategy.

3.2 THE NATURE CONSERVANCY (TNC)

3.2.1 Conclusions and Key Observations

The Nature Conservancy is the only MBP component to: 1) work with a principal focus in the nuclear zones; and 2) give continual and systematic assistance to CONAP. TNC, therefore, is be congratulated for recognizing what needs to be done, and trying to do it. That said, it must be recognized that TNC's efforts at improving the administrative capabilities of CONAP have so far been deficient.

Efforts at a definition of programs and policies for the management of MBR resources have not yet born fruit. For example, the Master Plan should have generated a series of documents with detailed technical information (patrols, community relations, security of land use, highway development, petroleum related activities, administration of extractive activities, cultural revival, etc..).

The Master Plan for the MBR was completed by several consultants and submitted for approval by the CONAP Council. However, optimum techniques were not used in developing the plan. Workshops with community leaders, resource user groups, and national organizations involved with the MBR, were not sufficiently participative, and were not used as to orient the activities of the MBR.

During the first years of the project substantial efforts were made to: 1) build control posts on entry roads to the MBR area; 2) purchase supplies for resource guards, 3) construct gates, and 4) put up signs at the southern limits of the Reserve. These initial efforts seem to have been abandoned since the burning of control posts in 1992 and 1993. The TNC activity that has consumed the most effort has been Demarcation of approximately 80 kilometers of Reserve border and the placement of 243 signs and 148 boundary markers.

In the area of "applied studies", USAID and TNC documents propose: 1) biological and ecological inventories; 2) designation of pilot areas for permanent observation; 3) the provision of "small grants" for local studies; and 4) support CECON, and 5) development of a document center and data-base within CONAP. With the exception of the Rapid Ecological Evaluation contracted to the APESA firm, TNC has accomplished little in the "applied studies" component,

Additionally, TNC prepared Infrastructure and Training Plans, to orient the growth of CONAP. An NGO to share MBR management responsibility has been identified. The program for financial sustainability, which has the objective of guaranteeing long-term of the management of the MBR, has failed to produce virtually any results.

3.2.2 Recommendations for the Nature Conservancy

Administrative Strengthening: Administrative strengthening of CONAP must continue. TNC must work toward decentralizing financial decision-making, and liquidation of the existing Rotating Funds to support work on the MBR. TNC must support the development of several Organizational and Procedures Manuals.

Master Plan: The Master Plan must be up-dated and made participative through a series of thematically and geographically focused workshops. The process must be run by a planning technician responsible for CONAP Region VIII. Part of the specialist's job is develop relationships all actors directly or indirectly involved with the MBR including key governmental and non-governmental leaders; and leaders of municipalities and interest groups.

Operating Plan: The evaluation team recommends that the MBR, as a protected area, have its own plan of operation based on plans for each of the nuclear zones, and developed in conjunction with institutions like CECON and IDAEH, using the Master Plan as a reference framework.

Demarcation of the Nuclear Zones: With respect to demarcation, it is recommended that there be a change in zoning and in the limits to the Reserve, and that the re-

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zoning be extended to all nuclear zones, the biological corridors, and the archeological sites within the multiple-use zones. This re-zoning effort requires strengthening of CECON and IDEAH as well as of CONAP.

Training: The Training Plan of TNC should be approved and implemented, with the agreement of the Executive Secretary of CONAP. Training must be limited to permanent employees and established officials of CONAP, CECON, IDAEH, and DIGEBOS in Region VIII.

Rapid Ecological Evaluation: Investigators from CECON (and the CDC) should collaborate more with TNC on ecological characterization of the different habitats of the Reserve. The use of "small grants" to stimulate the participation of young researchers is also recommended.

The Rapid Ecological Evaluation must be distributed to potential users, and archives and databases of CONAP must be reviewed and reorganized for use by the new administration. The database should used to establish a series of maps for management (patrol systems, new tour routes, etc.).

NGO Support of the MBR:
To date no NGO has been able to contribute to management of the MBR. The project must rapidly make the decision on which NGO to involve, keeping in mind an analysis of the institutional, economic and social life of the Peten already completed by TNC.

Financial Sustainability for the MBR:
The financial sustainability program has as its goal the survival the MBR and MBR management mechanisms. The program must begin immediately with the full participation of officials from CONAP, the Ministry of Finances, and municipalities. Needed are: a feasibility study with special attention to diversification of funding sources, a proposal on structures and regulations. Financing mechanisms must include: 1) the internalization of costs, 2) the increase of municipal excise taxes, 3) the creation of new tariffs, and 4) the creation of a mechanism to receive donations. Also implied is the need to identify opportunities for renegotiating the external debt and the creation and strengthening of trusteeships, etc.

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3.3 CARE/EDUCAREMOS

3.3.1 Conclusions and Key Observations

Informal Environmental Education.

The environmental education proposal for the Peten was overly ambitious, with six components and eighteen objectives. The Annual Work Plan of 1994 for CARE shows that the following were completed during 1992-1993: three radios spots, a video, four microfiche, four pamphlets, three portfolios, and a radio campaign. A mobile exhibit is maintained, CARE does seminars and promotes local festivals.

Topics for radio 'spots' have included forest fires, cholera, sustainable soil use, water source protection, and the hunting of wild animals. These "spots" were broadcast through Radio Peten which is the station most listened to by the residents of the MBR buffer zone. The radio spots are broadcast in Spanish but not in *keqchi*, which limits communication with some immigrant indigenous groups.

Another accomplishment with potential for impact in the region, is the Nature Interpretation Path on the island of Petencito, near Flores and Santa Elena. This path, built in cooperation with public and private institutions, is located within a small zoo on the island, and is visited by a large number of people.

Environmental education has had the greatest impact on the urban population of the Peten in the central region, with the greatest access to radio, to written information, and to the public exhibitions and demonstrations. To date there has been no evaluation of the impact of the CARE radio campaigns to raise the environmental consciousness of the Peten community.

Training of Primary and Secondary School Students and Teachers

Teachers were first trained in the central zone of the Peten Region (Flores- San Benito- Santa Elena), with others trained later from the southern region, the area with the highest deforestation of the Department. During the first phase of the program, 1991-1993, 120 teachers were trained, of which 20 were from the southern zone of the Peten. Some 75% of the teachers were native to the Peten, or had spent the majority of their lives in the Peten. If we estimate that each teacher trained has approximately 30 students, some 3600 students can be affected by the program in one year.

The training for the teachers was empirical, with seminars, visits to the Interpretive Path of Petencito and Tikal National Park, as well as gardening and beautification projects at the schools, using plants and flowers.

The evaluation team had the good fortune of attending the April 22 Earth Day parade which was organized by teachers and students of the Peten, and is evidence of increased environmental awareness and is also a mechanism for promoting it.

EDUCAREMOS has produced substantial environmental materials for teachers, including the monthly supplement "*Green Peten*" which is published by the local newspaper *El Reportero*. The supplement initially had a distribution of 1,500, but due to increased demand, distribution has risen to 3,000 copies. To date twelve versions of "*Peten Verde*" have come out.

Good working relations and coordination between the personnel of CARE and the Ministry of Education in Peten facilitated all the above. In summary, although the investment in teacher training was relatively small compared to overall project costs, the return on this investment (in its own terms) has been high. The contribution of the teacher training activity to the MBP strategic objectives, however can be questioned (See the Chapter on Logical Framework Analysis.)

Agroforestry Extension

In 1992 CARE launched its Agroforestry Extension program with a "Participatory Community Analysis in 19 Communities of the Maya Biosphere Reserve Buffer Zone". At the end of 1992 CARE prepared the work plan for the program and initiated operations in 15 of these communities.

Principal agroforestry practices included in the program are: 1) "green" fertilizers which improve soils while increasing productivity; 2) live barriers and trees in pasture areas; 3) mixed orchards of fruits and other native products; 4) the management of forest reserves on farms; and 5) participatory investigations into native plant use.

Extension work began in the beginning of 1993. As this type of work by its nature is slow, it would not be fair to measure impact after one year. However, judging from the evaluation team's visits, it is clear that CARE's agroforestry program is off to a good start.

Secondary Activities of CARE

The majority of the objectives initially established in the environmental interpretation in national parks, for reasons not apparent in the project documents, have yet to be reached.

The objective of the component improvement of university environmental curriculum was to develop and strengthen the environmental programs at universities of Guatemala. The documents and bulletins of CARE mention only that they have made "contacts with the principal universities" and have conducted several workshops.

The rural economic programming component was introduced as a part of Phase II of the project, 1994-1996, thus activities are too recent for results to be analyzed. The justification for the component was "the need to develop and promote small-scale economic activities compatible with the long term management of the reserve." The component is oriented to what USAID calls "the gender issue", the need to economically involve women. It is believed that the

addition of the rural economic programming component to the already overburdened work agenda of CARE in the Peten will further disperse the personnel and existing work teams.

3.3.2 Recommendations for CARE/EDUCAREMOS

Informal Environmental Education

In order to increase the impact of environmental education, activities, they must be developed in coordination with other institutions. The possibility of training the personnel of CONAP in the technical aspects of environmental education should be explored.

The impact to date of broadcast programs and messages should be evaluated. The evaluation should include measure changes in environmental knowledge,in attitudes, and practices where possible. This evaluation could be performed by MSI, which has been contracted to do monitoring and evaluation for the MBP. The possibility of environmental awareness campaign by radio in the *kegchi* language should be explored.

Training of Teachers and Students

This component should be continued with coverage throughout the Department of Peten. An impact evaluation should also be completed.

Interpretation in Parks

CARE's nature interpretation activities should be: 1) coordinated with CONAP; and 2) expanded to strategic spots in the MBR including the nuclear zones of: Yaxha, Dos Lagunas and Laguna del Tigre where the population and resulting destruction of natural resources is increasing incremental.

Agroforestry Extension

The development of mixed orchards must be emphasized, as well as the management of live barriers and forestry reserves within farms. It is almost certain that an increase in these efforts will necessitate an increase in project funding.

Activities to Suspend

Considering the multidimensional nature and the overburdened, congested agenda of CARE, it is recommended that certain activities be eliminated:

- The Improvement of the Environmental Curriculum in Universities; and
- The Rural Economy and Gender Component.

3.4 CENTRO MAYA

3.4.1 Conclusions and Key Observations

Forestry Management

Centro Maya's most valuable forestry activity is management of a natural forest with the Bethel Cooperative. The Cooperative has 93 *caballerias* of land of which 2,740 hectares are communal forest. Part of the forest is in an MBR nuclear zone. The forest has remained relatively untouched because the area floods in the rainy season, and armed conflict has inhibited agriculture and tree cutting in the *Usumacinta* River basin.

The management plan for cooperative's forest was based on an exhaustive and expensive inventory initiated by CI. Commercially valuable mahogany and cedar trees were located, as well as nine other secondary tree species. All tree species, both valuable and those to be left as seedlings, were documented. For purposes of the plan, the forest has been divided into 20 blocks with a cutting cycle of 15 years.

Within the community there are many in favor of managing the forest, and there are also many of the opinion that the remaining forest should become pasture land because livestock is more profitable than lumber. Unnecessary delays in the implementation of the forest management plan would be disastrous for this pilot project. If the project is successful in Bethel, the example could transferred to other communities of the Peten which still have forests.

Sustainable Agriculture

The primary efforts of the Centro Maya's agriculture program centers on promotion of green fertilizers, specifically, the fertilizer bean (*fijol abono*), which is used to stabilize and intensify corn production. As context it is important to note that:

1) While fertilizer bean technology has been well known in the region for years; it has not been widely adopted by the farmers of the Peten.
2) Recent efforts to promote the technology, by CATIE, UICN, and IIZ, have had little result.
3) CEAR-IICA plans to introduce the technology in the 17 cooperatives of the *Pasion* and *Usumacinta* River areas, where many war refugees have settled.

Another Centro Maya sustainable agriculture activity is <u>introduction of new fodders to intensify livestock production and thereby reduce land areas dedicated to cattle</u>. A field visit by the evaluation team to a fodder experimentation plot, gave the impression of a poorly managed experiment infrequently visited by local ranchers.

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Extension and Rural Socio-economics

Centro Maya's **Extension and Rural Socio-economics** effort is ambitious compared to the time and funds allotted to it. So far:

- 350 validation parcels were established in 1993;
- The center gives lectures, and conducts tours involving producers who successfully use the fertilizer bean in conjunction with corn production;
- The Center has a 45 minute radio program called "Frijol Abono"" (fertilizer bean).

In the future:

- The program proposes in 1994 to establish 102 extension modules in as many communities;
- For 1995, plans are to reach 1,500 producers;
- In five years the plan is for 5,000 *campesino* families to be reached by the extension system "*campesino* to *campesino*".

To accomplish these ambitious goals the program plans to incorporate ten technical specialists, of which eight will be from the public sector.

Secondary Programs of the Maya Center

The Soils Management Program of the Center is important because of the magnitude of the problem, but it is also overly ambitious, and should be taken over by other institutions of the public sector such as ICTA, DIGESA, DIGESEPE or the universities.

The Centro Maya wants to promote among *campesinos* the Breeding of Wild Animals, including: the *tepescuintle*, groundhog, and deer. For this program they do not have properly trained personnel, though they plan to send staff to Panama or Costa Rica for training.

It is the consensus of the evaluation team that the Centro Maya does not have clear objectives for its program to Study and Revive of Mayan Ecosystems. This program may serve as academic research over the long term, and as a publicity activity which may attract different external funds for the priorities of the MBP.

3.4.2 Recommendations for the Centro Maya

Management of the Natural Forests

The forestry management activity of the Maya Center in Bethel is important and should continue with funding from the MBP, as it is successful it will serve as an example to other cooperatives and communities that still have forest areas.

Continued work in Bethel with the forestry model will undoubtedly require more funds and personnel than was originally planned. A key for this pioneering effort will be the training and organization of the cooperative and the community in general.

Parallel with the management of natural forests, the evaluation team recommends the support of the Centro Maya in

the implementation of a program to improve the agricultural and livestock production of the cooperative.

Native Plants for Fodder

Instead of experimentation with grasses, efforts with cattle ranchers should be oriented towards the use of native plants for fodder. In this regard the research, validation and extension concerning fodder banks should be done in critical areas and with critical plant species of the MBR. More specifically these efforts should be directed towards frontiers of encroachment where rapid population advances represent the greatest threat to the zones of the Biosphere Reserve. The identification of these critical frontiers should be done in collaboration with the responsible personnel of CONAP, the MBR, and USAID.

Bean Fertilizer (*Frijol Abono*)

A recommendation of the evaluation team is that the Centro Maya, with its team of researchers, should take on responsibility for coordinating and passing out information on the results of using the fertilizer bean.

Other Components

Considering the numerous urgent priorities which have arisen with the advancing frontier that threatens the MBR, it is recommended that MBP funds not be used for the following activities:

- Soils Research;
- Study and Revival Mayan Ecosystems;
- The experimentation for the breeding of wild animals; and
- The adaptation of grasses.

3.5 CONSERVATION INTERNATIONAL/PROPETEN

3.5.1 Conclusions and Key Observations

Low Impact Ecotourism:

a. The Spanish Eco-school

A promising achievement by CI/ProPeten is the Spanish Language Eco-school which has an economic impact on the community of San Andres. The objective of the school is not only to teach the spanish language to foreigners, but also to teach about the ecological the social history of the Peten.

Conservation International funded the school until September of 1993. During the objective was to obtain income from the activity, and finance a second phase for the school. It is important to note that the school has functioned well considering the low level of investment. The school has generated employment in the community, allowing an important cultural exchange, and permitting a

positive use of community services. In general this activity has been successful, directly and indirectly employing 93 residents of San Andres, Peten.

b. CINCAP

The objectives of the **Center of Information for the Nature, Culture, and Artesanry of the Peten** are the following: 1) the promotion of tourist areas of the Peten, 2) environmental education, and 3) to provide information of the resources that the region offers. In order to reach its objectives CINCAP has created an artesanry shop for products of the MBR in the "*Castillo de Arizmendi*", a historic sight in the center of the island city of Flores.

According to its guest book, CINCAP has received 700 visitors. It is believed that the number has been even higher during the first four months of 1994. CINCAP earns money from the sale of woodcarvings, painted beach shoes, bone carvings, etc. It is estimated that the activities of CINCAP are self- sufficient over the short term, although no complete analysis has been performed due to a lack of information.

c. Tourist Routes

CI has begun promotion of low impact tourism. CI's strategy is to promote hiking routes that combine archeological and natural beauty. Among these routes are *El Mirador, Ruta Bethel,* and *Ruta Guacamaya*. In Bethel there is the Posada Maya hotel, which was built with the appropriate technology and funds provided by INGUAT. While no precise figures are available, the members of the Cooperative have reported earnings from this investment.

Management of Natural Forests

In the natural forest management area, CI does forest inventories and management plans, environmental impacts studies, and monitors tree coverage in the Peten. Accomplishments include a management plan for a community forest in Bethel (which is now with assistance from the Centro Maya). Technical assistance has also been provided to the communal (*ejido*) reserves of San Jose, Chultun, and San Andres. In the communities of El Cruce and Carmelita, agro-pasture systems, vivary systems, and reforestation have been promoted small farm level.

Non-Wood Products: Potpourri

Potpourri consists of ornamental arrangements of botanical elements, which are produced as a part of the natural life cycle of certain species. These species, generally found in forest undergrowth, are collected, dried and hung, then packaged and marketed as scents of the jungle.

The production of potpourri takes place in the El Cruce-Dos Aguadas municipality of San Andres. This micro-enterprise activity was developed collectively by the

technical staff of ProPeten and representatives of the community. The activity has employed the local population not only with the packaging and preparation of the product, but also with the collection of primary botanical materials.

Recently the potpourri business sent its first shipment to 19 stores in the United States, with over 700 pounds of product. Profit margins would seem to vary widely depending on presentation and packaging (in glass vases, in natural gourd cups, in hand-painted gourds, in cellophane bowls, etc.)

The potpourri activity, while important for the promotion of forest vegetation subproducts, has generated little employment for adults (6 people in plant production and 117 providers of primary resources, working only part-time during times of high production). 90% of the people working to provide materials during high production time were of minor age, a phenomenon which should be researched in greater depth because it may mean a delinquency from school. In general the potpourri production is seen as a positive secondary source of income for families and has not caused heads of households from traditional land uses.

It should be noted that demand for the forest product is rising thanks to efforts of the CI in the United States, increasing the potential social benefits for the communities involved.

Other Non-Wood Products

There has been very little activity to develop and promote production methods for *xate, chicle* and fat pepper. Products for which production and marketing methods are being developed are: palm oil, soapstone, basic pepper oil, ornaments of veneered leaves, and natural dyes.

Artesanry

Artisan products under development by CI-PROPETEN are: carvings with wood, stone and bone, a variety of painted cups and gourds, painted shoes, and environmental embroideries. Currently artesanry in the region is produced in relatively low quantity, with high production costs, low impact in the utilization of secondary forest products, and a relatively low level of human development.

3.5.2 Recommendations for CI-ProPeten

For most of the micro-enterprise and ecotourism projects, the experiment and development phase has been completed, and small scale commercial and tourist activities are operational. A market study should be done in each case to determine the possibility of expanding sales and production, of expanding the acceptance of ecotourism, and the possibility that the local communities will be able to sustain these activities for the long term. At this moment the activities generated by CI have been creative, but promise little impact for the region. It will be important to determine which areas of the MBR are suitable for

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replication of activities like the potpourri production, and the Spanish language eco-school.

