



# Nicaragua

**Co-Management of Protected Areas (COMAP) Project**

## **COMAP Final Administrative Report**

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**Co-Management of Protected Areas** was implemented by ARD, Inc. under USAID Contract Number OUT-LAG-I-800-99-00013-00, Task Order 802, Biodiversity and Sustainable Forestry Indefinite Quantity Contract.

Cover Photo: Tisey-Estanzuela by Jerry Bauer (USDA/PASA)

## PREFACE

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Starting with imperfect laws and minimal management (whether by the state or by others), the Co-Management of Protected Areas (COMAP) Project helped put into place well-defined regulations and active participation by all key stakeholders at six protected areas (PAs). COMAP developed plans to give direction and focus to activities—plans that while consistent with national regulations are dynamic and able to be adjusted.

COMAP's systematic participatory training and communication approach reduced local people's fear of speaking out against misuse of resources, and developed local constituencies able to speak out with confidence and professionalism. COMAP catalyzed NGO efforts to assume responsibility for protected areas in Nicaragua and local people are taking responsibility and making decisions. When COMAP ceases as a project, that responsibility and commitment to these very special places will remain.

COMAP's microenterprise programs helped demonstrate alternatives for economic development, without which there can be no conservation. Communities cannot change longstanding patterns of resource use without help in developing alternatives.

These results were possible only through the collaborative efforts of many institutions and individuals. USAID/Nicaragua's financial support of this new model, and the support of its staff, especially that given by Margaret Harritt, Maritza Rivera and Steve Olive, deserves special mention. MARENA and its officers played equally important roles in the challenge of testing a new model for PA management never before tried in Nicaragua. Finally, only the dedicated efforts of local stakeholders, ARD's partner NGOs, and municipal and community leaders made possible the results at each of these special areas.

Carlos Rivas, ARD Chief of Party  
(from his remarks at COMAP's Closing Workshop, December 11, 2003)

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## ACRONYMS AND ABBREVIATIONS

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BIOFOR	Biodiversity and Forestry
BSP	Biodiversity Support Program
CANATUR	<i>La Cámara Nacional de Turismo</i>
CCN	Cooperating Country National
CENADE	Rural Development Action and Support Center ( <i>Centro de Acción y Apoyo al Desarrollo Rural</i> )
CLC	Local Co-management Committee ( <i>Comité Local de Comanejo</i> )
CMF	Community Fund Management Committee ( <i>Comité de Manejo del Fondo Comunitario</i> )
COMAP	Co-Management of Protected Areas Project
COP	Chief of Party
COSEP	Superior Council for Private Enterprise ( <i>Consejo Superior de la Empresa Privada</i> )
CTC	Consultative Technical Committee ( <i>Comité Técnico Consultivo</i> )
DGAP	Directorate General of Protected Areas
EER	Rapid Ecological Evaluation
FIDER	Foundation for Rural Research and Development ( <i>Fundación de Investigación y Desarrollo Rural</i> )
FUNCOD	Nicaraguan Foundation for Conservation and Development ( <i>Fundación Nicaragüense para la Conservación y el Desarrollo</i> )
FUNCENIC SOS	Nicaraguan Foundation for Sustainable Development ( <i>Fundación Nicaragüense para el Desarrollo Sostenible</i> )
G-CAP	Guatemala – Central American Program
GON	Government of Nicaragua
GTZ	German Technical Cooperation Agency ( <i>Gesellschaft für Technische Zusammenarbeit</i> )
IDB	Inter-American Development Bank
IDR	Nicaraguan Rural Development Institute ( <i>Instituto de Desarrollo Rural</i> )
IICA	Inter-American Institute for Cooperation on Agriculture ( <i>Instituto Interamericano de Cooperación para la Agricultura</i> )
INAFOR	National Forest Institute ( <i>Instituto Nacional Forestal</i> )
INTUR	Nicaraguan Institute of Tourism ( <i>Instituto Nicaragüense de Turismo</i> )
IQC	Indefinite Quantity Contract
IR	Intermediate Result
LIDER	Foundation of Fighters Integrated with Regional Development ( <i>Fundación de Luchadores Integrados al Desarrollo de la Región</i> )
M&E	Monitoring and Evaluation
MAGFOR	Ministry of Agriculture, Livestock and Forestry ( <i>Ministerio de Agricultura, Ganadería y Forestería</i> )
MARENA	Ministry of Environment and Natural Resources ( <i>Ministerio de Ambiente y Recursos Naturales</i> )
MARENAP	Natural Resources and Protected Area Management ( <i>Manejo de Recursos Naturales y Áreas Protegidas</i> )
MIFIC	<i>Ministerio de Fomento Industria y Comercio</i>
MSP	Membership and Sponsorship Program
NERA	Rural Schools Nucleus ( <i>Núcleo de Escuelas Rurales</i> )
NFWF	National Fish and Wildlife Foundation
NGO	Nongovernmental Organization
NRMP	Natural Resource Management Program