Low Impact Tourism

ProPeten should intensively promote the Posada Maya lodge in the *Usumacinta* River area, so that the investment in infrastructure pays dividends in terms of: 1) community employment and 2) the resource management practices which protect biodiversity and the landscape. ProPeten should continue development of the El Mirador tourist route, and should develop another circuit for Laguna del Tigre.

The organizational structure of the cooperative which manages the Posada Maya hotel in Bethel, must be strengthened, to assure self-sufficiency after the project. The Tourism Committee needs accounting and administrative controls, and a summary accounting system should also be implemented by the Cooperative. Intensive accounting and administration training are needed by coop members to insure sustained income and use of resources over the long term.

Economic Alternatives

In respect to the Eco-school, its authorization of operation with the Ministry of Education should be revised because no reference is made to its current dependence on CI/ProPeten, or its future relationship to a local NGO or individual.

With respect to the potpourri, the following measures should be taken:

- Strengthen community organization so that self-management will be achieved over the medium term.
- Evaluate the socio-economic impact of production, especially the impact of employing minors.
- Establish local technical and production teams so that they are able to : 1) carry out the entire production process, and 2) perform all product marketing.
- Find ways to increase demand for the product and increase efforts to sign future contracts so as to ensure the activity's sustainability. Those responsible for the production of potpourri must study and broaden the market, (and not rely so heavily on CI representatives in Washington, D.C.).

ProPeten should begin work toward the objectives in the document "Wood Products of the Maya Biosphere Reserve", which was developed and presented in September of 1992. They should also re-establish the forestry management component so that the project may have the greatest possible impact.

ProPeten should become more involved in the management of *xate* and *chicle* in the Peten, given their vast investment and experience in this field. This would also support impact of the Natural Forest Management component.

3.6 THE PEREGRINE FUND (PF)

3.6.1 Conclusions and Key Observations

The Peregrine Fund's role with the MBP beginning in 1992 has been to: 1) preserve the biological diversity of the MBR; 2) do research training for those involved with the project; and 3) establish databases and monitoring techniques. These responsibilities are to be taken over by CONAP or other institutions in the long term. The basic objective of the Peregrine Fund within the MBP is: Use data on predatory birds as indicators of environmental and habitat changes, in order to provide guidance and recommendations for strategies of MBR management.

The PF's training component has supported: 1) five persons in receipt of degrees; 2) three workers trained at CUDEP; and 3) training for 50 local assistants annually (115 have been trained to date).

The PF's research studies space and habitat needs, and current population parameters for several bird species. Other research quantitatively describes vegetation communities of the MBR, and studies bird life in the agricultural slash-and-burns areas. Also the PF does ecological studies of several bird species which are threatened by extinction. The biological studies of birds are based primarily on the effects of the fragmentation of the birds' habitat. The results of these studies should be of great significance for the management of the MBR.

An additional benefit of PF's research is employment of residents of the villages nearest the Tikal National Park as researchers and in research support, which may curtail resource degradation of that area. Young residents of Zotz, El Caoba, and El Remate have been employed in PF research.

In environmental education the PF has concentrated on four schools in the direct vicinity of the Tikal National Park, where they have given talks, shown videos, conducted artisan competitions, and have directed nature study tours. They have directly affected some 600 students.

3.6.2 Recommendation

The Peregrine Fund is one the NGOs with the best potential to fulfill its obligations to the MBP. It is recommended that the Peregrine Fund continue to support the research efforts in which it is involved, and that support for FP continue for the rest of the MBP.

3.7 The Association for the Rescue and Conservation of Wild Animals, ARCAS

3.7.1 Conclusions and Key Observations

ARCAS major contributions to the MBP are: proper management of wild animals; provision of medical-veterinary care; investigating the existence of relatively untouched areas appropriate for the release of animals; the monitoring of freed animals; and the distribution of information that is collected.

ARCAS rescues and cares for captured, injured or sick wild animals. ARCAS does applied research on reproduction of white-tailed deer, guacamayas, and *tepescuintles* in captivity. The deer study is being done on the property the owners of the Hotel Villa Maya, in order to compare reproduction and growth with those of other animals on limited grazing lands. Efforts with the *tepescuintle* are done with *Ixchel*, a womens' group from San Jose, Peten also active in micro-enterprises.

Additional ARCAS Contributions

- An ARCAS project, undertaken with UICN and students of CUDEP, is establishment of a hunting season in Uaxactun. ARCAS has also promoted low impact tourism activities in Uaxactun, with the support of CIDA.

- In 1994 ARCAS will train 600 teachers in eleven districts throughout the Department of Peten. ARCAS has trained numerous guides for ecotourism in the region and is trains residents of Uaxactun for the development of another "Posada Maya".

ARCAS is a relatively young organization with seven sources of funding for its activities in the Peten (CIDA, USAID, the MacArthur Foundation, Sharp Family, Columbus Zoo, Hotel Villa Maya, SEGEPLAN, UICN, WPTI, and others). Its activities are arise from within the organization and in collaboration with communities. However, its coordination with the other implementors of the MBP is virtually nil.

3.7.2 Recommendation

ARCAS is a national NGO with perhaps the best potential to achieve the objectives for which it was funded. it is recommended that support for ARCAS continue throughout what remains of the MBP.

3.8 USAID

3.8.1 Conclusions and Key Observations

According to the Project Paper, implementation of the MBP is the responsibility of CONAP, other counterpart national institutions, and a consortium of NGOs. Supervision of the project is the responsibility of USAID in conjunction with CONAP. Thus supervision is the principal obligation of USAID.

Originally, AID personnel specified by the design included: 1) a project manager, 2) a forestry specialist, 3) a natural resource management specialist, and 4) a Guatemalan project coordinator. A central office in the Peten was specified, but much discussion USAID and CONAP decided in 1991 not to go beyond a coordination team headquarter in Guatemala Cit.

In reality USAID has: 1) a project official, 2) an institutional development specialist, 3) an assistant for coordination with government agencies, 4) an assistant for administration and coordination with NGOs, 5) a financial officer, and 6) three forestry engineers, all located in Guatemala City. A monitoring and evaluation specialist has recently been named for project coordination in the Peten.

The management structure established by USAID-Guatemala is in general effective and efficient in its provision of supervisory and administrative support of the governmental and non-governmental implementors of the project.

Delays were experienced with some AID actions, in particular the procurement of major equipment, such vehicles and boats. Considering the AID's large organization and bureaucracy; and the norms and procedures that must be followed, such delays are not unexpected, nor do they have a simple remedy.

It is the opinion of the evaluation team that the AID's administrative structure for the MBP has grown to fill the void left by CONAP and its incapacity to perform the planning, coordination, and follow-up for this project.

Noteworthy is that during the period of this evaluation, no example of project coordination among implementors was observed in the Peten region. It is known that coordination did go on during 1991 and 1992, and then decreased 1992 and 1994 to arrive at the current low level. Local project coordination had now become AID's responsibility, and coordination of the MBP now originates in Guatemala City, and not from the Peten itself.

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3.8.2 Recommendations

USAID should diminish the number of project personnel located in Guatemala City, and the majority of project personnel be transferred to the Peten. Only the project management should function out of Guatemala City, meaning the responsible official of USAID and the Executive Secretary of CONAP. The Coordination Committee of the MBR (created by law), the Coordination Unit (with high level personnel form USAID and CONAP), and the Special Subject Coordination Committees should all function out of the Peten.

This transfer of coordination to the Peten will assure that USAID as donor will have, not only sporadic and "administrative" communication with implementers, but also it would allow USAID to provide technical orientation in the field, and allow close cooperation with CONAP region VIII.

4. PROJECT ADMINISTRATION AND FINANCIAL MANAGEMENT

4.1 PROJECT ADMINISTRATION

Conclusions and Key Observations

The concentration of coordination and management authority for the project in USAID-Guatemala City does not provide for efficient, effective, and realistic implementation of the MBP in the Peten. The worst aspect of the current arrangement is that after project completion, no governmental institution (or national NGO) will have the capacity to plan, coordinate, evaluate, and take the leadership responsibility for the Maya Biosphere Reserve. The evaluation team recognizes that this situation has developed due to a void left through non-performance by CONAP, and by the Guatemalan Government on the national and local level over the last five years.

If USAID continues to play a central project management role from Guatemala City, the only possible result is that the project will be implemented with no technical capacity in the field, and no ownership or endorsement of the project (political, financial, community support) on a national or local level. There will thus be no promise that the efforts to consolidate the MBR, and protect the biodiversity of the region will carry on.

In addition, if the concentration of power in the field continues as it is, dispersed among a variety of NGOs which make little communication or coordination effort, then it can be expected that the situation of MBR will remain the same or worsen. Activities will continue to be individual and periodic, with low levels of coordination and no overall strategy. If the current field reality continues, the MBP, the MBR, and implementing institutions will be weak compared to negative forces in the Peten - negative forces that favor 1) random and chaotic exploitation of the region's natural resources, and 2) short term economic benefit, 3) are blind to long term consequences. The Maya Biosphere Project, if it continues as it is, will leave behind no permanent mechanisms that allow the a uniting of forces among principal stakeholders in the Peten for the management of the MBR.

Recommendations

Having thoroughly reviewed the available evidence, the evaluation team recommends that the following actions be taken:

a. A profound and detailed analysis of the institutional roles of CONAP, CECON, IDAEH and DIGEBOS must

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be undertaken, to reveal their full legal capacity, human resource capability, official policies, and capabilities and weaknesses for project execution. The analysis should be undertaken at the central and regional levels, so that all actors can fulfill their roles in managing the MBR.

b. A diagnosis to determine how to restructure and strengthen CONAP, CECON, IDAEH, and DIGEBOS should be performed, so that institutional structures can be improved at the national and regional level. The diagnosis should include the decentralization of administrative functions and financial operations toward the local level, as well as the strengthening of central offices to elaborate policy, and perform planning, evaluation and follow-up.

The institutional analysis should explicitly consider the decentralization of operations for this project from Guatemala City to Peten. The analysis should also consider other entities which could be implementers of the MBP (municipalities, Peten Natural resource user groups, etc.). It is important to note that CONAP and IDAEH are currently going through a process of internal revision and reorganization.

c. Establish an MBP coordination unit (CONAP-USAID), headquartered in CONAP region VIII, with administrative, technical, and functional autonomy. This autonomy should be only slightly limited by periodic evaluation and follow-up by the central offices to ensure the financial, administrative, and technical soundness over the project. A detailed analysis of each institution in regard to this issues should be performed.

d. A detailed analysis should be performed of the minimum institutional structure needed from the central offices of CONAP and USAID/ Guatemala to support the operations of the coordination unit in the Peten. It must be understood that the function of the central office is simply to support and backstop the operations in the Peten, meaning that there should be few central officials, and numerous high caliber technicians and specialists in the Peten, and not the other way around. An entire bureaucracy in the central office is necessary for supporting operations in the Peten.

e. It is the opinion of the evaluation team that all NGOs which implement MBP activities in the Peten, with the exception of TNC, have sufficient field capacity to fulfill project obligations, and leave trained, local personnel to continue these functions after the MBP operations terminate.

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4.2 FINANCIAL MANAGEMENT

4.2 .1 GOVERNMENT ORGANIZATIONS: CONAP

Fundamental Aspects:

Institutional problems have developed within CONAP in a variety of areas, including personnel administration and finances. Administrative difficulties (period of 1991-1991) have included the naming of inappropriate personnel to key positions, including the Chief Administrator, Head of Finances, Accounting Assistant, positions which were given to students.

CONAP's original organizational scheme placed insufficient focus on administrative and financial units. This led to a lack of control over accounting records, a disorder in the use of funds, and negligence in documentation. These problems have led to financial liquidity difficulties, lessening the effectiveness of CONAP, and a near cessation of operations at the Maya Biosphere Reserve.

Types of Funds Managed by CONAP:

a. Counterpart Government Funds:
Government funds, which are included in the basic budget, are utilized to cover basic salaries for permanent positions, salaries for part-time personnel, and some overhead personnel costs.

b. Specific Rotating Funds:
This fund provided by the External Finances office of the Ministry of Public Finance was initially set at Q34,000.00 and then rose to Q500,000.00 in 1992. Originally, the fund incorrectly used, as a budgetary ceiling, and as of April 1994 efforts were still being made to liquidate the first rotation of the fund. These delays were caused by an error in how the fund was operated by the Office of General Accounting of the Ministry of Public Finance with the Bank Of Guatemala. In addition to this dilemma, the paperwork for the liquidation has become confused and intermixed.

c. Global Rotating Fund:
In 1993 a Global Rotating Fund was requested, and the Government authorized Q350,000.00, which has not been put into operation. To operate, the fund will require cash, statements of expenditures, and documentation of a variety of financial transactions.

d. Seed Funds of the Nature Conservancy (TNC):
TNC donated $50,000.00 to CONAP, of which approximately $7,000.00 is currently being managed properly. This is not a rotating fund.

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In general it can be concluded that CONAP has faced liquidity problems due to improper handling of pertinent documentation.

Problems Observed:

The delays caused by the rotating fund bottlenecks have left USAID and CONAP without project capital, causing administrative and financial problems, and mismanagement of Maya Biosphere Reserve. Consequence are: 1) general failure to comply with Legislative Decree 4-89, the Law of Protected Areas, and 2) non-compliance of CONAP with its Maya Biosphere Project responsibilities and obligations.

The *Golpe de Estado* in May of 1993 caused a rupture in the approval process for MBP documents and financing within the Guatemalan Government. Months passed without GOG reports to AID on MBP expenditures.

Administrative deficiencies, ill-defined functions and responsibilities pertaining to finances, and low coordination with corresponding offices in the Ministry of Public Finance have left CONAP in a state of crisis.

At the beginning of 1994 proposals were made to improve and strengthen the administration and financial management of the institution. Beginning in April of 1994 CONAP will employ two technical specialists in administration to lead these efforts. These and other signs give hope that CONAP administration will be improved in the short run.

It is crucial to note, however, that CONAP's proposal for 1994 does not include a Work Plan for the year. This Plan is being elaborated at this late date, and will be implemented in conjunction with the Institutional Strategy which was established for the next several years.

It can be concluded that CONAP, although having sufficient access to financial resources, does not have the capacity for project execution; this is illustrated in their rate of completion of 50% in 1991 and 1992, which barely reached 5% in 1993. The centralization budget management in Guatemala City has produced obstacles for the institutional development of the Maya Biosphere Reserve.

Corrective Measures:

Beginning in 1994 some corrective measures have been applied which provide hope for institutional improvement by the end of the year:

a. The human resources of CONAP in the area of administration and finances has been significantly improved.

b. Improvement in communication and coordination between CONAP and the appropriate officials of the Ministry of Public Finance, should improve CONAP access to its own budgeted funds.

c. Efforts have been stepped up to liquidate CONAP's funding, to clear up the document bottleneck, and to improve mechanisms for financial transactions.

d. A request was made of the Technical Budgetary Office to free-up funds slotted for 1994 to cover expenditures of previous years which could also tie up the project.

e. An extensive external audit was completed.

f. A Budgetary Programming and Operating workshop was organized with the participation of the Guatemalan Association for Budgetary Investigation (AGIP), USAID, and CONAP, with the goal of improving the technical capacity of CONAP's administrative and financial personnel.

Recommendations for the Financial and Administrative Management of CONAP:

In addition to continuing efforts to strengthen CONAP's administration and financial management, financial decision-making must be decentralized, especially in the case of CONAP region VIII, the Peten. This would allow the regional office to work more fluidly within its technical and operational responsibilities.

Strong efforts must be made to completely liquidate the remaining rotating funds, so that this issue may at last be solved, and so that work may begin at a sustained level in the Maya Biosphere Reserve. Particular attention should be paid to the compliance with Decree 4-89, the Law of Protected Areas (more specifically Chapters I and II).

Upon resolving the above issue, and establishing a sustainable level of project effort, CONAP must seek to fulfill the responsibilities to the MBP which it has been given. CONAP must improve its coordination with the NGOs in the field, and coordinate the activities of the involved governmental institutions.

CONAP must quickly develop the Organizational and Operations Manuals, following the model of the existing Norms and Procedures Manual. The manuals will be vital tools in establishing administrative, operative, and financial management objectives and responsibilities. Finally, CONAP should install the appropriate accounting systems to avoid the disorder of financial administration characteristic of the past.

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An idea which merits further investigation is the possibility of the Guatemalan Government (CONAP) transferring some of its counterpart project funds, through currency or negotiable bond, to a national NGO, like the Trust for the Conservation of Guatemala. This would allow a more efficient and sustainable channel for investment, and would also work more directly with the region. This and other practical options for escaping the current financial difficulties of the Guatemalan Government should be explored.

5. LOGICAL FRAMEWORK ANALYSIS OF MBP PROGRESS

5.1 THE OBJECTIVE AND STRUCTURE FOR THE ANALYSIS

5.1.1 The Objective of this Analysis

The objective of this Logical Framework analysis is not only to assess MBP progress, but also to prepare for a continuous M&E system. The tables on which this analysis is based will provide a structure and raw material for a continuous M&E system to be set up and run under the direction of Mr. Juan Carlos Godoy of MSI who is member of this Evaluation Team.

The raw material for the analysis consists of data, progress reports, and hypotheses based on observation, discussion, and telling anecdotes. To the extent there is solid data, it comes from an excellent summary of progress reports prepared by Claudio Saito of USAID-Guatemala. In the future, the anecdotes and hypotheses will be steadily replaced by solid data. Also note that this analysis works with categories of objectives rather than with specific objectives and indicators. The clarification of objectives, and the specification of indicators will be another focus of Mr. Godoy's work.

5.1.2 The Structure for this Analysis

The Tables in this chapter present a Logical Framework Analysis of progress by the Maya Biosphere Reserve Project to date. The Logical Framework is AID's principal project design and evaluation tool. Table 5A presents the structure of the analysis, and Tables 5B-1 through 5B-4 present the analysis itself.

Table 5A, which gives structure for the Logical Framework analysis, is divided into major rows labeled from top to bottom:

1) Impacts (Goal level);
2) Major determinants of impact (Purpose level); and
3) Information, systems, and training (Outputs).

The labels in parenthesis for the horizontal rows (Goal, Purpose, Outputs) are categories of objectives from AID's project design and evaluation tool, the Logical Framework. The row categories in Table 5-A are ordered in cause-effect fashion, with causes generally at the bottom, and effects or benefits generally at the top. The categories are ordered in this fashion because AID's Logical Framework and "Objective Tree" tools are ordered in this fashion.

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Within the row categories in Table 5A are listed the major objectives and success indicators from the Maya Biosphere Reserve Project Paper, and later attempts at improving the project's Logical Framework. The columns in Table 5A correspond to the major categories or activities that make up the Maya Biosphere Reserve Project: 1) Administration of the Reserve, 2) Development of Economic Alternatives, and 3) Environmental Education.

5.1.3 Summary Tables

In Tables 5B-1 through 5B-4 an attempt is made at a summary of MBP progress. Table 5B-1 summarizes data, information and hypotheses about MBP progress at the Goal level of the Logical Framework, and Table 5B-2 summarizes progress at the Purpose level. Output level Progress is summarized in Tables 5B-3 and 5B-4.

For this review of progress we have chosen to organize the analysis "horizontally" by row from Table 5A, that is by Logical Framework, or cause-effect level. A useful aspect of this "horizontal mode" of organizing accomplishments is that it cuts across MBP activities and implementers at each level. The job of managing MBP consists largely of thinking, communicating, and planning "horizontally" across implementers, which is to say strategically, and programmatically.

A necessary evil associated with this "horizontal" analysis is that the accomplishments of a single activity occur in various rows. For environmental education, for example, the following appear in different rows:

- The effects of the education on skills, knowledge and attitudes;
- The environmental education itself;
- Training of teachers; and
- Materials production.

Note that there is a cause-effect relation among the various aspects of environmental education, with causes below and effects above. A "vertical" treatment of project progress, which is easier to read but less "analytical" appears in Section 4 of this evaluation.

5.4 MBP GOAL LEVEL (IMPACTS ON THE ECONOMY, NATURAL RESOURCES, AND HUMAN BEHAVIOR)

Objectives: Table 5A shows that objectives and indicators proposed by MBP documents at the Goal level are:

- Long term economic development;
- Conservation of biodiversity and habitats;
- Conservation of forests;
- Resources of the reserve under sustainable management; and
- Adoption of appropriate practices.

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TABLE 5A

THE MBP LOGICAL FRAMEWORK ORGANIZED ACCORDING TO AN "OBJECTIVE TREE"

OBJECTIVES	PROGRESS: ADMINISTRATION OF THE RESERVE	PROGRESS: ECONOMIC ALTERNATIVES	PROGRESS: ENVIRONMENTAL EDUCATION
IMPACTS (GOAL LEVEL)			
SUSTAINABLE ECONOMIC DEVELOPMENT			
Long term economic development			
NATURAL RESOURCE STATUS			
Conservation of biodiversity an habitat			
Conservation of forests			
Decrease in the deforestion rate (Strategic Objective Indicator)			
RESOURCE MANAGEMENT PRACTICES			
Resources of the Reserve under sustainable management			
Management of renewable resources			
Management planes use			
Adoption of appropriate practices			
MAJOR DETERMINANTS OF IMPACT (PURPOSE LEVEL)			
SKILLS, KNOWLEDGE, ATTITUDES			
Public support for the Reserve			
Understanding of environmental laws			
-Public, - Decision makers			
Students educated: primary, secondary, university			
INCENTIVES BASED ON PRODUCTIVTY AND MARKET			
Income based on responsible resource use			
Economically and ecologiclly viable activities			
POLICY ADOPTION AND IMPLEMENTATION			
Policies established			
Effective system of control			
Master Plan			
ORGANIZATIONAL STRENGTHENING			
Institutional mechanisms			
Financial mechanisms			
CONAP, CONAMA, DIGEBOS			
A local reserve management NGO			
TRAINING, SYSTEMS AND INFORMATION (OUTPUTS)			
CHANGE AGENTS TRAINED, EQUIPPED			
The public, decision makers			
Park and resource guards			
Extension agents			
INSTALLATION OF SYSTEMS			
Demonstration plots installed			
Sustainable lumber production			
Harvest of extractive resources			
COLLECTION, ANALYSIS, PUBLICATION OF DATA AND INFORMATION			
Information on resource management			
Research on conservation, economic activities, commercialization			

The entries within the categories are objetives from MBP documents.

Analysis Scheme (Table 5B-1): To systematize analysis at the Goal level, impacts were divided into three basic types. long term economic development, natural resource status, and natural resource management practices, or human behavior. The types of impacts are related in cause-effect fashion. That is human behavior leads to changes in natural resource status which leads eventually to changes in long term economics.

Progress at the Goal Level: The top rows of Table 5B-1 suggest that:

1) It is too early to expect changes in overall natural resource status variables throughout the Peten.

2) To the extent that there are impacts on deforestation and other natural resource variables at this point, they are limited at present to: a) areas around specific interventions of the Alternative Economic Activity type; and b) a possible deceleration, due the mere presence and existence of the MBR and CONAP, of degradation due to illegal extraction and invasion within the nuclear zones. Anecdotes in this regard have aroused debate, and from the point of view of the Evaluation Team are so far inconclusive.

5.3 MBP PURPOSE LEVEL (MAJOR DETERMINANTS OF IMPACT)

Objectives: As objectives and indicators at the Purpose level, Table 5A shows that PM documents proposed:

- Policies established;
- An effective system of control;
- Income based on responsible resource use;
- Public support for the Reserve;
- Economically and ecologically viable activities;
- Institutional and financial mechanisms for; sustainability of CONAP and the reserve;
- An NGO for reserve management.

Analysis Scheme (Table 5B-2): The phrase 'principle determinants of impact' facilitates understanding what the Logical Framework means by 'Purpose level'. To systematize analysis at the purpose level, the following 'principal determinants of impact' were used:

1) Skills, knowledge an attitudes;
2) Policy adoption and implementation;
3) Incentives based on the economy, that is based on productivity and the markets; and
4) Organizational strengthening.

It is important to note that all the determinants of impact operate through their effect on human natural resource management behavior.

TABLE 5B-1

LOGICAL FRAMEWORK ANALYSIS OF THE MAYA BIOSPHERE RESERVE PROJECT

IMPACTS (GOAL LEVEL)

OBJECTIVES	PROGRESS ADMINSTRATION OF THE RESERVE	PROGRESS ECONOMIC ALTERNATIVES	PROGRESO ENVIRONMENTAL EDUCATION
SUSTAINABLE ECONOMIC DEVELOPMENT - Long term economic development	It is too early for impact of measurement		
NATURAL RESOURCE STATUS - Conservation of biodiversity and habitat - Conservation of forests - Decrease in the deforestion rate	The MBP has probably had little measurable effect on broad, regional natural resource variables because: - The MBP is largely an array of pilot-type activites each of which is small, and scattered compared to the problem addressed - Bio-physical change takes time - Natural resource status change depends on first changing organizations, policies, and human attitudes and behaviors.		
	POSSIBLE CHANGES AROUND SPECIFIC INTERVENTIONS - Possible deceleration of deforestation within nuclear ue to the mere existence an presence of the MBR and CONAP.	- Possible progress by ARCAS at saving endangered animal species - Possible slowing of the advance of "slash and burn" agricultural frontier around Centro Maya's Bethel Natural Forest Management experiment (ZUM) - Possible increase in productivity, tree cover, soil quality around the 15 communities served by CARE's Agroforestry extension program (300 Has in the Buffer Zone)	- The effects of environmental education on behavior are not known.
RESOURCE MANAGEMENT PRACTICES - Resources of the MBR under sustainable management - Management of renewable resources - Management planes used - Adoption of appropriate practices	NO MASSIVE BEHAVIOR CHANGES, BUT THERE ARE CHANGES AROUND SPECIFIC INTERVENTIONS There is continued illegal: - Logging, hunting, robbing of archealogical treasures, human settlement - Possible inhibition of illegal extraction and invasion due to mere existence, presence pf MBR and CONAP.	- Incipient natural forest management of 2740 Has around Bethel - 15 communities, 240 farmers in the Buffer Zone with green fertilizer, live fences, mixed orchards, managed farm forests - Collection, processing, marketing of non-wood forest material around Cruce las dos Aguadas 6 employees in the factory, over 100 collectors of raw material	- Yearly Earth Day Parade may become a tradition - The effects on behavior of CARE and CONAP's environmental education are not known

Progress at the Purpose Level - Skills, Knowledge and Attitudes, and the Point of View of Community Leaders: Observations based on the first row of Table 5B-2 are:

- Data on community leader attitudes suggest that the MBP has been relatively successful at communicating the existence and location of the reserve, and the idea that it is prohibited to cut trees and hunt certain animals within the nuclear zones.

- The press has been very active in reporting on environmental matters in the Peten, and it is possible that this responsible performance by the press has affected the attitudes of decision makers and urban groups, but not rural populations in the Peten.

The View Point of Community Leaders

Table 5C summarizes data from interviews with community leaders on their concept and image of the MBR, CONAP and the role of the Guatemalan government.

- The first analysis shows that the most effective means of communication with rural people is overwhelmingly through radio;

- The second analysis shows that the central image that community leaders have of the MBR is highly 'protectionist';

- The third analysis shows that components of CONAP's image are: 1) protect and take care for, 2) forest, trees and lumber, 3) make business deals and money, 4) do little or nothing, 5) not let poor farmers work.

- The fourth analysis shows that a considerable portion of community leaders are willing to tell an interviewer: "Yes, the Guatemalan government is selling the Peten."

Progress at the Purpose Level - Incentives Based on Productivity and Markets: Observations based on second row of Table 5B-2 are:

- The best example within the Economic Alternatives category of an activity that provides economy-based incentives is the potpourri factory.

- Economy-based incentives are not limited to activities within the category Economic Alternatives. Outside the category are: the Eco-Spanish school and CINCAP that have environmental education objectives as well, and the rolling chicle fund at CONAP that has reserve management objectives.

TABLE 5B-2

LOGICIAL FRAMEWORK ANALYSIS OF THE MAYA BIOSPHERE RESERVE PROJECT

DETERMINANTES OF IMPACT (PURPOSE LEVEL)

OBJECTIVES	PROGRESS: AMINISTRATION OF THE RESERVE	PROGRESS: ECONOMIC ALTERNATIVES	PROGRESS: ENVIRONMENTAL EDUCATION
SKILLS, KNOWLEDGE, ATTITUDES - Public support for the Reserve - Understanding of environmental laws -Public -Decision makers - Students educated: primary, secondary, university	Positive - Increased official complaints on threats to the reserve. - Newspapers cover environmental issues, problems. Negative - CONAP has a negative image among peteneros and NGOs - Half of over 50 community leaders interviewed answered "yes" to the question: "Do you think the Government is selling the the Peten?"	Probable increased skills in production, business, teaching among employees of: - The Eco-Spanish school - The Potpourri business - CINCAP (CI)	- Effect of environmental education on knowledge and attitudes is not known. - 36 teachers, several thousand studen with probable improved knowledge and attitudes regarding the environment (CARE).
INCENTIVES BASED ON PRODUCTIVTY AND MARKET - Income based on responsible resource use - Economically and ecologically viable activitie	- National Park tarif structures - Increased eco-tourism in nuclear zones - There is potential for using rolling funds, such as from chicle sales	- The potpourri business has generated 6 factory jobs, and 117 part time jobs for collectors of raw material. There is the possibility of an export market. (CI)	- The Eco-Spanish school generated 93 jobs directly and indirectly (CI). - Income at CINCAP from selling handi crafts (bone, stone carvings, etc.) (CI).
POLICY ADOPTION, IMPLEMENTATION - Policies established - Effective system of control - Master Plan - Demarcation of the reserve and zones	- There is no institutional presence in the Nuclear Zones - Patrolling is not systematic - Demarcation is partial - The Master Plan is little known - No consistent policies for land tenure, construction, roads	- There are regulations for forest concessions. - No norms for controlling forest use, roads, oil, tourism, immigration, refugees, etc.	- Environmental education has been incorporated in urban area schools (CARE).
ORGANIZATIONS STRENGTHENED - Institutional Mechanisms - Financial Mechanisms for the reserve - CONAP, CONAMA, DIGEBOS - A local reserve management NGO	- Without the MBP CONAP might ha disappeared - CONAP is weak at coordination, planning, implementation, administration - No progress at financial sustainability for the MBR - A local NGO has been selected	- Groups involved in alternative economic activities are weak in administration, finances, marketing.	- The Eco-Spanish school is has a unified program with organizations in the community (CI)

LOGICAL FRAMWORK ANALYSIS OF THE MAYA BIOSPHERE RESERVE PROJECT

ENVIRONMENTAL EDUCATION AND EXTENSION (OUTPUTS)

OBJECTIVES	PROGRESS. ADMINISTRATION OF THE RESERVE	PROGRESS. ECONOMIC ALTERNATIVES	PROGRESS. ENVIRONMENTAL EDUCATION
ENVIRONMENTAL EDUCATION, EXTENSION FOR NATURAL RESOURCE USERS			
- The public - Decision makers - Primary school children - Secondary school students - University students	CONAP education campaign on the MBR and its importance - 1616 house visits - 170 radio programs - 74 radio spots - 15 education guides - 19 talks in institutions - 140 talks in schools	CARE: - 450 visits to demonstration plots - Plots demonstrate 9 basic agroforestry techniques CONSERVATION INTERNATIONAL - At least 700 visitors to the CINCAP CINCAP environmental education center - 30 people trained in natural forest management. - 7 training events in various natural resource management practices	CARE: - Approximately 3000 children/yr trained in environmental topics - Radio programs covering 84 communities - Written material distributed in 19 communities - Training begun for 80 women in alternative economic activities in preparation for credit program CONSERVATION INTERNATIONAL in Bethel, Cruce dos Aguadas, San Andres - Literacy training with an ecological focus for 30 people - 100 talks on ecology in schools
CHANGE AGENTS TRAINED, EQUIPPED			
-Park and resource guards -Extension agents	TNC - 8 extension agents equipped in places where CONAP has a pres - About 130 resource guards equiped and trained - A TNC workshop for CONAP extensionists - TNC prepared a training plan for CONAP which has been put into practice CARE - Trained 21 park guards and 5 tourism guides from CONAP i sustainable agriculture and green fertilizes	CARE: - 6 events for training extensionists, and promoters - 30 workshops for training community leaders in agroforestry, green fertilizer, etc. CENTRO MAYA: - 22 days of extension for farmers and agriculture representatives - 2 courses for technicians, forestry and agriculture extensionists CONSERVATION INTERNATIONAL - Trained ten people in as tourism guides - Training offered in Geographic Information Systems	CARE: - 120 teachers trained in environmental education CONSERVATION INTERNATIONAL - Training of 25 teachers, of whom 20 work at the Eco-Spanish Scho - Support to university agronomy students at USAC, CUDEP - Sponsorship of participation by 10 teachers in courses by CARE FONDO PEREGRINO - 50 research assistants/yr trained - Talks, visits to 4 local schools - Sponsored 5 "bachilleratos", 3 workers for study at CUDEP

TABLE 5B-4

LOGICAL FRAMWORK ANALYSIS OF THE MAYA BIOSPHERE RESERVE PROJECT

INSTALLATION OF SYSTEMS, INFORMATION-DATA-PUBLICATIONS (OUTPUTS)

OBJECTIVES	PROGRESS: ADMINIS-TRATION OF THE RESERVE	PROGRESS: ECONOMIC ALTERNATIVES	PROGRESS: ENVIRONMENTAL EDUCATION
INSTALLATION OF SYSTEMS Demonstration plots under appropriate management Sustainable lumber production Harvest of extractive resources	TNC, CONAP - 80 Kms of boundary along the south border of the buffer zone have been marked.	CENTRO MAYA - 355 demonstration plots, validation tests for fertilizer beans in 21 communities CONSERVATION INTERNATIONAL - Fat pepper nurseries in El Cruce - Two videos on the MBR (one won an International Prize) - Posada Maya in Bethel - Initial work on new tourist routes: El Mirador, Ruta Bethel, Ruta Guacamaya	CARE - Installation, equipment for the environmental education center in Petencito CONSERVATION INTERNATIONA - Eco-Spanish School Administration systems Education systems - A Center for Information on the Nature, Handicrafts, and Culture of the Peten (CINCAP)
COLLECTION, ANALYSIS, PUBLICATION OF DATA AND INFORMATION - Information on resource management - Research on conservation, economic activities, commercialization	- Research on "slash and burn" migratory agriculture (CONAP-CATIE). - Rapid Ecological Evaluation is in its final stage (TNC). - Study of visitors to the Tikal National Park (CARE). - Institutional analysis of CONAP (TNC). - Monitoring of tree cover in the MB (Conservation International). - Master Plan (TNC) - Operating Plans (TNC,CONAP,AID) - Training Plan (TNC)	CARE - Diagnosis agroforestry practices legume and tree species in deforested areas of different ages. CONSERVATION INTERNATIONAL - Analysis of wood, xate, chicle, pimienta activity. - Forest use in Buena Fe Coop CENTRO MAYA - Soils research - Xate harvesting techniques - Varieties of corn, fertilizer beans, and citruses - Grass, legume adaptation trials - Forrage potential of native plants, trees, forest pasture systems.	- Environmental education materi developed, published (2500 copi a month -CARE) - Review and design of 10 environ mental education guides (CARE) - AID data collection, MSI analysis of community leader attitudes toward the MBR and CONAP

TABLA 5-C

THE POINT OF VIEW OF COMMUNITY LEADERS ON THE MAYA BIOSPHERE RESERVE, CONAP, AND THE ROLE OF GOVERNMENT

Data were collected under the direction of Mr. Keith Line and analyzed by MSI. For all questions: 1) the interviewees could give more than one answer, 2) not all of the more than 50 interviewees responded, and 3) Only the most frequent answers are analyzed.

QUESTIONS ON INFORMATION SOURCES:

1) Have you heard anything about the MBR?
2) Where did you get the information?

MEANS OF COMMUNICATION	FREQ	%
Radio	35	51
Press	5	7
NGOs	3	4
The Government	1	1
CONAP	6	9
Other	35	51

THE IMAGE OF THE MBR.

What is the Maya Biosphere Reserve?

OBJECTIVE, FUNCTION	Freq	RESOURCE	Freq
Care for, preserve	28	Forest, trees Other	14 12

THE IMAGE OF CONAP. QUESTIONS:
Have you heard anything about CONAP?
What is CONAP doing?
What do your friends think of CONAP?

TYPE OF COMMENT	FREQ.
Protect, care for	27
Forest, trees, wood	10
Take our money, do business	15
They do little of nothing	12
They don't let the poor farmer work	8
Not popular	5

IS THE GOVERNMENT SELLING THE PETEN?

ANSWER	FREQ	%
NO	20	48
YES	22	52
TOTAL	42	100

Progress at the Purpose Level - Policy Adoption and Implementation: Observations based on third row in Table 5B-2 are:

- The MPB shows poor results in implementing controls and norms for governing natural resource management.

- For the extraction of *chicle, xate* and forestry concessions, there are laws in place or proposed.

- For tourism, petroleum, and other economic activities, laws and regulations are lacking.

- Due to programs by CARE, it is probable that environmental education has been incorporated permanently in the curriculum of schools in the Peten.

Progress at the Purpose Level - Institutional Strengthening: During the design and implementation of the MBP, the notion of institutional strengthening has arisen to satisfy several needs. First, there is the need to strengthen CONAP so it can carry out its central role in managing the MBR. Second, there is the need to ensure financial sustainability for the reserve. Third, there is the need to identify and strengthening a local NGO to complement government organizations in managing the reserve. Fourth, a need for training groups involved in economic alternatives has become obvious.

In the fourth row of Table 5B-2 are presented observations on the current status of the MBP ins satisfying the several 'organizational strengthening' needs. Obviously, in spite of the large investment in training of individuals and groups, strengthening of national and local organizations for managing the MBR has not yet been achieved.

5.4 PM OUTPUTS

Objectives: As objectives at the Output level, Table 5A shows that the original Logical Framework for the MBP proposes:

- Environmental education for the public, decision makers, and students;
- Training for park and resource guards;
- Demonstration plots in sustainable wood production and sustainable resource extraction; and
- Research on resource management conservation and economic alternatives.

Analysis Scheme: To systematize the analysis of Outputs, Tables 5B-3 and 5B-4 organize the above material in categories related in cause-effect fashion, with causes below and effects above, as follows:

- Environmental Education and Extension for the public and natural resource users;

- Training of change agents;
- Installation of systems;
- Collection, analysis and publication of data and information.

The idea is that in very general terms: 1) information and the installation of systems leads to 2) training of change agents, whose work consists of 3) environmental education for the public and extension for natural resource users.

Progress at the Output Level - Environmental Education for the Public and Extension of Natural Resource Users: Observations based on the material presented in the first row of Table 5B-3 are:

- Much environmental education has been focused on children in the central area of the Peten, and little attention has been paid to groups living close to the MBR.
- Another focus has been the radio programs designed and transmitted by CONAP, CARE and Centro Maya.
- Clearly, environmental education is not directed at groups with major responsibility for changing land and resource use in the Peten and the reserve, which suggests that Logical Framework indicators should be adjust to refer to these groups.
- For extension activities, there is an almost exclusive focus on small farmers, and little work with the loggers, cattle ranchers who (together with small farmers) are responsible for the depredation of the Peten's forests.
- For extension activities there is a poorly defined mix of "maximize coverage" and "concentration on integrated pilot examples" strategies, which make diffusion of innovation over large areas improbable.