OAB	Biodiversity Management Office of MARENA
PA	Protected Area
PASA	Participating Agencies Service Agreement
PMP	Performance Monitoring Plan
POSAF	<i>Programa Socioambiental y de Desarrollo Forestal</i>
PROARCA/APM	<i>Programa Ambiental Regional para Centroamérica/Áreas Protegidas y Mercadeo Ambiental</i>
PRODEP	<i>Proyecto Ordenamiento de la Propiedad</i>
SELVA	Association of Ecologists Struggling for Life and the Environment ( <i>Asociación Somos Ecologistas en Lucha por la Vida y el Ambiente</i> )
SINAP	National System of Protected Areas
SO	Strategic Objective
SOW	Statement of Work
TA	Technical Assistance
TCN	Third Country National
TNC	The Nature Conservancy
TO	Task Order
TOR	Terms of Reference
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
WCS	Wildlife Conservation Society

## EXECUTIVE SUMMARY

The Co-Management of Protected Areas (COMAP) Final Administrative Report summarizes the approaches, activities, accomplishments, and lessons learned under ARD's task order contract with USAID/Nicaragua for the COMAP Project, from January 10, 2000 through January 10, 2004. The US \$3.155 million task order was the heart of the US \$5.045 million Nicaragua Natural Resources and Protected Area Management (*Manejo de Recursos Naturales y Áreas Protegidas* [MARENAP]) Program, carried out as a joint effort of the Government of Nicaragua (GON)'s Ministry of Environment and Natural Resources (MARENA) and the United States Agency for International Development (USAID). COMAP pioneered a new model for balancing economic development and conservation objectives through improved governance. COMAP developed new models for collaborative management in six pilot protected areas (PAs) through technical assistance, training, and related direct support to MARENA and six local NGOs. COMAP achieved results in three main areas:

- (1) Strengthened local NGO capacity to engage stakeholders in decentralized conservation and development initiatives;
- (2) Strengthened capacity in MARENA to establish and implement regulations and standards for co-management of PAs; and
- (3) Local community involvement in PA management, including development of sustainable economic alternatives compatible with conservation objectives.

The six pilot PAs represent a range of Nicaragua's ecosystems, from coastal mangroves to mountain pine-oak and moist forests. They include significant habitat for endangered and endemic species, migratory birds, and valuable natural resources. They provided concrete opportunities to address key management issues and thus inform the larger policy and institutional environment.

The task order called for ARD to develop a model for PA management through a "low-technology, low-cost" approach that included management planning, stakeholder participation, and basic infrastructure and services. COMAP's results under the original design were expected to be largely limited to changes in institutional arrangements and processes in each of the above three result areas. However, by the end of the project, COMAP also achieved significant positive impacts on natural resource uses, management practices, and socioeconomic benefits from these. Among such impacts were:

- Reduction in unsustainable fishing practices, through local committees that apply regulations for artisanal fishery management;
- Reduction in forest fires and illegal logging and hunting through control plans and local enforcement of new rules;
- Increased availability of higher quality water for community use;
- Adoption of sustainable natural resource management practices in buffer zones (e.g., organic agriculture); and
- Increased proportion of incomes of participating rural families from economic alternatives compatible with the PAs, including ecotourism services.