Progress at the Output Level - Training of Change Agents: Observations based on material presented in the second row of Table 5B-3 are:

- Within the category of change agents are included: park guards, resource guards, teachers, extensionists, and community leaders, etc. In brief, the category refers to all people who serve as a bridge to deliver environmental material and messages to a broader public.
- Within the change agent category also fall: training of CONAP technicians, and CUDEP students, who will eventually form a critical mass of technicians in the Peten.

Progress at the Output Level - Systems Installation Observations based on the first row of Table 5B-4 are:

- If all the systems installed by the MBP project functioned well over the long term, results at all levels of the Logical Framework would improve.

- Unfortunately, under the Reserve Management category, non-functioning systems are common, as is the case with vehicles which are not maintained, and guard posts which are burned down.

Progress at the Output Level - Collection, Analysis and Publication of Data and Information. The second row of Table 5B-4 shows that biological studies of importance have been accomplished, along with a Rapid Ecological Assessment, monitoring of the deforestation rate, and various impressive guides and manuals. Accomplishments at the this "paper" level" are the basis for many activities, but in and of themselves are not measures of a successful project.

5.5 SUMMARY OF LOGICAL FRAMEWORK ANALYSIS

5.5.1 The Logical Framework as an Analytical Tool

In its current state of development the Logical Framework analysis in Tables 5B-1 through 4 serves a descriptive purpose, but utility for analysis is limited because:

- Objectives and indicators are not sufficiently specific;
- A notion of how accomplishments are related geographically to each other and to the nuclear zones is lacking; and
- MBP progress is characterized through, observation, interviews, and documents rather than measurement data.

Although the global analysis tables are not ideal, vertical comparisons between the Output and Purpose rows in of the analysis can be illustrative. The vertical comparisons in Table 5-D below suggest that: MBP progress at the Output level has not generally led to accomplishments at the Purpose level. According to the Logical Framework, it is precisely at the Output to Purpose transition, where a project's success is determined.

TABLE 5-D
Administration of the Reserve (Column 1) - Purpose - Little control or presence in the reserve - Outputs - Many guards trained and equipped
Economic Alternatives (Column 2) - Purpose - Some isolated examples of changed natural resource management behavior - Outputs - Disperse activities, largely in Buffer Zones
Environmental Education (Column 3) - Purpose - Effects on knowledge an attitudes are not known (or their relation to strategic objectives of the MBP). - Outputs - Much activity focused on children and urban areas

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5.5.2 Summary of the Logical Framework Analysis

This Logical Framework analysis of MBP progress, leads to the overall conclusions that:

1. Accomplishments at the implementation or Output level of the Logical Framework are substantial, and include respectable amounts of: a) information and document generation; b) trained 'peteneros'; and c) to a lesser extent system installation.

2. However, as suggested in Table 5-D, the Outputs can not cause more than slight effects at the all-important Purpose level. The Purpose level includes: a) skills and attitudes of people who degrade the MBR; and b) policy and economy-based incentives which influence the behavior of those people. Reasons why, according to this analysis, MBP Outputs do not cause significant corresponding results at the Purpose level, are outlined in Section III of this evaluation on project design.

Briefly: a) Reserve Administration, for numerous reasons, has not been effective at controlling human behavior in thee reserve; b) Economic Alternatives, in spite of isolated successes, do not promise massive change land patterns among major destroyers of the RBM; and c) Environmental Education has focused, not on destroyers of the RBM, but on teachers, children and urban populations.

3. It goes without saying, that if Purpose level accomplishment is weak, then Goal level accomplishment must also, for the time being, be weak. The Goal level refers to improvements in: a) natural resource management practices among degraders of the Peten, and b) natural resource status such as forest cover.

5.6 ADDITIONAL ANALYSIS

Additional analysis related to the Logical Framework which has use for the planning and implementation of the MBP includes:

- The relation between the MBP and USAID-Guatemala's Strategic Objectives;
- Assumptions according to the Logical Framework system;
- A Continuous M&E System;
- Analysis in the spirit of Cost-Benefit.

5.6.1 THE RELATION BETWEEN THE MBP AND USAID-GUATEMALA'S STRATEGIC OBJECTIVES

The Maya Biosphere Reserve Project is a central component of USAID-Guatemala's Natural Resource Management Program with its own set of objectives and indicators which overlap with those of the MBP. Table 5E presents an

Strategic Objective	[illegible] Improve the extent and [illegible] natural resource base to support conservation of biodiversity		
Performance Indicators	1) Reduction of deforestation trends in selected areas 2) Maintenance of indicator species at viable population levels in selected sites.		
Program Outputs	3.1 People employing more sustainable land use practices	3.2 Policy/market incentives for sustainable resource management and conservation of biodiversity.	3.3 Public and private institutions playing more effective and sustainable roles in support of natural resource management
Program output Indicators	1) Percent of target population adopts more appropriate land use practices promoted through the program	1) Policy regime reflects increased consideration for conservation of biodiversity.	1) Selected institutions have continued increase in non-AID income.
Projects	MAYAREMA RENARM CNRM Environmental Support Project Biodiversity Support Project	MAYAREMA RENARM Environmental Support Project Biodiversity Support Project	MAYAREMA RENARM CNRM Environmental Support Project Biodiversity Support Project

"Objective Tree" for USAID-Guatemala's natural resource management program. Below (Table 5F) are listed the major areas of overlap and correspondence between the objectives and indicators of the MBP and USAID-Guatemala's Natural Resource Management project.

In Tables 5-E and 5-F, note that the Strategic Objective of the USAID-Guatemala's Natural Resource Management Program is "Improved management of the natural resource base to support conservation of biodiversity": Also note that accomplishment of the Strategic Objective is measured by the indicator: "Decreased deforestation rate".

TABLE 5-F
CORRESPONDENCE BETWEEN OBJECTIVES AND INDICATORS FOR:
1) THE MAYA BIOSPHERE PROJECT, AND 2) THE USAID-GUATEMALA NATURAL RESOURCE PROGRAM

"Improved management of the natural resource base to support conservation of biodiversity"::
- Natural Resource Management Program - The Strategic Objective toward which all activities, including the MBP, must be directed.
- Maya Biosphere Project - Describes the whole project, and many of its objectives

"Decreased deforestation rate":
- Maya Biosphere Project - Indicator at the Goal level;
- Natural Resource Management Program- Indicator of Strategic Objective Achievement.

"Improved natural resource practices::
- Maya Biosphere Project -. Indicator at the Goal level;
- Natural Resource Management Program - Output 1

"Public and private organizations strengthened":
- Maya Biosphere Project: Project Output or Purpose (Which varies in different versions of the MBP Logical Framework. How to fit organizational strengthening in Logical Frameworks and Objective Trees is always a problem.)
  Natural Resource Management Program: Output 3

Data Series and Projections

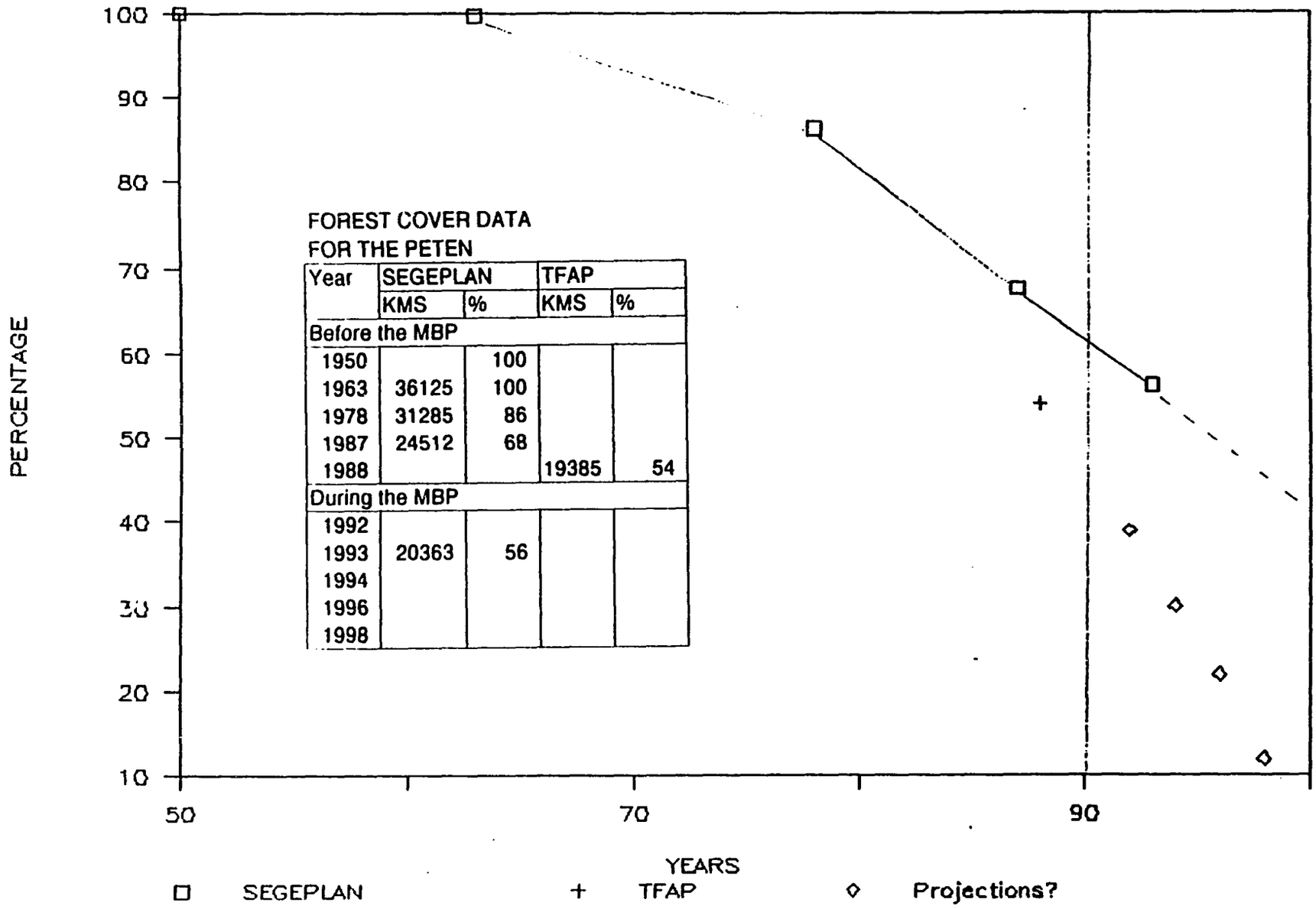
The MBP has made several attempts at data series and projections with the intention of showing a relationship between the project and deforestation rates. The Evaluation Team carefully examined the data and models, and concluded that they not yet solid or complete enough for assessing MBP's contribution.

Particularly unconvincing is MBP's use, as shown in Table 5-F-1, of: 1) One data source (TFAP) that gives a relatively high deforestation rate since 1978 (3.2%/yr), to calculate a 'historical tendency' and predict the future without the project; and 2) Another data source (SEGEPLAN) that with a lower rate since 1978 (about 2.0%/yr) to measure project performance and calculate impact. The result is an exaggerated view of MBP impact. (In reality, the deforestation rate MBP uses to predict the future without the project is 4%/yr, not 3.2%/yr, which exeraggerates MBP apparent impact even more.)

TABLE 5-F-1

FORESTRY COVER

IN THE PETEN



FOREST COVER DATA
FOR THE PETEN

Year	SEGEPLAN		TFAP	
	KMS	%	KMS	%
Before the MBP				
1950		100		
1963	36125	100		
1978	31285	86		
1987	24512	68		
1988			19385	54
During the MBP				
1992				
1993	20363	56		
1994				
1996				
1998				

Details and Implications

Table 5-F-1 summarizes forest cover data, historical trends, and projections into the future for the Peten. The comments below explain and expand on the material in Table 5-F-1.

1. The curve starting in the top-left corner of the table: SEGEPLAN-UNEPET (the Planning Secretariat in the Peten) has at its disposal a series of forest cover studies consisting of: a) Holdridge and Lamb, 1950; b) FAO-FYDEP-PNUD, 1963; c) FAO-INAFOR, 1978; d) UNEPET, 1987; and e) UNEPET, 1993. The latter two studies use SEGEPLAN's satellite-based Geographic Information System. (MBP documents attribute the first three studies to TFAP, because they are cited in TFAP's summary volume on Guatemala.)

2. The plus sign (+) in the middle of the table: In 1988 TFAP did a single satellite-based GIS study of forest cover throughout Guatemala. Note that for the late 1980s, there is a 14% divergence between the TFAP and SEGEPLAN data. For the year 1988 the TFAP data show 54% forest cover remaining; while for the year 1987 the SEGEPLAN data show 68% forest cover remaining the Peten. The difference may arise from use of different scales of measure. The SEGEPLAN studies, because they focus on the Peten, may use a more sensitive scale for detecting forest than did the TFAP study, which was national in scope.

3. The bottom-right area of the table : To describe a future without the project, the MBP extends a historical trend derived from lines connecting: a) the Peten-focused studies covering the period 1950-1978, and b) the nation-wide TFAP study in 1988. The result is a deforestation rate for the 1980s of about 3.2%, and a predicted forest cover in the Peten for the year 2000 of less than 10%. (Indeed, MBP uses an even faster, 4%/yr deforestation rate for its "without project" projections.)

The middle-right area of the table

4. MBP did not use the SEGEPLAN data for 1987 to calculate historical trend and project into the future, perhaps because the data was not available at the time of the MBP analysis. If the SEGEPLAN data had been used, the historical trend, and the projections into a future without the project, would have been very different, (as shown by the broken line leading off to the right of the SEGEPLAN curve). For the decade of the 1980s, SEGEPLAN data give a deforestation rate of about 2.0%/yr (rather than 3.2%/yr), and predicted forest cover for the year 2000 of about 40% (rather than 10%).

5. To calculate its impact, the MBP plans to compare SEGEPLAN data with projections based on 'historical tendency'. For the year 1993, SEGEPLAN data show 56% actual forest cover. When the 56% is compared to the 39% TFAP data projects, the 56% gives the impression of significant impact, and that deforestation is being braked, perhaps by the MBP. However when SEGEPLAN's 56% for 1993 is compared SEGEPLAN data for the year 1987, the 56% corresponds exactly to 'without-project' projections, and looks like normal continuance of historical trends and the status quo.

Two Data Analysis Errors

MBP is to be congratulated on their attempt to detect MBP impact on deforestation; however some data analysis errors are being made.

1. As noted above and in Table 5-F-1, the MBP uses one historical data source (TFAP) to predict the future without the project, and another set (SEGEPLAN) to measure impact, when the latter is available for historical trends as well. Comparing across data sets is a bad thing to do, not because one set is right and the other is wrong; but because all data collection and analysis efforts impose their own peculiarities on numbers and trends. It is essential where possible to use exactly the same data collection and analysis procedures to measure impact and the base for comparison.

2. MBP has made projections into the future based on few data points, without taking into account factors that influenced the data. Note that a 14% difference on the late-1980s data point for TFAP (54% forest cover) and SEGEPLAN (68%) has produced a 30% difference in predicted forest cover in the Peten for the year 2000 (10% vs. 40%). This projected difference is of strategic importance for the MBP because the project can be judged either a success or a failure depending on which projection is used.

Recommendation: In collaboration with MSI's M&E contract, develop data and analyses which accurately measure MBP's possible effect on deforestation. Where there is doubt regarding which deforestation projections, indicators, and comparisons to choose, avoid bias by always choosing those which minmize MBP's apparent impact.

A Qualitative and Logical Assessment of MBP Impact on Deforestation Rates

Without solid data or models, it was necessary for the Evaluation Team to base analysis of the MBP-deforestation relationship, not on only measurement and statistics, but also on answers to the question: How direct and how massive is the relation between MBP accomplishments and groups and behaviors that deforest the Peten? Material and tools for answering the question included: observation,

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interviews, documents, and AID's Logical Framework project evaluation scheme. Even with solid data on deforestation rates in an around the project area, this 'qualitative and logic' analysis would be essential. Cause-effect relationships can almost never be proven on the basis of numerical data alone, and this is especially true in the Peten where so many powerful socio-economic forces operate in difficult to predict ways.

This assessment begins with the observation that the MBP has three components at its disposal which could influence deforestation rates: 1) reserve administration, 2) economic alternatives, and 3) environmental education. Summarized, and expressed without Logical Framework jargon, the assessment of the relation of each component to deforestation rates is as follows:

1) Reserve Administration: MPB building of institutions which implement controls and norms for governing natural resource management are, for a number of reasons, weak. If the MBP is to influence USAID's deforestation objective, then Reserve Administration must be especially strong in: a) prevention of illegal logging and, b) control of road building which leads to corn farming and cattle raising.

2) Environmental Education is probably effective in changing knowledge and attitudes of children and perhaps effective with urban adult populations as well. MBP education efforts, however, are not concentrated massively on groups and threats responsible for depredation of forests and biodiversity.

3) Development of Sustainable Alternative Economic Activities has been successful in spots. However: a) There is a poorly defined mix of broad coverage and "living example" and strategies; and b) There is focus almost exclusively on small farmers, and very little work with the loggers and cattle ranchers largely responsible (together with small farmers) for depredation of the MBR.

Conclusions:

- As is the case for all types of natural resource impact, it is probably too early to measure effects of the MBP on regional deforestation rates.

- The extent of MBP impacts on deforestation are limited for the moment on: a) changes in areas around specific activities; and b) a possible deceleration of deforestation in Nuclear Zones caused by the mere presence and existence of the MBR and CONAP.

5.6.2 MAYA BIOSPHERE PROJECT ASSUMPTIONS

What is an Assumption?

Analysis of Maya Biosphere Project Assumptions as expressed in the project's Logical Frameworks must begin with a working definition of Assumptions.

> Definition: Assumptions, according to the Logical Framework, are factors external to your project <u>over which you have no control</u> which seriously effect the progress or success of your project.

It is also helpful to begin with a central implication of the above definition of Logical Framework Assumptions.

> A project whose success depends on false assumptions is a non-feasible project which must either be: 1) redesigned to include responsibility and control over assumptions as project objectives; 2) redesigned so it does not depend on the assumptions, 3) defunded.

An original intent of the Logical Framework was to act as a filter for decreasing the number of non-feasible projects, and increasing the feasibility of existing projects.

Original Project Assumptions for the MBP

Below (Table 5G) are presented Assumptions from the original Project Paper Logical Framework for comparison against the "definition.

TABLE 5G
GOAL AND PURPOSE LEVEL - Sustained political and social will to conserve natural resources - Crucial institutions will be sustained or sustainable CONAP, CONAMA, and DIGEBOS will become increasingly effective - The extension agents will effectively train the target groups in renewable natural resource based income generating activities
OUTPUT LEVEL - Appropriate types of training available - Equipment and materials will be used in the project - Effective maintenance systems will be put in place and adopted - Studies well designed an executed - Evaluation well designed and timely - Plan contains local and inter-institutional input, and has enforcing power - Fees reflect timber values - Extensionists well trained and equipped and their guidance is followed

A comparison of the definition of Logical Framework Assumptions and those in the Project Paper demonstrates clearly that either:

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- The designers of the MBP had a poor understanding of how to use the Logical Framework - and/or (much more serious)

- Project designers did not envision the project as taking responsibility for the determinants of its owns success.

Mis-use of the Assumptions tool is a common occurrence within AID. AID uses the Assumption column to list complaints and excuses, which and it has lost its analytical feasibility-increasing power.

New Project Assumptions

As shown in the table below, subsequent attempts at improving on the original Logical Framework for the MBP demonstrate: 1) an improved use of the Logical Framework Assumptions Column, 2) an improved understanding of the scope of responsibilities regarding determiners of success, and 3) improved understanding of realities in the Peten.

In the table below, Assumptions in improved version of the MBP Logical framework are divided into in three categories: 1) Assumptions which should be turned into project objectives, and 2) Assumptions which must become objectives of a future Policy Component within the MBP, and 3) An Assumption which seems false with little chance of improvement.

TABLE 5H ASSUMPTIONS LISTED IN "IMPROVED VERSIONS" OF THE MBP LOGICAL FRAMEWORK
PARTIAL OR TOTAL INCLUSION AS MBP PROJECT OBJECTIVES - Support of civil and military authorities in Peten; - Consensus among citizens and GOG entities on boundary location and CONAP resources/capacity; - GOG will an capacity to implement or delegate authority to operate outputs an community acceptance of outposts - Local institutions support policies that will promote sustainable development (i.e. willingness to accept trade offs an reach consensus)
POLICY PROJECT OBJECTIVES - Improved political and financial support for natural resource conservation and for selected conservation institutions; - GOG supports decentralize authority in management of resources; - Legislative and judicial framework-actors responsive to grass-roots policy initiatives.
POSSIBLY FALSE - Stable core staff available

Note that the "possibly false Assumption in the above table is "Stable core staff available". Again, <u>according to the Logical Framework</u>: If project success depends on a false assumption, the project must be either: 1) re-designed so the Assumption is a project objective under the control and responsibility of the project, 2) re-designed so success

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does not depend on the Assumption. 3) defunded. So, according to the rules of the Logical Framework, the MBP must either: 1) make sure CONAP and other key GOG organizations such as CONAP have stable core staff, 2) remove CONAP from its central role in favor of other organizations with a more stable prognosis, and 3) or 3) be defunded.

5.6.3 A CONTINUOUS M&E SYSTEM

The evaluation team recognizes that the analysis of the relation between the MBP an variables such as 'deforestation rates' is based, not on hard data much as on observation, discussion, and logical reasoning. During the two coming years, the firm Management Systems International will provide a permanent service in the Peten with the purpose of making planning and decision making within the MBP more scientific, participative and strategic. The person charged with this responsibility is Mr. Juan Carlos Godoy of MSI.

A New Logical Framework

The Logical Framework tables in this chapter must be converted into specific objectives and indicators. The indicators should be quantitative wherever possible an they should be limited in number. These objectives and indicators will derive in part from MBP's acceptance and adaptation of the recommendations of this evaluation. The objectives and indicators of the new Logical Framework should focus on principal threats to the MBR, and on the groups primarily responsible for changes in land use within the reserve.

The process defining a new Logical Framework for the MBP can take the form of a workshop or workshop series, where planning and analysis tools such as the Logical Framework and cost-benefit are taught.

Identification and Tracking or Key Assumptions

In a previous section use by the MBP project of the 'assumptions concept' was analyzed. With respect to identification and tracking of assumptions, the M&E advisor should: 1) identify external factors beyond project control which seriously effect project and success; 2) eliminate from the list complaints and excuses and convert them into project objectives; 3) establish criteria and indicators form determining during the project whether the assumptions are holding or failing, 4) establish and orchestrate a periodic tracking system, and 5) help with the formulation of contingency plans regarding what to do when key assumptions fail. Alternatives are: a) take on the assumption as a project objective; b) redesign so the

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project dos not depend on the assumption (external factor); or c) end the project.

Monitoring and Evaluation of Outputs

Data, information, publications, planes, guides: Complete the list of "paper products" summarized in Table 5B-4 and monitor their use, utility, and contribution to strategic objectives of the MBP. MSI has an draft instrument which can serve as starting point.

Installation of Systems: Complete the list of "systems installed summarized in the Table 5B-4 and monitor their use, utility, maintenance and contribution to strategic objectives of the MBP.

Training of Change Agents: Complete the list of change agents trained summarized in Table 5B-3 and investigate: 1) the sectors of the public reached by these change agents in their work, and 2) the relation of the publics reached and the messages transmitted to the strategic objectives of the MBP.

Monitoring and Evaluation at the Purpose Level

According to the Logical Framework system, the success criteria for a project are found at the Purpose level. Obviously then, MSI's M&E contract has an absolute obligation to develop indicators, data and analysis for all the 'determiners of human behavior' included at the Purpose level for the MBP. In the following paragraphs some preliminary ideas are presented.

The effects of Environmental Education (by means of the media and schools): The evaluation team has discovered an almost universal consensus on the following: 1) environmental education is a good idea, 2) environmental education is done well by MBP implementers, 3) but the effects of the education and their relation to the major objectives of the MBP are not known. The evaluation team suggests that the M&E system put in place by MSI do a study or series of studies to: 1) measure the effects of environmental education, 2) characterize their relationship to the strategic objectives of the MBP, and 3) suggest the optimum use of environmental education resources to reach MBP objectives.

Organizational Strengthening: The MSI M&E team must help with the identification of objectives and indicators of organizational strengthening for: 1) CONAP, 2) a local NGO to take some management responsibility for the MBR, 3) financial sustainability for the reserve itself, and 4) financial, management and marketing self sufficiency for groups involved in alternative economic activities. Of particular interest will be the development of objectives

and indicators for financial and administrative sustainabilty related to phase out strategies for the international NGOs working as MBP implementers.

Stakeholder Analysis: Among the determinants of human natural resource behavior at the Purpose level for the MBP, there are two types of incentives: 1) those based on policy, and 2) those based on changes and improvements in productivity and markets. In large part, the recommendations made by this evaluation consist of planning and implementation processes which take account of the meaning and importance that the two types of incentives have for the various groups that determine natural resource use in the Peten (municipalities, lumber interests, etc.).

The M&E Advisor must support and participate in the participative planning and implementation processes, and his contribution can take the form of mechanisms and tools whose functions are: 1) characterize the role that political and economy-based incentives have for different groups, 2) make recommendations on the basis of the analysis, 3) assure that MBP decisions and plans are based on analysis and strategy, and not on socio-political-economic power, or on 'who yells loudest'. MSI is in the process of adapting a tool for 'mapping' the relations among: incentives, groups, and environmental objectives.

5.6.4 ANALYSIS IN THE SPIRIT OF COST BENEFIT (Evaluation at the Goal or Strategic Objective Level)

It is necessary to develop an analysis 'in the spirit of cost-benefit', applicable to all current and potential components of the MBP, so that comparisons can be made on the desirability of different activities and strategies. A basic concept for 'analysis in the spirit of cost-benefit' is to define 'benefit' in terms of actual or potential contribution to strategic objectives (such as slowing deforestation, slowing the advance of the agricultural frontier, changing patterns of land use, etc.).

Table 5-I gives an idea of 'analysis in the spirit of cost-benefit'. The evaluation team attempted putting into practice the analysis in Table 5-I, but the data and conclusions where solid enough to appear in a formal evaluation report for public consumption. The analysis suggested in Table 5-I lends itself perfectly for a workshop in 'cost-benefit analysis' directed by MSI evaluation staff. Some very preliminary conclusions seem to be:

1. MBP activities which have had the most success in their own terms appear to have little relationship management of the MBR and in particular to protection of the nuclear zones. An example is the environmental education of teachers and children, which has little direct relationship

to the strategic objectives of the MBP because neither the teachers or the children are currently responsible for the depredation of the Maya forest. Another example is the potpourri factory which has little relationship to the strategic objectives of the MBP because the potpourri business is a secondary economic activity and does not change land use patterns. (Apparently a farmer can provide raw material to the factory and continue with his corn fields and slash and burn agriculture.) An exception may be the Eco-Spanish school, which is a primary economic activity, provides full time employment, and therefore can change land use patterns.

2. MBP activities which have had the most success in their own terms represent small investment of MBP resources. Again we can refer to the examples of: environmental education of teachers and children; the potpourri factory; and the Eco-Spanish school.

3. MPB activities most closely related to management of the MBR, and especially of the Nuclear Zones, have relatively large budgets, but poor results and use of resources. Here we refer to CONAP's activities, supported by TNC, in: control, coordination, planning, and administration.

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TABLE 5-I ANALYSIS IN THE SPIRIT OF COST-BENEFIT	Importance = Relation with the Strategic Objective of the MBP*	Results/ Current Impact	Expenditures/ Budget	Comparisons -Impact-importance -Budget-Importance -Impact-Expenditures
CONAP				
Presence, control				
Planning, coordination, norms				
Administration				
TNC				
Institutional strengthening				
Master and operating plans				
Demarcation of limits				
Investigation				
An environmental NGO				
Financial sustainability for the MBR				
CARE				
Environmental Education				
Training of teachers				
Education of children				
Extension in agriforestry				
CENTRO MAYA				
Natural forest management				
Rural agriculture-fertilizer beans				
CI/PROPETEN				
Eco-Spanish school				
Potpourri				
Tourist routes				
CINCAP				
Chicle/Xate				
Institutional strengthening				
Peregrine Fund				
Research				
Training of youth				
ARCAS				
Wild animal rescue				
Education				

*THE GEOGRAPHIC AND SOCIO-ECONOMIC RELATIONSHIP WITH NATURAL RESOURCE USE IN THE NUCLEAR ZONES.

THE MBP COMMANDMENTS	
FIVE INSTITUTIONAL COMMANDMENTS	
CONCLUSIONS	**RECOMMENDATIONS**
1. INSTITUTIONAL STRENGTHENING OF CONAP. Even with the support of the MBP, CONAP has not successfully fulfilled its coordination, planning, and implementation duties nor properly managed its funds or personnel.	Strengthen CONAP as an institution with more efficient management techniques, more permanent staff positions, strategic planning and a long-term financial plan.
2. CONAP'S COORDINATION ROLE. CONAP was designed to carry out coordination and planning, but instead has become an implementing entity with scattered activities and few results.	CONAP should change its role from implementor to coordinating and planning entity.
3. DECENTRALIZATION. The MBP was designed to channel funds from CONAP to other operational organizations. However, this channeling has not occurred. CONAP's laws and control mechanisms for poaching, land invasions, and illegal tree felling nuclear zones have been ineffective.	CONAP should transfer more counterpart funds and responsibilities to CECON, IDEAH, DIGEBOS and an NGO to administer the MBR.
4. AN ADMINISTRATIVE MECHANISM. Decisions concerning the MBP and its resources are made by: 1) USAID and CONAP in Guatemala City, and 2) multiple implementors in the Petén.	Establish a decentralized management system and unit in the Peten with autonomy in administration, technical matters, and finance; and with power and capacity to plan, coordinate and evaluate. Develop the MBR Consultative Committee and strengthen the Coordination Committee as it is defined in the 5-90 decree.
5. CLOSE-OUT STRATEGY. The MBP design recognized the advantages of implementing the project's activities through international NGO's. However, how to continue after the project and international organizations leave was not analyzed.	All international NGOs that carry out project activities must develop an institutional close-out strategy which includes mechanisms to reach technical, administrative, and financial self-sufficiency for the local NGOs.

6. COMPENDIUM, OF OBSERVATIONS, CONCLUSIONS AND RECOMENDATIONS

In this section of the Evaluation of the Maya Biosphere Project (MBP), tables are presented which summarize the material in the body of the report:

6.1 11 Commandments for the MBP

6.1.1 5 Institutional Commandments
6.1.2 6 Strategic Commandments

6.2 Summaries for Individual Implementors

6.2.1 CONAP
6.2.2 The Nature Conservancy (TNC)
6.2.3 CARE
6.2.4 Conservation International-ProPeten
6.2.5 Centro Maya/Rodale
6.2.6 The Association for the Rescue and Preservation of Wild Animales
6.2.7 The Peregrine Fund

THE MBP COMMANDMENTS	
SIX STRATEGIC COMMANDMENTS	
6. PARTICIPATION OF KEY GROUPS. The municipalities, the army, the church, loggers, cattle ranchers, as well as other institutional and social forces that are vital to the success of the MBR, have not been seriously involved in the project.	Initiate and galvanize active participation for the MBP within the church, the army, the refugee groups, loggers, cattle ranchers, local NGOs, and municipalities.
7. GOVERNMENT POLICIES. A systematic analysis of the influence of national policies on the operation of the MBR is still needed.	Rapidly develop policies for land security, colonization, and refugees, etc.
8. OPERATING STRATEGY. Instead of gradually consolidating control starting in the nuclear zones, protectionist measures were applied to all areas which produced ineffective application of the laws, a negative image of CONAP, and violence.	Redesign the MBR's protection and management strategies to focus more on management of nuclear areas and gradually expand to multiple-use areas and buffer zones.
9. DECIDE BETWEEN MAXIMIZING COVERAGE AND INTEGRATED, LIVING EXAMPLES For the Alternative Economic Activities there is a poorly defined mix between: a) maximizing coverage immediately, and b) developing live examples of sustainable economic activities.	The MBP must decide between: a) immediate broad coverage or b) creation of living examples of integrated processes; or c) a balance between the two. Wide coverage should be the responsibility of the government, or of projects designed and financed with that objective.
10. MANAGEMENT OF NATURAL FORESTS. There is strong disagreement on how to grant concessions on forest with commercial value. Little experience has been accumulated in sustainable forest resource use.	Strengthen natural forest management activities within, as much for non-wood as for wood products. Action items include: 1) A process of confrontation and resolution of interests to forge consensus on forest concessions; 2) specific plans which demonstrate forest management both for community as well as commercial interests; 3) training for community leaders in natural resources management and conflict resolution.
11. MONITORING AND EVALUATION. Monitoring and evaluation does not provide a basis for systematic project redesign. Cost/benefit analyses have not been carried out in relation to the strategic objectives of the MBP. To calculate impact on deforestation, the MBP uses rates and procedures biased in favor of the project.	Strengthen the monitoring and evaluation component to enable strategic and efficient adjustments to the MBP. Develop cost/benefit analysis by project component as they relate to the MBP's strategic objectives. In collaboration with the MSI M&E contract, develop deforestation projections, indicators, and comparisons which accurately measure the MBP's effect on deforestation.

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NATIONAL COUNCIL OF PROTECTED AREAS (CONAP)	
OBSERVATIONS	**RECOMMENDATIONS**
POLITICAL SUPPORT AND COORDINATION CONAP lacks political support. CONAP collarates little with other organizations in the management of the MBR.	Include nationally recognized personalities and organizations in the promotion of the MBR. Strengthen the coordinating committee of the MBR. Re-vitalize the thematic consulting committees. Constant participation in NGO fora, and the Development Counsel is essential.
INSTITUTIONAL STRENGTHENING Little strengthening of skills in coordination, planning, policy, and setting standards. Weakness at generating policies for the Reserve. Inefficient mobilization of funds. There has been some basic training for for park and resource guards. There is a shortage of equipment, field personnel, and personnel with technical expertise.	Increase personnel in the field (and in the Peten Coordination Office) with expertise in planning, policy, and monitoring. Contract professionals in planning, policy and coordination. Develop new budgeting and expenditure mechanisms. Continue training of park and resource guards, not only for CONAP but also for IDAEH, DIGEBOS, CECON and the Municipalities. Strengthen equipment maintenance activities.
MANAGEMENT OF RESERVES Disastrous attempts at guarding and control, incidents of violence, bad image, lack of confidence. New hunting regulations developed. Regulations concerning the commercialization of non-wood products generated by the forests were developed. Little collaboration with NGOs, OGs, and municipalities.	Strengthen control and monitoring activities in nuclear zones. Strengthen working relationships with CECON, IDAEH, DIGEBOS and other institutions. Re-initiate working relations with implementing NGOs. Reconceptualize functions of control and monitoring districts. Initiate administration of Multi-Use Zones with municipalities.
RESEARCH AND INFORMATION CONAP has launched a wide range of environmental education activities Lack of a research and environmental monitoring plan for the MBR. Access to technical and scientific information is poor.	Modify CONAP's institutional communication strategy. Develop a research and environmental monitoring plan. Strengthen the data base system and documents center. Collaborate and communicate more with CUDEP.

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THE NATURE CONSERVANCY (TNC)	
OBSERVATIONS	**RECOMMENDATIONS**
MASTER PLAN AND OPERATIONAL PLANS TNC prepared and CONAP approved a Master Plan. Participation by local people was minimal, as is local knowledge of the plan. TNC helped with CONAP's 1992-1993 CONAP operating plan a 1994 institutional strategy. Some progress toward new zoning scheme. A good working relationship between TNC and CONAP exists.	First and foremost, develop a new operting plan for every Nuclear and Multi-Use Zone that requires it. Next, develop a new version of the Master Plan based on a participation that includes municipalities and other institutions. Support re-zoning of the Reserve.
OPERATING PROGRAM AND APPLIED STUDIES A Rapid Ecological Evaluation (RER) of the MBR was done.	Generate studies to aid operation of the MBR. Studies should include: 1) Aquatic biodiversity of the MBR; 2) A strategy for petroleum development; 3) Guidelines for the safe and sustainable construction of highways; 4) Strategy to promote low-impact tourism; 5) Guidelines for land security in the MBR.
PROTECTION AND OPERATION OF SITES TNC supported construction of control posts. Guidelines for MBR infrastructure were prepared. Some Reserve boundaries were demarcated with TNC help.	Put in place a storage system at strategic control points. Install radio equipment. Do a 1994-1996 infra-structure improvement plan. Revise demarcation priorities, with emphasis on nuclear zones.
TRAINING CONAP officials were trained abroad. Petén students were trained locally. An overall Training Plan for CONAP. CONAP has still neither approved nor used the Plan.	Prepare, approve and use a training plan the includes, not only CONAP, but also IDAEH, CECON, DIGEBOS, the Municipalities.
ESTABLISHMENT OF A LOCAL NGO A concept paper was written describing the opportunities to support or create a local NGO.	Decide which NGO to support. Proceed with a strengthening and sustainability program.
FINANCIAL SUSTAINABILITY No progress has been made in this area.	Put high priority on financial sustainability of the MBR.

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CARE	
OBSERVATIONS	**RECOMMENDATIONS**
ENVIRONMENTAL EDUCATION There was an ambitious Environmental Education strategy which was never pursued. Lack of criteria for evaluating impacts on key behaviors and audiences. Radio and print media campaigns were mounted without coordination among types of media. Environmental education parades were staged on important, symbolic dates. Educational placards, radio announcements, and pamphlets were produced. A nature interpretation path was developed in the Recreational Center of Petencito. There was little communication and training for CONAP personnel.	Do more strategic planning with a concentration on key behaviors and audiences. Evaluate the impact of educational messages. Develop educational activities in coordination with other institutions in the Peten. Keep track of and participate in special events. Develop educational activities in communities located within the MBR. Develop better communication with CONAP and other implementing organizations.
TRAINING OF TEACHERS IN ENVIRONMENTAL EDUCATION More than 120 teachers were trained. A strong multiplier effect among students. Healthy working relations with the Ministry of Education. A probable change in attitudes, and undertaking of small nature conservation activities.	Continue this component with converge throughout the Peten. With MSI evaluate the impact within the context of the MBP's strategic objectives.
NATURE INTERPRETATION IN PARKS Actions carried out in the Tikal National Park were not coordinated with other entities which resulted in no impact in other nuclear zones of the Reserve. Created an interpretative pamphlet and translation materials for children.	Resume nature interpretation activities in Tikal; and extend them to Yaxha and Laguna del Tigre. Establish communication and coordination among the implementors of this component.
AGRO-FORESTRY EXTENSION Participatory feasibility studies in 19 communities. Multiple demonstrative field activities with agroforestry technology transfers were carried out. A body of educational materials was created.	Extend activities to some populated areas within the MBR. Emphasize "live fences", mixed orchards, nurseries, and farm-land forestry reserves.
UNIVERSITY CURRICULUM This component was too ambitious and unrealistic. Consulting reports sparsely used. Two workshops were held.	End this activity, which could be a separate project. Support CUDEP in it efforts to change curriculum.
RURAL AND GENDER ECONOMY Activities with women in several communities.	This component is not justified and should end.