Developing skills and confidence at the local level was the foundation for building the capacity to manage PAs effectively. The basic elements of this process included COMAP's participatory and relationship-building approaches together with a focus on the fundamentals of management plans, institutional strengthening, and devolution of authority. These were guided by systematic analyses and specific methodologies, including methods and tools for conservation and resource management, financial management, board strengthening, and strategic planning. Capacity building at the local level was complemented and supported by an improved legal framework at the national level and through alliances with stakeholder groups at various levels and in

diverse sectors. COMAP worked closely with MARENA and the private sector to develop a Membership and Sponsorship Program (MSP) that will help ensure sustained support for conservation over the long term.

The most effective co-management partners—and those with the greatest chance of achieving lasting results—were those NGOs that were most grounded in the local communities and that respected and built on deep local understanding. To change attitudes about and skills for co-management, the most important task was to complete the formal arrangements between MARENA and the NGOs as quickly as possible and move on to create the tangible **experience** of co-management.

Factors that contributed to the success of co-management included local-level support by MARENA’s co-management NGOs, local communities and governments; leadership at all levels; active involvement of local people from the very beginning; and networking activities which brought local people from different communities together to share their experience. The controls essential for effective management depended not only on laws and regulations but also on creating effective alliances and working relationships that involved all of the principal stakeholders. As one local leader observed, processes of citizen participation supported by local government increase the possibility of success, strengthening not only local civic culture but also municipal government.

Economic alternatives that helped communities reduce resource extraction from the PAs were fundamental to improved co-management. Small grant funds that supported such alternatives promoted attitude change and commitment to conservation and the co-management process, and resulted in significant reduction of resource extraction and destructive practices within PAs.

The most significant challenge facing USAID as it begins a new trade-led strategy is to ensure that the nascent governance and economic freedoms that have arisen so palpably are preserved and strengthened. In many cases, it may be difficult to bring these promising local

initiatives under a larger scale program that focuses more directly on enhancing competitiveness and removing trade barriers. Nonetheless, some of the activities begun under COMAP will fit well under a trade-led development program. These include ecotourism, organic and related sustainable agriculture, aquaculture, forestry production in buffer zones, and the new private-sector-supported trust fund, the MSP.

USAID should also help GON agencies coordinate responsibilities and regulations affecting the management of natural resources. Especially significant contributions could be made through helping MARENA strengthen its regulatory, policy, and monitoring functions. However, to ensure these are effectively implemented in practice, such changes must also be supported at the field level through activities in such areas as ecotourism, forestry, fisheries, and agricultural development compatible with conservation.

In its future programs, USAID should consider well how to ensure that large contract mechanisms designed for rapid results continue to invest the care and time required to apply technical assistance and related resources in a flexible manner that builds on, supports, and develops—rather than replaces—local initiative, “ownership”, and talent. This is particularly important in working among the many Nicaraguan communities that are just beginning to find their voices.

## 1.0 INTRODUCTION

### 1.1 Purpose

This Final Report summarizes the approaches, activities, and accomplishments of the ARD technical assistance team for the Co-Management of Protected Areas (COMAP) Project under ARD's task order contract with USAID/Nicaragua, from January 10, 2000 through January 10, 2004. It also identifies lessons learned and issues for the future. Selected accomplishments of the project to which the COMAP/ARD team contributed significantly are given Annexes 1 and 2, which summarize progress based on indicators in COMAP's Monitoring and Evaluation System.

### 1.2 Project Overview

COMAP is the largest component and the heart of the Nicaragua Natural Resources and Protected Area Management (*Manejo de Recursos Naturales y Áreas Protegidas*, MARENAP) Program, carried out as a joint effort of the Government of Nicaragua (GON)'s Ministry of Environment and Natural Resources (MARENA) and the United States Agency for International Development (USAID). The US \$5.045 million USAID/GON Agreement No. 524-0314, signed in 1999, provided for a bilateral grant of US \$4.675 million from USAID with the balance from GON local currency contributions. This agreement continued USAID assistance to MARENA that began in 1992 under the Natural Resource Management Program (NRMP), which focused on institutional development and environmental legislation.

The overall objective, as stated in the original task order statement of work (SOW) was "to increase natural resources under rational use and sustainable management in Nicaragua." COMAP helped achieve this goal through pioneering a new model for balancing economic development and conservation objectives through improved governance. COMAP developed new models for collaborative management in six pilot protected areas (PAs) through technical assistance, training, and



*An early meeting among MARENA, USAID, and the NGOs, one of many stakeholder meetings the ARD Team facilitated at many levels throughout the project. (photo: Rebecca Butterfield)*

related support to MARENA and six local NGOs. COMAP strengthened local NGO capacity to engage stakeholders in decentralized conservation and development initiatives in coordination with MARENA, municipal governments, landowners and community groups. This included helping develop sustainable economic alternatives for communities that exploit natural resources within and around the pilot PAs, and helping MARENA establish and implement regulations and standards for co-management of PAs.

Support for the MARENAP Program was provided through contracts and grants with various organizations (See Table 1.1). As the principal contractor under MARENAP, ARD's COMAP coordinated closely with all of USAID's other partners under MARENAP. Support for these partners was provided through a number of direct USAID agreements:

- A Participating Agencies Service Agreement (PASA) with the US Department of Agriculture (USDA)'s Forest Service;
- A cooperative agreement with the National Fish and Wildlife Foundation (NFWF);
- Two grants to local NGOs—the Alistar Foundation, for involving stakeholders in the Bosawás Biosphere Reserve, and the Cocibolca Foundation, for the management of Mombacho Volcano;

**Table I.1. Financial Resources and USAID Associates Supporting the Natural Resources Management Program (MARENAP), with Whom Project Actions were Coordinated**

Implementing Agency	Project Themes	Contract Amount (US\$)
1. NFWF (National Fish and Wildlife Foundation)	Applied research, biological inventories, and small grants to protected areas and communities	150,000
2. BSP (Biodiversity Support Program)	Workshop for NGOs: monitoring and evaluating PAs	100,000
3. USDA/PASA	Technical assistance, training, consultancies, and studies by US Forest Service or National Park Service personnel	250,000
4. MARENA/FUNCOD	Framework for co-managing PAs: norms and procedures	50,000
5. Cocibolca Foundation	Institutional strengthening and Co-Management of Mombacho Volcano PA (Phase II)	222,900
6. Alistar Foundation	Phase I Follow Up: land tenure in Bosawás	300,000
7. ARD	PA Co-Management with NGOs	3,015,000
8. MARENA	Year 2000 Agenda—5,000 engagement diaries	57,200
9. MARENA	Entomological Magazine publication	3,081
10. USAID	Reserve: evaluation and audits	300,000
11. USAID	Administration	200,000
12. USAID	Contingency	26,819
<b>Total USAID funding</b>		<b>4,675,000</b>

- An agreement with the Biodiversity Support Program (BSP) for technical assistance and training; and
- Direct support to MARENA for printing and distribution of the Entomological Magazine and a Protected Areas Agenda (appointment book) for the Year 2000, and for MARENA's agreement with the Nicaraguan Foundation for Conservation and Development (FUNCOD) to develop by-laws for co-management of protected areas.

Additional and significant support for COMAP activities was provided from sources other than the MARENAP. The Nature Conservancy (TNC) provided support in two PAs totaling over US \$70,000 under a cooperative agreement with USAID/G-CAP for a regional environmental program for protected areas, PROARCA/APM (*Programa Ambiental Regional para Centroamérica/Áreas Protegidas y Mercadeo Ambiental*) and its precursor PROARCA/Costas. In addition, COMAP leveraged US \$8,000 from POSAF (*Programa Socioambiental y de Desarrollo Forestal*); US \$96,000.00 from the World Bank-funded PRODEP (*Proyecto Ordenamiento de la Propiedad*); US \$5,000 from the Fairchild Tropical Garden; and US \$2,000 from the Mesoamerican Protected Areas Congress Fund,

for a total of about US \$184,000 in additional resources, as described in Section 4.6. COMAP's field activities were implemented through six Nicaraguan NGOs, which had signed co-management agreements with MARENA and grant agreements with ARD.