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CONSERVATION INTERNATIONAL - CI	
OBSERVATIONS	**RECOMMENDATIONS**
LOW-IMPACT TOURISM The Eco-Spanish School has had significant economic impact on the community of San Andres. CINCAP served hundreds of visitors. New tourist routes have been developed. Support was provided to the Bethel Cooperative to manage a 'maya lodge'.	Continue with the self-sufficiency plan, including legal and administrative areas. Continue with tourist routes to El Mirador and begin with Laguna del Tigre. Support the administrative capabilities of the cooperative; promote the tourist lodge.
MANAGEMENT OF NATURAL FORESTS An operational plan for the forest in Bethel was prepared. A forest management plan for Chaltun was prepared. A GIS is used to monitor forest coverage.	Re-design an budget this activity according to contracts already signed.
ECONOMIC ALTERNATIVES A potpourri factory and business is operating. First steps have been taken in production of non-wood forest products such as natural dyes, veneer leaves and corozo oil. Promotion of handicrafts based on stone, wood, bone and gourd carvings. There has been little work on more efficient harvesting of *xate*, *chicle*, and wild pepper.	Develop independent marketing plans that do not depend on CI. Evaluate the social impact of the economic alternatives, especially the impact of employing children. Develop operating manuals for each activity. Salvage *xate*, *chicle*, and wild pepper activities.
COMMUNITY ORGANIZATION Community activities promoting entrepreneurship were held. There is little coordination with CONAP and other implementing institutions within the MBP.	Continue activities in this component. Augment coordination with CONAP and INGUAT.

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CENTRO MAYA/RODALE	
OBSERVATIONS	**RECOMMENDATIONS**
AGRICULTURAL SUSTAINABILITY An agriculture and livestock research team was formed. A soil identification process was designed. Workshops promoting fertilizer beans were held. Experiment in grasses and on native fodder plants were conducted. Breeding activities with wild animals was started.	More real extension, and less scientific investigation. Continue work with native fodder plants. Discontinue work on breeding wild animals. Focus demonstration activities on fewer communities. Integrate all activities more closely with the forest management component.
CENTER FOR RESEARCH RECOVERY OF ANCIENT MAYAN PRODUCTION SYSTEMS A debate concerning the this concept has not yet been resolved.	This component should be quickly reoriented. No MBP funds should be used until objectives are made clear.
RURAL SOCIOECONOMICS (Primarily Fertilizer Beans) Activities in 102 communities have been carried out surpassing the implementor's capacity. Massive campaign of validation plots and radio campaigns to promote fertilizer beans.	Reorient and focus activities on fewer communities in a more multidisciplinary fashion.
NATURAL FOREST MANAGEMENT A pilot forest management plan is being begun with the Bethel cooperative. Activities for the harvest of forest seeds was initiated. Municipal forests were established. Research is underway of the productive systems of *xate*, *chicle*, and wild pepper.	Strengthen activities within the forestry management component. Develop coordination mechanisms with other institutions. Try to work more in management of *chicle* and *xate*, with communities, not in university field.

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ANIMAL RESCUE AND CONSERVATION ASSOCIATION - ARCAS	
OBSERVATIONS	**RECOMMENDATIONS**
EQUIPMENT FOR THE RESCUE CENTER ARCAS is becoming a very dynamic NGO. The Wild Animal Rescue Center has been equipped.	There may be a possibility of entrusting ARCAS with several management activities within the MBP.
EDUCATION AND TRAINING A park rangers Manual was prepared. Educational activities were carried out with other institutions and donors.	Analyze ARCAS potential in implementing a training plan for the MBR.

THE PEREGRINE FUND - TPF	
OBSERVATIONS	**RECOMMENDATIONS**
RESEARCH AND EDUCATION Studies of birds and other fauna were conducted within the Tikal National Park. Research training for young assistants, Environmental education for children in the nuclear, buffer and multi-use zones.	Maintain support for the Peregrine Fund for 2 more years to study the ecology of damaged areas. Continue and broaden TPF's environmental educational work for children.

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June 15, 1994

Mr. Roger Popper
MSI REPRESENTATIVE
Avenida Reforma 15-75, Zona 10
Guatemala

Dear Roger,

Please find attached USAID's consolidated comments on the draft evaluation report for the Maya Biosphere Project. We have also included comments submitted by principal implementors (CONAP, CARE, CI, TNC).

As we mentioned in our letter of June 9, 1994, we are deeply concerned about the incomplete product. Moreover, after reviewing the draft report in detail, we are more concerned than ever that this report lacks consistency and does not comply with the terms of reference. The primary purpose of the evaluation was to measure progress toward achievement of the strategic objective, planned outputs and desired impacts and to recommend actions which will further improve achievements. The document is weak in this analysis and does not measure progress of the project as a whole. The evaluation was also designed to measure project impacts in terms of three beneficiary target groups: present users of MBR resources; institutions involved and the MBR itself. Unfortunately, the document submitted only described the second target group.

Please carefully review our comments. We reiterate our recommendation to MSI to take the necessary steps to complete the final report including additional time from the team leader. We cannot authorize payment under the terms of the contract until we receive an acceptable final report.

Thank you for your attention to this matter.

Sincerely

Keith Kline

Keith Kline
Maya Biosphere Project Manager

cc: Joan Favor, MSI
Paula Miller, RCO

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PROYECTO DE LA BIOSFERA MAYA
EVALUACION EXTERNA - PRIMER BORRADOR
COMENTARIOS

RESUMEN:

El borrador de la Evaluación Externa del Proyecto de la Biosfera maya (PBM), presentado por MSI, es un buen documento descriptivo sobre el diseño y sistemas de implementación del PBM; así como de las actividades, ejecución y manejo de cada uno de los implementadores del Proyecto. En las presentaciones orales, una de las críticas mas fuertes sobre el diseño del Proyecto fue la falta de enfoque concreto, realista y priorizada para trabajar como equipo. Sin embargo, la evaluación presenta en total mas de 130 recomendaciones. principalmente en forma individual por implementador y componente; bastante de ellas contradictorias, poco realistas y sin ningún orden de prioridades. Lamentablemente, el documento no hace ménto al esfuerzo realizado por los evaluadores ni a la capacidad de los mismos.

El documento presentado aún esta incompleto, estando faltante el resumen ejecutivo, el marco lógico, traducción al inglés, análisis de costos y beneficios entre otros. Mas aún, el nivel de síntesis y análisis expuesto en las presentaciones orales, no se reflejan en el documento. Recomendaciones claramente especificadas durante las presentaciones orales, han sido omitidas o mencionadas muy ligeramente; tales como la de concentrar esfuerzos, enfocar las actividades a las zonas núcleo, lograr concensos sobre prioridades, determinar/identificar a las poblaciones objetivo. etc. (Ver adjunto resúmen obtenido por el equipo de AID de las recomendaciones principales hechas en las presentaciones orales).

Según los términos de referencia, el propósito principal de la evaluación es el de medir el progreso hacia el logro del objetivo estratégico, resultados esperados, impactos deseados y presentar recomendaciones para mejorar su realización. El documento es bastante débil en su análisis en los referente a los resultados esperados e impactos deseados y no menciona nada sobre el objetivo estratégico. Así mismo, se estableció que la evaluación debería de medir los impactos del proyecto en función de tres poblaciones objetivos: a) actuales usuarios de los recursos de la RBM, b) instituciones involucradas en el manejo de la RBM, y c) la RBM propiamente dicha (condiciones ecológicas, flora, fauna..). Sin embargo, el borrador presentado sólo se concentra en el análisis de las instituciones involucradas, dejando un gran vacío en la medición de los impactos, como proyecto en forma global, en función a la población local y condición de los recursos que se desean conservar.

Uno de las conclusiones del equipo evaluador es que los componentes, así como los diferentes implementadores, trabajan en forma individual dando la impresión de ser diferentes proyectos, debiendo coordinar sus esfuerzos, dado que se tiene un objetivo común. Sin embargo, esta misma situación fue reflejada en el borrador de la evaluación, donde se hace un análisis por separado de los componentes e implementadores, mas

no del proyecto en su conjunto. Tampoco se da recomendaciones claras y priorizadas para corregir esta situación; todo lo contrario, se hace una serie de recomendaciones que resultarán en una mayor dispersión de actividades, mayor número de implementadores y mayor complejidad administrativa. Eso a pesar de criticar la dispersión de actividades y complejidad administrativa del Proyecto.

En resumen, el documento presentado, no cumple con lo establecido en los términos de referencia. El objetivo principal de la evaluación no fue cumplido en su totalidad, estando faltante la visión de conjunto. El documento es mas una descripción de los errores cometidos en el diseño y conceptualización inicial, actividades por componente e implementador; mas no una evaluación de donde nos encontramos en función al objetivo estratégico, impactos a la población objetivo y condición del recurso que queremos conservar.

Esperamos que los comentarios que ha continuación se detallan, se tomen en cuenta en la elaboración del documento final, a fin de poder cumplir con los términos contractuales establecidos.

COMENTARIOS EN RELACION A LOS TERMINOS DE REFERENCIA

Nota: Aspectos que no fueron considerados o que falta mayor análisis.

a) Objetivo de la evaluación

- Como se mencionó anteriormente, el documento en borrador es bastante débil en cuanto a la medición del progreso efectuado en función del objetivo estratégico, resultados esperados e impactos deseados. Este aspecto esta estipulado claramente como el objetivo principal de la evaluación.

b) Aspectos estratégicos de diseño

- No se respondió a la pregunta de cuál sería la mezcla óptima y niveles de financiamiento durante las próximas etapas de ejecución (bajo los obstáculos actuales de los recursos y suponiendo que financiamiento adicional será disponible en 1995).

- Dadas las lecciones aprendidas a la fecha, qué modificaciones al marco lógico se recomiendan? Es realista y ejecutable el plan de monitoreo y evaluación? Provee éste medidas fidedignas de progreso hacia las metas y objetivos? Son apropiados los métodos actuales y los propuestos para obtener y analizar datos? Qué mejoras se recomiendan para las matrices de los objetivos-resultados-indicadores para el proyecto?.

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- El aspecto de sostenibilidad se trata muy superficialmente. No se contesta la pregunta de: qué se puede hacer para mejorar la permanencia de las mejoras vigentes en la administración de la Reserva de la Biosfera Maya?.

c) Evaluación del impacto y del progreso logrados hasta la fecha

- Qué progreso medible ha sido logrado, en relación a los resultados esperados del proyecto, y al objetivo estratégico?. Pregunta clave y razón de ser de la evaluación que está bastante débil en el borrador presentado.

- Otro aspecto que no ha sido convenientemente analizado es lo referente al análisis de costos y contribuciones de cada uno de los componentes y subcomponentes individuales del proyecto.

- Tampoco se menciona cuáles serían las consecuencias de efectividad relativa, en términos de modificaciones al diseño y a la distribución de fondos, por implementador.

d) Aspectos Administrativos

- La evaluación de los pros, contras y efectividad de costos de la estructura administrativa del proyecto dentro de las ONGs, las instituciones del Gobierno de Guatemala que participan en el proyecto y dentro de la A.I.D., es bastante débil.

e) Aspectos Financieros

- Esta faltante la evaluacion de los pros y contras del 50% (mínimo) de contrapartida estipulada para las ONGs; cumplimiento a la fecha, y repercusiones de sus diferentes formas. Así mismo no se ha efectuado un análisis de la situación actual de los fondos de contrapartida del Gobierno de Guatemala a la fecha.

- No se hace mención de la pertinencia y suficiencia del financiamiento de A.I.D. comparado con los objetivos y necesidades del proyecto en el área de la Reserva.

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COMENTARIOS ESPECIFICOS (Además, ver borradores adjuntos con anotaciones al margen)

- Pág. 1
  1er párrafo: AID y el Gob. de Guatemala firmaron un Convenio de Donación y no un contrato.
  3er párrafo: la cifra exacta es $ 11,645,205, no $11.9

- Pág. 5
  último párrafo: "No se debería complicar este proceso con la complejidad de un enfoque nacional..." Esta recomendación parece inconsistente dado que los problemas que requieren estudio son de tipo nacional en su origen y en mayor grado solo susceptible a soluciones al nivel nacional.

- Pág. 6
  último párrafo: Incluir en la recomendación que tanto la USAID como los demás donantes que tienen interés y recursos asignados a la conservación del Peten deben hacer "un análisis serio" y en base a éste coordinar y colaborar para mejorar la situación política en el área. Esperar que sólo las instituciones nacionales (CONAP y CONAMA principalmente) cambien las fuerzas que las afectan mediante "una campaña agresiva" no parece muy realista.

- Pág. 7
  últimos párrafos: Se critica que el proyecto ha sido demasiado "proteccionista", sin embargo, la recomendación de la Pág. 8, 3er párrafo, parece ser mas proteccionista que antes.

- Pág. 8
  3er. párrafo: Se recomienda trabajar en las zonas núcleo y desde allí diseñar una presencia gradual en las otras zonas. Se debe de mencionar también que hacer con los actuales trabajos en la ZUM y ZAM.
  5to. párrafo: La recomendación no indica como ni quien lo debe hacer. Se debería de especificar cual sería el papel de AID, las comunidades, las ONGs, el sector privado y el Gobierno para lograr la "co-participación activa de los usuarios". Tampoco se es claro lo que se ha impuesto desde "arriba."

- Pág. 9
  2do párrafo: Indicar cual es la comparación apropiada, como y quien debe hacerla?."
  1a. recomendación: Que se está proponiendo? Se debe formar una política comun del Proyecto? como?

- Pág. 10
  último párrafo: Explicar el por que CONAP debería de contratar un técnico, para <u>apoyar exclusivamente a otras instituciones del Gob</u>.

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- Pág. 14
Dos últimos párrafos: No es muy clara la recomendación. El equipo se inclina por la segunda o tercera de las opciones (cuales?). Además, se recomienda la concentración de los esfuerzos del Proyecto en la Zona de Usos Múltiples y en comunidades de la ZAM muy cercanas a la RBM (esto ya se hizo en el Proyecto a excepción de Centro. Sin embargo, el equipo evaluador no está dando recomendaciones concretas sobre cuáles serían las áreas y/o comunidades que se consideran como críticas y valdría la pena tener la opinión de ellos ya que puede ser que no existan muchas opciones en donde concentrar esos esfuerzos.

- Pág. 15
2o. párrafo:. No es cierto que no hayan existido planes anuales de trabajo, ni estrategias operativas a seguir. Lo que no hubo fue capacidad administrativa y personas para implementar actividades y dar seguimiento a las mismas. El porque de la centralización en CONAP es debido a que en Petén no hay quien firme; es decir no hay personal con capacidad legal para firmar.
4o.párrafo: El problema es que al igual que CONAP, las instituciones (CECON e IDAEH) no han tenido la capacidad de tomar la ayuda, la cual ha estado disponible. Padecen de las mismas debilidades: mala administración, instituciones centralizadas etc.
6o párrafo: El problema de los operativos móviles, controles etc. es que no se han seguido los procesos y los pocos que se han intentado han sido dispersos y sin fuerza, además de la corrupción existente.

- Pág. 16
2o. párrafo: Todo esto si pero a quien. Primero deberá tenerse a quien capacitar, a quien hacerle manual de funciones, etc. Debería de ponerse énfasis en la estabilización de una masa crítica (de recurso humano) sobre la cual trabajar para fortalecer la capacidad. Lo contrario es enfocarse en detalles y perder de vista el problema principal.
5o. párrafo: La recomendación de contratar mas personal, "un cuerpo técnico", tiene mérito, pero como (?). Esto ha sido el problema perenne de CONAP y de CONAMA. No se ha tomado en cuenta las limitaciones del sector publico. No es solo de contratar mas personal, primero hay que crear la estructura y los puestos con carácter permanente; es decir la solución no es contratar mas personal 079. pues eso es fácil pero no será estable y los problemas se volverían a producir.
Ultimo párrafo: Transferir fondos si, pero de acuerdo a planes con objetivos acordes al proyecto y a la Reserva. Primero habrá que llegar a un consenso en que participa cada uno y en base a esto, preparar planes y transferir fondos.

- Pág. 17
2o. párrafo: La recomendación de que "CONAP delegue en DIGEBOS todas las actividades que tengan que ver con aprovechamiento de madera,..." Esto es conveniente? donde está el análisis institucional/técnico que sustente esta la capacidad de DIGEBOS de tomar esta responsabilidad efectivamente?
3er. párrafo: Que los guardarecursos no hayan leído ni el Plan Maestro es un reflejo

de falta de capacitación elemental. Aún cuando se reoriente el trabajo de los guardarecursos y de cualquier empleado, si no se recibe la capacitación adecuada pasará lo mismo.
último párrafo: se recomienda el cierre de operaciones de los distritos. Que hacer con los actuales?. Además se sugiere otros nueve distritos y "viabilizar sistemas de abastecimiento a dichas puestos." Como?. CONAP y entidades del GoB. en general no cuentan con los recursos mínimos. Este es el problema. Cual es la solución?

- Pág. 19
  1er. párrafo: Se refieren al Plan Maestro ó existe un Plan de Manejo de la RBM?
  último párrafo y página 20, 1er. párrafo: Se insiste bastante en detalles o en síntomas muy obvios del problema, pero no se ataca el problema mismo (falta de personal permanente). Falta un análisis serio de lo que pasa en CONAP.

- Pág. 20
  2o. párrafo: Se recomienda dar seguimiento al Plan Maestro; pero en las presentaciones orales, se manifestó que era mejor dejarlo por el momento y concentrarse en la elaboración de planes operativos para cada una de las zonas núcleo.
  3er. párrafo: Se recomienda un plan Operativo de la RBM. Se debería de contar además con un Plan Operativo del PBM? que relación habría entre ambos?
  4o. párrafo: Se recomienda hacer cambios en los límites de la RBM. Estos se refieren a límites internos ó externos y que implicancia tendrían. En la presentación oral se sugirió adaptar los límites para evitar conflictos con asentamientos humanos ya establecidos; pero esto no se incluye en el informe. Habrá otros criterios?.
  6o. párrafo: Se recomienda a TNC aprobar y desarrollar el Plan de Capacitación... A TNC no le corresponde la aprobación del Plan.

- Pág. 22
  2o. párrafo: CARE hizo evaluación de impacto de sus campañas de educación ambiental. Se menciona que se debe evaluar el impacto de las actividades de educación ambiental informal y de la posible colaboración con MSI para llevar a cabo esta evaluación. Debe especificarse que tipo de colaboración MSI podría ofrecer para hacer esta evaluación y que la misma no solamente fuera para las actividades de CARE sino que para todo el Proyecto.