### 1.3 ARD's Scope of Work

ARD was awarded a two-phase "design and implement" task order (TO) for \$3.015 million under the BIOFOR Indefinite Quantity Contract. Under the TO, ARD was to design and implement a project that would assist MARENA to administer the National System of Protected Areas (SINAP) using participatory methods, implement management plans for priority protected areas with MARENA and NGOs, enable buffer zone communities to participate in the management of selected protected areas, and increase economic activities which are linked with conservation in buffer zones of selected protected areas. The TO also called for ARD to provide training for Nicaraguan personnel and local interpreters; provide organizational and financial management strengthening for six Nicaraguan NGOs; and develop basic infrastructure such as park ranger stations, visitor centers and trails. A TO amendment in early 2001 increased the budget from US \$3.015

million to US \$3.155 million, to develop additional training activities and to add more funds for management plans.

## 2.0 BACKGROUND

### 2.1 The Challenge and the Opportunity in 1999

By 1999, a good portion of Nicaragua's biological, historical, and ecological resources had been incorporated in 76 PAs that were legally declared part of the National System of Protected Areas (SINAP). Unfortunately, almost all of these were paper parks. Although established by formal government decree, they provided no real protection or sustainable management of the rich natural heritage they held. They lacked infrastructure, public access, government ownership of lands, trained field staff, and enforcement of boundaries. Increasing population pressures, migration, uncontrolled resource use, and unregulated extraction had put many of them in peril.

Similarly, Nicaragua's policy and regulatory framework was not effective in practice in addressing these and other environmental problems. High levels of unemployment and poverty overshadowed (and continue to do so) the importance of natural resources for Nicaragua's future, despite the fact that the top export earners for the country depend on soil, water, and biological diversity. Unlike the park systems in many countries, most of Nicaragua's PAs are not public lands. The management of each of these areas requires collaboration among a broad array of stakeholders with diverse interests, including community groups, small- and large-scale landowners, and other resource users who work together with MARENA, local governments and authorities, nongovernmental organizations (NGOs), universities, and other supporting groups.

### 2.2 USAID Results Framework

To address the above issues, USAID/Nicaragua had initiated the Natural Resource Management Program (NRMP) in 1992. The first phase

supported four protected areas: Bosawás Reserve, Volcan Masaya National Park, Volcan Mombacho Reserve, and La Flor Wildlife Refuge. The first phase of the project also addressed several other components: institutional development and reorganization of MARENA, passage of environmental legislation, and support for integrated pest management. These achieved varying degrees of on-the-ground change in resource management and helped open opportunities for greater public involvement in protected area management. A second phase of NRMP was proposed—the MARENAP Program—that would focus on protected areas management and buffer zone development, to enable NGOs and communities to cooperate with MARENA to manage, use and conserve natural resources in and around protected areas.

The MARENAP Program was conceived under two overall objectives:

- (1) USAID/Nicaragua's goal of promoting economic growth through sustainable development, and
- (2) MARENA's goal to develop and implement new policies for greater civic participation in managing natural resources.

The MARENAP Program was developed under USAID/Nicaragua's Strategic Objective (SO) 2, "Sustained Growth of Income and Employment among Small Scale Farmers" and Result 2.3 "Protected Areas Effectively Managed." As noted above, the overall objective of this joint MARENAP Program was to improve natural resource management and protect biological diversity. The specific objective of the COMAP Project was "to increase the natural resources under rational use and sustainable management in Nicaragua" through sub-objectives under three main result areas (see Table 2.1):

- (1) Protect biodiversity through co-management of priority protected areas.
- (2) Strengthen SINAP and MARENA's management of PAs.
- (3) Actively involve local communities in the management of PAs.