- Pág. 24
  4o. párrafo: Entre las recomendaciones para CARE, específicamente para el Componente de Capacitación de Maestros y Niños, está la de expandir la cobertura a todo el departamento del Petén. Sin embargo, no se menciona o recomienda el incremento de financiamiento para esta expansión. Parece ser contradictorio con la recomendación de mayor enfoque. Será prioritario la interpretación de Parques?
  5o. párrafo: La recomendación para CARE sobre el componente de Interpretación de Parques para que "se inicien acciones en otros sitios estratégicos como Yaxha y Laguna de Tigre", no menciona la necesidad de incrementar el financiamiento para

esta expansión, ni que tipo de actividades específicas se recomiendan. Contradictorio a la recomendación de mayor enfoque.
Como debe CARE ajustar su programa para ser parte mas integral del proyecto y su reenfoque en Zonas Núcleo?.

- Pág 29
último párrafo: Se manifiesta que en épocas de mayor volumen de producción el 90% de los empleados son menores de edad y puede ser causa de deserción escolar. Sería conveniente que el equipo evaluador verifique estos datos y considerar la edad que estas personas normalmente salen de la escuela para fomentar el "patrón de uso convencional de suelo".

- Pág. 30
2o. párrafo: Hubo bastantes estudios de xate, chicle, pimienta y varias sugerencias a CONAP, pero en términos generales, la producción es bastante eficiente y la estrategia es disminuir la amenaza principal para estas actividades: Conversión del bosque para otros usos (agricultura/ganadería).

- Pág. 31
3er. párrafo: (alternativas económicas, ecoescuela). Explicar que sentido tendría revisar la Resolución del Ministerio. Recordar que es algo especial y transitorio.

- Pág. 34
5o. párrafo: A pesar de la información proporcionada, aparentemente aún no se comprende el rol y funciones de las personas que trabajan en AID. No se toma en cuenta que se requiere de una serie de trámites administrativos y de su seguimiento, que llevan tiempo y que sólo se pueden realizar si existe personal fijo en AID/Guatemala para hacerlo y que la Gerencia del Proyecto no puede encargarse de estos trámites ya que su papel incluye bastantes otras actividades.

- Pág. 35
último párrafo: No es afortunado el comentario de comunicación "administrativa" y esporádica con CONAP, al contrario se ha trabajado junto a ellos.

- Pág. 36
primeros párrafos: Es falso que AID tenga concentrado el "poder para el manejo y coordinación del Proyecto en Guatemala." Los avances concretos y significativos del proyecto hasta la fecha son producto del esfuerzo de CONAP y las ONGs en Petén; no de la A.I.D, dado su papel de donante. Estamos de acuerdo que deba haber una descentralización hacia el Petén. Si se busca formar capacidad y crear sostenibilidad para cuando termine el proyecto, la unidad ejecutora o coordinadora es una propuesta ya ensayada en otros proyectos, teniéndose resultados muy adversos y discutibles. Cuantas lecciones aprendidas hay de unidades ejecutoras de proyecto que no han dado resultado ni haber dejado una capacidad instalada. No se ha efectuado un buen análisis de las ventajas y desventajas de esta propuesta, mucho menos se ha analizado las experiencias de otros proyectos.

- Pág. 37
  1er. párrafo: Se hace énfasis en fortalecer CECON, IDAEH, DIGEBOS etc. a nivel central y regional, para cumplir con sus funciones en cuanto al manejo de la RBM. Todas estas instituciones son bastante débiles, super-centralizadas y con poca capacidad administrativa. Por dos años se ha intentado cumplir con esta recomendación (muy básico, obvio, idealista, pero sin sentido común), sin éxito en CONAP. Se debe analizar por que no ha funcionado. Que especificamente, hay que hacer diferente? Quizás (según experiencia hasta la fecha) no sea posible, dentro de los recursos y tiempo de este proyecto, esperar estas mejoras en las entidades del Estado. Que otras alternativas tenemos?. Deben ser mas concretos y " aterrizar" estas recomendaciones.
  3er. párrafo: Se propone una Unidad Coordinadora con autonomía administrativa. Tanto AID como CONAP son entidades de Gobierno. Por lo menos AID, no podría crear una entidad con autonomía administrativa.
  4o. párrafo: se describe unidades de apoyo en AID y CONAP para "apoyar" la unidad de Petén. Cual es la relación de estas unidades de apoyo con la gerencia del proyecto? ó se refieren a lo mismo?.

- Pág. 38
  2o. y 3er. párrafos: El problema de CONAP no esta entendido, la liquidez no es exactamente por la negligencia en manejo de documentos, eso es resultado de la falta de permanencia del personal.
  4o. párrafo: (Fondos de contrapartida). En sueldos si, pero uno de los problemas de CONAP es que no tienen puestos permanentes, sino puestos temporales que es lo que se está pagando. Párrafo siguiente: Las cifras son erróneas, están hablando de dos fondos rotativos distintos y para distintos fines.

- Pág. 41-42
  Toda esta información es erronea e irrelevante a execpción de los dos últimos párrafos.

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Equip. e Evaluación

EVALUACION DEL PROYECTO DE LA BIOSFERA MAYA
CONCLUSIONES Y RECOMENDACIONES PRELIMINARES
MAYO DE 1994

1. Falta de una estrategia clara y compartida entre todos los implementadores en cuanto a donde enfocar sus actividades y como manejar la Reserva de la Biósfera Maya. Especificamente, se recomienda un nuevo enfoque para proteger las zonas núcleos y hacer participar a todas los comunidades que se encuentran en la zona de uso múltiple y las que afectan a las zonas núcleo. Esto conlleva implicaciones financieras y de capacidad administrativa.

2. Falta de una estrategia realista y efectiva para incorporar otros sectores en la administración de la Reserva (organizaciones gubernamentales, organizaciones locales - iglesia, ejército, comunidades, otras ONGs).

3. Necesidad de descentralizar el Proyecto hacia el Petén, a través de establecer una unidad coordinadora con personal de CONAP y AID. Proporcionar a CONAP asistencia técnica/administrativa a fin de poder descentralizar y fortalecer la institución

4. Necesidad de definir una estructura organizativa y un proceso funcional sobre coordinación y comunicación entre componentes. Falta integración y sinergismo. CONAP debe promover al mas alto nivel político la reactivación del Comité de Coordinación de la RBM.

5. Cambiar el rol de CONAP de una implementadora directa a una entidad normativa, coordinadora, planificadora.

6. Necesidad de definir las prioridades del Proyecto en cuanto a los subcomponentes y actividades de sus implementadores y áreas de enfoque Especificamente, que todos trabajen hacia un mismo fin, contribuyendo a atender los problemas más importantes y en las áreas más importantes (zonas núcleos).

7. Necesidad de establecer un componente de políticas con enfoque nacional y a nivel del Petén, y atender temas grandes y difíciles como: tenencia de la tierra, población/colonización, refugiados/desplazados, etc.

8. El diseño, si bien es cierto contempló las ventajas de la ejecución de las actividades a través de ONGs internacionales, no se analizó la estrategia de continuidad de acciones al finalizar el Proyecto, por organizaciones locales y/o nacionales.

9. Necesidad de implementar el componente de monitoreo y evaluación, a fin de promover y posibilitar un proceso de rediseño y ajustes fluidos, efectivos y eficientes durante la implementación del Proyecto.

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10. El fortalecimiento institucional de CONAP debe estar orientado a fortalecer sus estructuras administrativas, de personal, planificación y financiamiento. Mientras CONAP no se desarrolle internamente, podría desperdiciar los recursos externos, no podrían invertir los recursos internos y sus acciones tendrían un impacto poco significativo para proteger la RBM y otras áreas protegidas del Petén

11. CONAP debe hacer los esfuerzos necesarios a fin de transferir los fondos de contrapartida a CECON e IDAEH, principalmente a fin de fortalecer su presencia en las áreas núcleo. Para esto se sugiere canalizar fondos a través de ONGs.

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Guatemala 1 de agosto de 1994

Dr. Craig MacFarland, PhD
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Estimado Dr. MacFarland,

Por intermedio de la presente acusamos recibo del informe sobre la evaluación externa del Proyecto de la Biosfera Maya, presentado por Management Systems International (MSI), el 21 de julio de los corrientes.

Sobre el particular, nos llama la atención que esta versión del documento incluya todo un nuevo capítulo, que no fue presentado anteriormente como borrador (exigencia estipulada en los términos de referencia), ni discutido con A.I.D. ni los implementadores del Proyecto. Este capítulo tan importante, "Análisis de Impactos y Progreso Segun el Marco Lógico", presenta una serie de opiniones y "conclusiones" los cuales, al no ser compartido previamente, contiene información distorcionada.

A pesar de solicitar en los términos de referencia, que las conclusiones y recomendaciones deben estar basados en datos claros, esta sección presenta conclusiones que van en contra de los datos disponibles y presentados, basados aparentemente en opiniones personales, como que: El Proyecto de la Biosfera Maya (PBM), tal como está implementándose, "tendrá solamente un leve efecto" en relación al objetivo de reducir la tasa de deforestación en comparación con su tendencia histórica. Esta conclusión se basa, según lo reconoce el propio equipo evaluador, "no tanto en datos científicos, como en hipótesis basados en discusión y observación, anécdotas y razonamiento lógico." Consideramos como negligencia el haber presentado conclusiones de tanta trascendencia sin haber profundizado en el análisis y sin ninguna discusión ni revisión con los implementadores.

Algunos ejemplos/datos que reflejan que el PBM ha logrado impactos significativos en reducir la tasa de deforestación, se mencionan a continuación:

1.- Según los datos proporcionados por el PAF/G (1960-1988) y SEGEPLAN VII (1993), la tasa de deforestación ha venido disminuyendo en comparación a su tendencia histórica, como puede verse en el siguiente cuadro y gráfico adjunto.

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FOREST COVER IN PETEN

Strategic Performance Indicator: Increased forest cover (decreased rate of deforestation) in the Maya Biosphere, compared to historic trends

YEAR	DEFORESTATION TREND HISTORIC & PROJECTION		TARGET WITH INTERVENTION		(B-A) "CONSERVED" TARGET KM2	(C) ACTUAL KM2	(C-A) "CONSERVED" ACTUAL KM2
	(A) KM2	% TOTAL	(B) KM2	% TOTAL			
TOTAL PETEN	35,824	100%					
1960	35,000	99%					
1970	34,500	96%					
1980	27,900	78%					
1988	19,385	54%					
199[illegible]	14,000	39%	15,000	42%	1,000		
1993	12,500	35%	14,200	39%	1,700	15,900	3,400
1994	11,000	31%	13,400	37%	2,400		
1995	9,500	27%	12,600	35%	3,100		
1996	8,000	22%	12,000	33%	4,000		
1997	6,300	18%	11,500	32%	5,200		
1998	4,500	13%	11,000	30%	6,500		

Table 1: Hectares of natural cover* remaining in the Peten vs. year; historical trends projected without project intervention, and target with intervention. (Note: over 75% of natural (forest) cover remaining in Peten is in the Maya Biosphere; this % is increasing each year).

*Historic data derived from TFAP/Guatemala analyses. Actual 1993 data from SEGEPLAN VIII.

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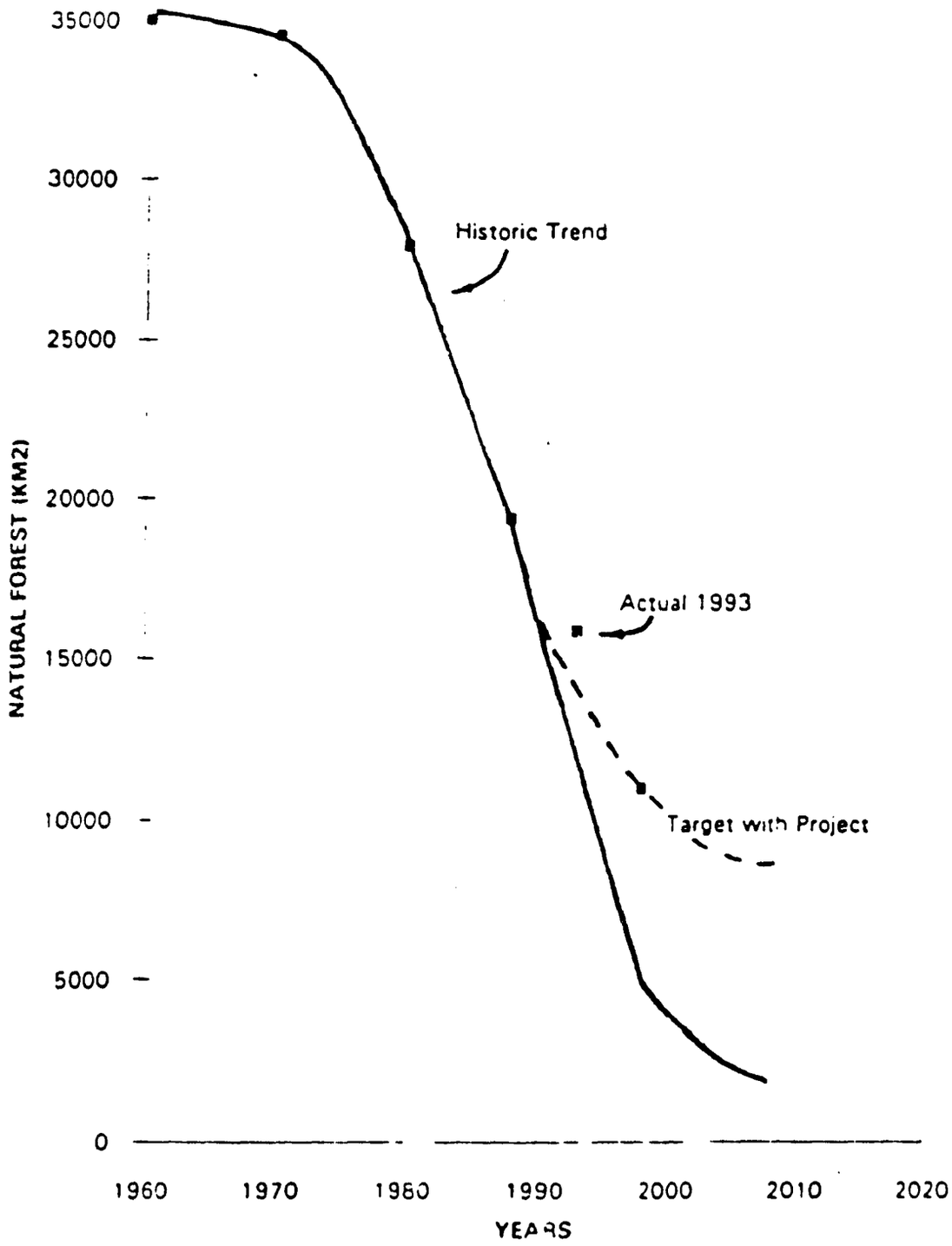
PETEN REGION

Deforestation Historic Trends and Projections



Fuente: Datos del PAFG (1960-1988), SEGEPLAN VIII (1993), AID Projection with Project

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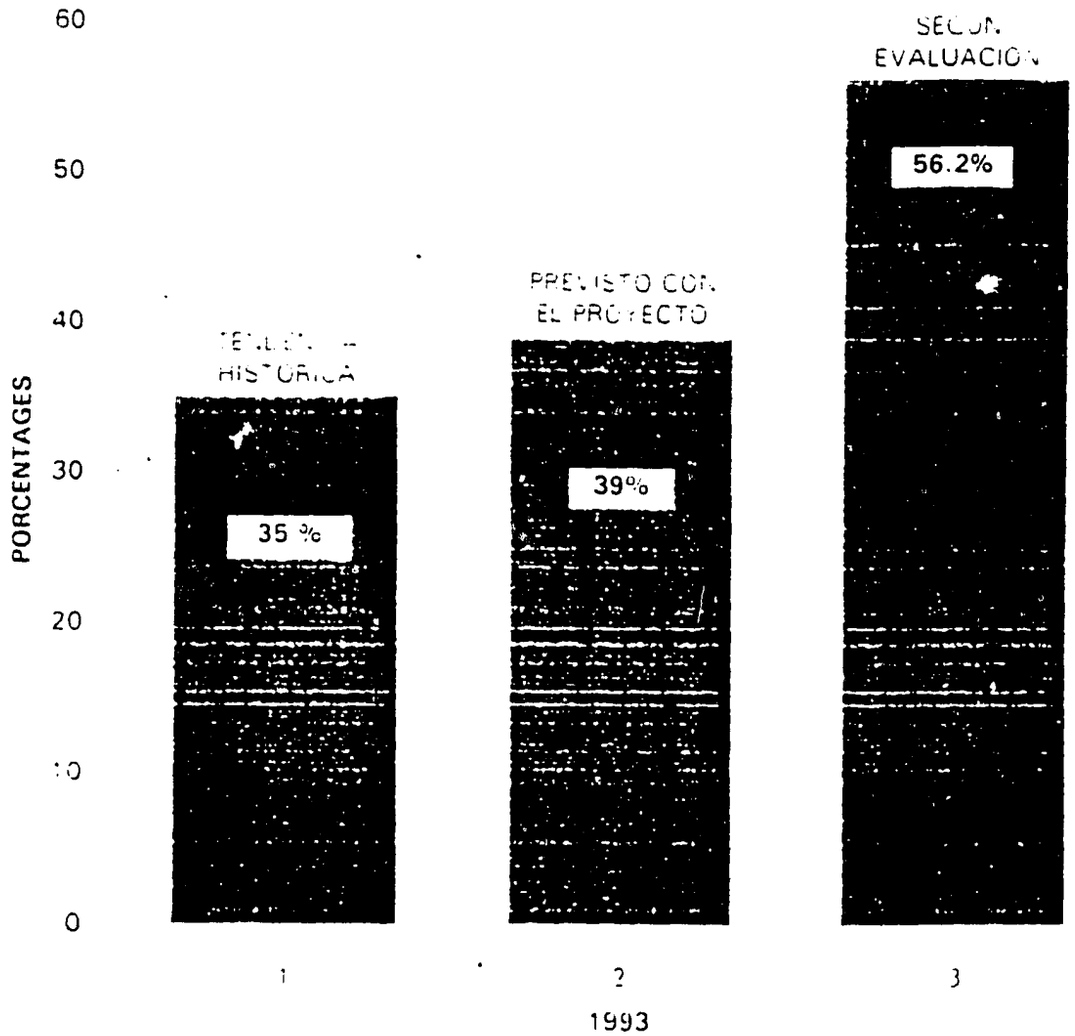
% DE COBERTURA NATURAL BOSCOSA (1993)



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2.- Según los datos proporcionados por el equipo evaluador, en 1987 el Departamento de Petén tenía 64.4% de bosques y en 1993, solo alcanzaron el 56.2%. Como podrán darse cuenta en el cuadro anterior lo previsto para 1993 era el 35% de acuerdo a la tendencia histórica y 39% lo estimado con la intervención del Proyecto. Entonces, los datos citados en el informe demuestran que se ha modificado drásticamente la tendencia histórica, muy por encima de lo previsto con la intervención del Proyecto (ver grafica adjunta).

3.- Utilizando los mismos datos de la evaluación, en 6 años (1987 al 1993) se ha reducido la superficie boscosa del Petén de 64.4% a 56.2%, es decir, aproximadamente 1.3% anual. Si analizamos la tendencia histórica desde 1970 a 1992 (antes del proyecto), se obtiene que la tasa de deforestación promedio para esos años era de 2.43% anuales. Según estos datos, se podría decir que la tasa de deforestacion se ha reducido a casi la mitad.

4.- Como para alarmar la situación se presenta que en ese mismo período, de 1987 a 1993, la masa de pino se redujo en 68%. Falta mencionar que estos bosques de pino se encuentran completamente fuera de la RBM. Esto podría ser indicador de lo que puede suceder sin la intervención del Proyecto. Hubiese sido conveniente analizar y comparar las tasas de deforestación que se presentan en localidades donde el proyecto está trabajando (tasas antes y después de proyecto) y otras localidades similares del Petén, y así demostrar los impactos del PBM.

5.- Por observaciones terrestres personales y de otras personas (documentados en informes a disposición del equipo evaluador) se hizo instar el gran problema de la RBM en 1990 por colonización. En este año, antes de arrancar el proyecto, personalmente observé camiones de campesinos entrando sobre carreteras bien mantenidas por los madereros, hacia las zonas de Yahlá, Cruce Colorado, Carmelita, etc. (zona central). Fue una situación de crisis y el bosque en casi toda la carretera entre Cruce Dos Aguadas y Carmelita (cientos de hectareas) estaba en llamas durante esta visita de abril. He entrado sobre la misma carretera cada año desde entonces, y notado como se ha estabilizado la situación (hasta junio 1993). La concientización sobre la RBM, presencia de CONAP y ONGs del proyecto, tuvieron impactos significativos en esta zona.

6.- Asimismo, CATIE/OLAFO indicó que la migración hacia su zona de estudio (ZUM-Cruce-Pasadita) fue la más fuerte en los años hasta 1990. A partir de '91, con la presencia de CONAP y el proyecto, no solamente disminuyó, sino (según OLAFO) reversó en 1992, con mas gente saliendo que entrando (por la mala carretera y porque CONAP ya molestaba mucho a los que sacaban madera).

7.- Situación parecida ha sido observada en otras áreas de la RBM, p.e., la zona de Nueva Santa Rosa fue colonizada antes de arrancar el proyecto; se entiende que Uaxactún tuvo un incremento neto de recrecimiento de bosque entre 1990 y 1993; el proyecto IUCN notó gran incremento de colonización en la zona de Yaxhá entre '87 y '91 también. Todos estos datos señalan que la mayoría de la deforestación en la RBM de 1987-1993 ocurrió antes de tener presencia el proyecto (1991). Hay explicación lógica por el gran incremento en deforestación entre 1987 y 1990: FYDEP estaba en fase de liquidación; no hubo control, autoridad, ni presencia en el área. SEGEPLAN se refiere a este período como caos total. El partido político DC promovía la colonización con la idea que había suficiente tierra para todos en Petén. Fue justamente esta crisis y deforestación drástica en lo que ahora es la RBM, que sembró la semilla del proyecto. Los evaluadores tendrán que separar el período 1987-1990 (pre-proyecto) del período 1991-1993 en adelante.

8.- Una de las campañas más exitosas del proyecto fue lo de control de incendios en la RBM, realizado en forma coordinada entre CONAP, CATIE/OLAFO, CARE, CI, IUCN, ARCAS y otros. Los informes (otra vez disponibles al equipo evaluador) documentan como hubo una reducción muy significativa de incendios en las comunidades de la RBM atendidas por estas campañas; con una conservación importante de cobertura de bosque.

9.- Existen muchos otros aspectos que pueden demostrar la contribución del PBM, en la reducción de la tasa de deforestación, algunos de los cuales se mencionan a continuación:

La presencia de ONGs conservacionistas nacionales e internacionales se ha constituído en una permanente voz de alerta de cualquier actividad orientada hacia la destrucción de los recursos naturales en el Petén. Esto, aunado a los esfuerzos de educación ambiental, han creado una conciencia conservacionista no solo a

nivel de la región sino que a nivel nacional que no existía antes del proyecto, especialmente referente a la RBM. Prueba de ello son los innumerables artículos periodisticos, avisos en los radios y programas en televisión. Quizás no existan datos concretos sobre este impacto, pero no se puede dudar de la existencia de una mayor conciencia de la importancia de proteger los recursos y de la dificultad de explotarlos ilegalmente sin consecuencias.

Es reconocido por el propio CONAP y el equipo evaluador, que sin el apoyo del PBM, la dependencia estatal encargada de la administración de los recursos naturales no pudiese haber llegado a tener presencia en la región (y muchos observadores creen que pudiera haber desaparecido completamente bajo la administración de Serrano si no fuera por PBM). Esta presencia física aunada a los esfuerzos de vigilancia de los sectores no gubernamentales (nacionales y extranjeros), aunque no ha parado todos los problemas, si ha evitado una mayor deforestación e invasiones de inmigrantes. Este aspecto, se traduce en una disminución importante de la tendencia histórica de la deforestación.

El esquema de concesiones de manejo forestal desarrollado con apoyo del PBM pretende evitar el sentido de "tierra de nadie" que ha fomentado la destrucción de bosque en el pasado, creando incentivos para su conservación y manejo sustentable. El proyecto ha apoyado este proceso por tres años, tiempo durante el cual CONAP no ha otorgado licencias de corte y por consecuencia se ha dado oportunidad que los usuarios de los recursos, la población rural, ONGs y otros, participen en el proceso, habiéndose logrado una mayor representatividad de los intereses de la mayoría de población en pro de la conservación. La primera concesión forestal a una comunidad ha evidenciado un fuerte compromiso de los usuarios para proteger el área de la deforestación y corte ilegal.

Al no haberse otorgado los permisos tradicionales de explotación de madera a la industria durante 4 años (acción única en la historia del Petén), la construcción y mantenimiento de carreteras en la RBM ha sido mínima comparada con el pasado lo cual ayudó a disminuir inmigración hacia la RBM. La inmigración, que trae consigo la deforestación del bosque para producción agrícola, se ha concentrado fuera de la RBM, principalmente a lo largo de los caminos construídos.

Tal como lo reconoce el equipo evaluador, la principal causa directa de la deforestación son los pequeños agricultores y ganaderos. Lo importante de reconocer es que los madereros historicamente abrieron paso para los pequeños agricultores quienes después de convertir el bosque para sus "milpas" dejan paso a ganaderos. El PBM viene orientando sus esfuerzos hacia esa población objetivo. Se pueden mencionar los trabajos de CARE, Centro Maya y los de PROPETEN, los cuales estan contribuyendo a la estabilización de la frontera agrícola. Ello es logrado capacitando a los agricultores en prácticas de conservación de suelos, reforestación, introducción de abonos orgánicos y otras alternativas productoras que incentivan la conservación del bosque.

Las ONGs en Petén apoyadas por el PBM, estan fortaleciendo los gobiernos municipales para que estas tengan un rol de mayor presencia y apoyo en sus esfuerzos de conservación. El desarrollo del turismo y los usos de productos como el chicle, xate, madera, permiten a las municipalidades obtener fondos para ejercer una mayor función en pro de la conservación.

En resumen, consideramos poco seria la conclusión presentada por el equipo evaluador, principalmente por no haber profundizado en sus análisis y no haber comparado la situación encontrada con las tendencias que existían antes de iniciarse el Proyecto. Además, con los datos que acabamos de proporcionar y con los obtenidos por el propio equipo evaluador, se puede concluir que la tasa de deforestación ha sido reducida significativamente en comparación con su tendencia histórica antes del PBM. En ese sentido, solicitamos se modifiquen los párrafos correspondientes al impacto del PBM en la tasa de deforestación, de tal manera que refleje lo realmente sucedido haciendo mérito a todos los esfuerzos que tanto entidades del gobierno, organizaciones no gubernamentales (nacionales y extranjeras) y entidades internacionales, vienen implementando en la Reserva de la Biosfera Maya.

Atentamente

Keith Kline
Gerente
Proyecto de la Biósfera Maya

cc. R. Popper, MSI
J.C.Godoy, MSI

Please call me when you [illegible]
Thanks [illegible]

collaborators and other interested parties, is critical in the M&E process.

There are obvious benefits also to the utilization of the same independent experts in repeated, follow-up evaluation activities, in terms of learning curves, comprehension of the project environment and the required level of effort in each subsequent activity.

II. FORMAL PROJECT EVALUATIONS

The primary purpose of the formal evaluations is to measure progress toward achievement of the strategic objective, planned outputs and desired impacts and to recommend actions which will further improve achievements. The evaluations will assess implementation, funding (AID, counterpart and others), management, coordination and institutional capacity and relationships, with emphasis on effectiveness and efficiency of interventions towards the establishment of sustainable mechanisms for improved management of the Maya Biosphere Reserve.

Evaluations will measure project impacts in terms of three beneficiary target groups: present users of MBR resources (local population); the institutions involved in MBR management; and the Maya Biosphere itself--its flora, fauna, and ecological integrity--which will determine the well-being of the largest potential beneficiary group: future generations.

The evaluations will provide findings and conclusions which support recommendations concerning areas of focus, timing and content of possible design modifications, both during present implementation and under possible Project Amendments. They will recommend to continue effective sets of activities, discontinue ineffective interventions, and help set any conditions which might be necessary for future success. Along these lines, the evaluations will provide a basis for the Mission to make decisions regarding sets of key questions, developed a priori through discussions with project participants.

A. FY 93 Evaluation

The first formal evaluation should be conducted as soon as possible after signing a contract (o/a Sep/93). It should identify factors which affect project status and provide recommendations to improve overall implementation through adjustments in the on-going program and a planned project amendment. This evaluation should address the following questions and provide corresponding recommendations:

1. Strategic Design Issues

   a. Assumptions and key constraints: Are original project design assumptions valid? What key assumptions should be revised? What are the

principal obstacles to achievement of the project objective (see internal evaluation reports)?

b. Project Paper/Design: How can the main project objective--to improve the management of renewable natural resources and the protection of biological diversity and tropical forests in the MBR--best be achieved given the existing constraints? To what extent is project implementation following the PP design and to what extent can and should the PP design be carried out? What modifications in the present design (components, strategy, institutional participation, etc.) would improve the Project's progress towards the objective?

c. GOG role: What role should CONAP play in the Project? What should CONAP's relationship be with other participants? How can AID improve the institutional viability for long-term management of the MBR? Is the present distribution of resources between NGOs, community activities and GOG/CONAP appropriate? Similar questions apply to other GOG entities: DIGEBOS, INTA, CECON, IDAEH, CUDEP, etc.

d. Project focus and distribution of resources: The final project design left some elements out due to limited resources and institutional capacity in the area (e.g. the agro-forestry component, land tenure, policy, etc.). While CARE has effectively reintroduced some agro-forestry activities, funding is limited and agro-forestry is carried out at the cost of planned environmental education interventions. What would be the optimal component mix and funding levels during the next stages of implementation (both under present resource constraints and assuming additional funding becomes available in 1995)? Should there be more geographic focus, thematic focus, institutional focus, or expansion?

e. Coherence of Goals, Objectives and M&E Plans: Given the socio-political-economic realities surrounding the project, are goals clear, realistic, internally consistent, obtainable, measurable and supportive of the Mission's NRM Strategic Objectives and M&E Plan? Given lessons learned to date, what modifications in the logical framework (pages 42 to 47) are recommended? Is the M&E plan realistic and implementable? Does it provide reliable measures of progress towards goals and objectives? Are existing and proposed methods

for obtaining and analyzing data appropriate? What improvements are recommended for the objectives-outputs-indicators matrix for the project?

f. Sustainability: Are activities being implemented in a way which favors continued development and sustainability? What can be done to improve the persistence of on-going improvements in management of the MBR?

2. Assessment of Impact and Progress to Date

a. What measurable progress towards the project outputs, EOPS (page 48) and the objective has been achieved? How effective have participants been in implementing their annual work plans?

b. Specifically, how appropriate and effective (analysis of costs and contributions) have individual project components and subcomponents (pages 49 to 50) been to date? Given experience to date in the project and elsewhere, how effective can they be expected to be in the future?

c. What are the implications of relative effectiveness in terms of design modifications and distribution of funds?

3. Implementation Issues

a. Are project goals clear and shared by participants? Is there a shared strategy for constituency building, development of sustainable funding mechanisms, and CONAP's role?

b. Is there a logical relationship between the project objective, subgoals, work plans and activities underway? Do any activities appear to be inconsistent or contradictory?

c. Are institutional roles clear and appropriate? Do strategies for sustainability exist and are they being applied?

d. Do implementing organizations have the capacity to execute the activities as planned? Could/should any of them be doing more or less? Is the present distribution of available resources consistent with project design? What adjustments are recommended, considering institutional roles and capacity?

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4. Management Issues

   a. Assessment of the pros, cons and cost effectiveness of the project management structure within AID (this will require some comparison with alternative management schemes of similar projects in the Mission and elsewhere).

   b. Assessment of the pros, cons and cost effectiveness of the project management structures within NGO and GOG project participant institutions.

   c. Assessment of the pros, cons and cost effectiveness of the project's organizational arrangements.

   d. Is coordination and communication among the various activities and implementing organizations adequate?

   e. Is appropriate technical assistance available and being provided in a timely and responsible manner?

5. Financial Issues

   a. Assessment of the pros and cons of the 50% (minimum) match stipulation for NGOs, and compliance to date.

   b. Assessment of the GOG match to date: compliance with provisions, pros, cons and long-term implications of the method in which GOG counterpart contributions are made and accounted for (MOF programming of counterpart as a separate, temporary, budgetary category).

   c. Assessment of the relevance and adequacy of AID funding compared to project objectives and needs in the Reserve area.

B. EVALUATION METHOD

Tasks to be undertaken by the External Evaluation Team will include but not be limited to:

1. Review and analysis of background documents and information already collected by collaborators, AID and through on-going M&E activities;

2. Team Planning and orientation (one-two days) in which a detailed work plan for the evaluation will be

finalized and presented to AID for approval (objectives, methods, schedule, statement of work for each team member).

3. Field observations, interviews and participatory diagnostics or group meetings with collaborators, implementors, beneficiaries and other interested parties, to verify accomplishments and issues identified in previous internal evaluations; address specific evaluation issues.

4. Data collection, collation, preparation and analysis.

5. Presentation of initial findings, conclusions and recommendations. Since recommendations concerning many of the strategic issues (design, objective-output-indicators, etc.) have a ripple effect upon other conclusions and recommendations, these should be reviewed with AID staff as early as possible in the evaluation process. A mid-term meeting of one day will be held with AID to review progress and set any course adjustment which may be called for.

The evaluation team will maintain constant and direct communication with the AID Project Officer, and other AID staff as appropriate, throughout the evaluation process.

C. THE EVALUATION REPORT

The Evaluation report will have an Executive Summary and chapters corresponding to the issues described in the scope of work. For the FY 93 evaluation:

1. Executive Summary: focus on primary findings, conclusions and recommendations (NTE 3 pgs).

2. Analysis of Strategic Design Issues (NTE 15 pgs).

3. Assessment of Accomplishments: To what degree is the project reaching its objectives (NTE 15 pgs).

4. Assessment of Implementation Issues (NTE 10 pgs).

5. Management issues (NTE 5 pgs).

6. Financial Issues (NTE 4 pgs).

7. Consolidation and summary of lessons learned, conclusions and recommendations. (NTE 10 pgs).

While all of the above sections will include findings, conclusions, lessons and recommendations, it is useful to summarize them in one section, so they can be seen as a whole. Lessons and recommendations may be applicable to remaining project efforts, future project amendments and

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protected area management/ecological/ development efforts in general.

A note on findings, conclusions and recommendations: Findings which lead to no conclusions and recommendations are of little use to managers; nor are conclusions and recommendations whose basis in data and findings is not clear. Therefore it is very important to make clear distinctions among:

a. Findings based on data and information,

b. Conclusions based on analysis and synthesis of the data, and

c. Recommendations based on: a) findings and conclusions, and b) experience and expertise of team members. Recommendations based on experience and expertise rather than data are welcome, but must be clearly identified as such.

Timing of the Evaluation Report: Approximately five (5) calendar days prior to the team's departure from Guatemala the Team Leader shall submit to USAID a first draft of the evaluation report. This draft will serve as the basis for a debriefing with the team and USAID. Any comments on the draft report shall be consolidated and submitted to the contractor within 15 calendar days. The final report, incorporating AID comments, shall be submitted to USAID in English and Spanish, fifteen (15) copies each, within thirty (30) days of receipt of AID comments (e.g. no more than 45 days from departure from Guatemala).

D. EVALUATION TEAM COMPOSITION AND QUALIFICATIONS

The team (not to exceed four members) should have experience and expertise in the following areas:

1. Project/Program Management/Evaluation (preferable Team Leader).

2. Institutional/Organizational/Policy Analysis, focus on protected areas management/systems and institutions (Park Service).

3. Environmental education, awareness, outreach, agro-forestry extension systems.

4. NGO development, constituency building, community involvement, park buffer zones.

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5. Environmentally sound small enterprise development (forest product development, tourism, artisanry, etc.).

6. Familiarity with the parks/protected area policy, legal and political environment in Guatemala.

General qualifications for each expert include:

a. Significant experience in program/project design, implementation, and evaluation.

b. Academic training in field(s) closely related to any of the area(s) included in this SOW.

c. Capability in Spanish and English equivalent to the FSI FS3/R3 level or higher.

The team leader should be of adequate caliber and experience to command the respect of the diverse project collaborators, enabling a constructive and participatory evaluation process to develop (many NGO collaborators have extensive experience in this field).

Experience in Central America and Guatemala is preferred; experience with AID evaluations is also highly desirable. To avoid any bias, evaluation team members may not have any direct association with project development and implementing organizations.

Specific qualifications will be reviewed in each case through review of candidates' CV and bio-data by USAID.

E. EVALUATION LEVEL OF EFFORT

The Scope of Work (SOW) for the FY 93 evaluation will require approximately 65 person days of evaluation consulting services, as per the attached Illustrative Budget. This contemplates 60 person days in-country and 5 in the US in pre-departure preparation and final report preparation after the in-country work is complete. The final number of experts will depend on the experience and academic credentials of personnel identified, but will not exceed four consultants.

F. FY 95 Evaluation

This contract contemplates a second, formal evaluation in FY 95. The scope of work for the FY 95 evaluation is expected to be quite similar to the scope of work described for FY 93, with the following exceptions: there will be more emphasis on accomplishments; it will include a special analysis of the degree to which recommendations from the previous evaluation were implemented; and there will be relatively less emphasis on strategic project design

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issues. The level of effort is estimated to be approximately 30 person days from consultants (this assumes some continuity in the evaluation team) plus the full participation and support of the in-country M&E coordinator described below. A more detailed scope of work will be defined by the Mission with participation from project collaborators, at least three months in advance of the evaluation.

III. M&E COORDINATION SUPPORT IN PETEN

A. Background

AID Project management originally contemplated the position of a Peten Field Director, as a coordinator, technical advisor and principal AID contact point in the project area. This position was not filled for several reasons (initially, collaborators felt there was not a need; political sentiment in Peten was that too many foreigners had already "invaded" to carry out environmental activities; difficulty in obtaining an appropriate candidate, etc.). However, the need for a unifying point of communication and coordination is apparent, especially given the present institutional limitations of CONAP.

B. OBJECTIVES

The primary objectives are to provide assistance in Peten which facilitates on-going project monitoring and evaluation activities, communication, synergy and linkages among components and implementors, more coordinated planning which is responsive to M&E outcomes (ongoing improvements based on M&E conclusions and recommendations), and the development of a process of learning and evolving toward constant improvements in project implementation. The activity involves extensive coordination of M&E, planning and reporting through workshops, conferences and informal communications and visits.

C. Terms of Reference

1. M&E Activities. Provide logistic support for and facilitate the biannual M&E workshops (usually in March and November of each year--approximately six total remaining in LOP). Assure that the relationship between objectives-outputs-indicators and activities is logical, clear and understood by participants. Facilitate involvement of all MBR "stakeholders" in the M&E process. Stimulate the development of M&E capacity in local counterparts and collaborators. After each workshop, prepare reports on project status, accomplishments, progress towards outputs-indicators and other relevant information discussed in the workshops. Support implementation of the Project M&E Plan. Assist AID to assess the