**Table 2.1. COMAP's Main Results and Co-Management Activities**

<b>R1: Co-Management of Priority Protected Areas by the NGOs</b>	<b>R2: SINAP Strengthened and Regulated Management of Protected Areas by MARENA</b>	<b>R3: Local Communities Participating in Co-management of Protected Areas</b>
<ul style="list-style-type: none"> <li>• Definition of priority protected areas</li> <li>• NGO selection and formalization of agreements with MARENA</li> <li>• Technical and institutional strengthening of NGOs</li> <li>• Execution of co-management plans</li> </ul>	<ul style="list-style-type: none"> <li>• Elaboration and publicity of regulations and procedures for SINAP</li> <li>• Institutional Strengthening Plan for SINAP</li> <li>• Support operations for DGAP in SINAP</li> </ul>	<ul style="list-style-type: none"> <li>• Promotion, training and/or strengthening of local committees for co-management of protected areas</li> <li>• Project formulation, negotiation and/or strengthening by communities with NGO support.</li> <li>• Implementation of financially sustainable economic activities in the buffer zones</li> </ul>

Beginning in 2004, USAID/Nicaragua will implement a new country strategy that includes a revised SO 2, “Economic Freedom: Open, Diversified, Expanding Economies,” which no longer includes a result for protected area management. However, the two new Intermediate Results (IRs) have subresults:

- (a) To support investment policies through sound natural resource management laws, policies, and programs, and
- (b) To sustain management systems that conserve natural resources through market-oriented enterprises that are consistent with conservation goals. These enterprises may include ecotourism, certification of forest products, and other environmentally friendly initiatives.

## 2.3 Design

ARD was awarded the BIOFOR Indefinite Quantity Contract task order in January 2000. A design team, made up of four technical staff from ARD, Inc.<sup>1</sup> and the Directorate General of Protected Areas (DGAP) of MARENA/DGAP, worked together to develop a project design document and corresponding budget that were

<sup>1</sup> Rebecca Butterfield, from ARD’s home office, and three third country nationals (TCNs): Carlos Rivas Almonte, who became leader of the implementation team; Dagoberto Rivera; and Alfonso Matamoros.

approved by USAID and the Consultative Technical Committee (*Comité Técnico Consultivo* [CTC]) in March 2000. The following is a brief description of key elements of the design. Section 4 provides a more detailed discussion.

### 2.3.1 A low-cost approach

The TO called for ARD to develop a model for PA management through “a complete package of infrastructure and services, but using a low-technology, low-cost approach. The basic elements of a complete protected area package [were to] include: (1) management plans (maps, delineation, demarcation, zoning, infrastructure, baseline biological inventories [and socioeconomic analyses]) developed with participation of stakeholders, (2) operational plans, (3) basic infrastructure, and (4) services.” Technical areas identified in the TO document were protected area management and planning, public participation, ecotourism, and sustainable agriculture, with emphasis on using local and regional expertise.

### 2.3.2 A threats-based approach

The TO called upon ARD to use a “threats-based approach, focusing on the immediate threats to the area.” Each PA faced complex issues or threats<sup>2</sup> (see Table 2.2) that involved a

<sup>2</sup> Issues in the six PAs include:

diversity of stakeholders. The main design challenge was to develop/facilitate adaptive learning, management, and governance **processes** that engaged the key stakeholders and helped them begin to understand and to address the key issues that most affect each PA. As was also pointed out in the March 2003 External Evaluation,<sup>3</sup> the time required for developing the conditions for sustainable co-management is considerably greater than the initial four years of COMAP (and, in fact, beyond the time frames of most USAID-funded projects). The design's emphasis, thus, was on setting up the basics—institutional arrangements and processes—while also developing a range of experience that could be relevant to future conservation and development efforts.

The three main result areas described above (see Table 2.1) were broad enough to take into account the main threats and opportunities, which differed significantly across the six PAs. During the preparation of the management plans and supporting analyses, issues were explored in greater depth. The management plans identified a few strategically selected conservation issue/opportunity areas (e.g., fisheries management, ecotourism microenterprises,

- Economic activities and uses (including logging, agriculture and agricultural processing, shrimp aquaculture, hunting and gathering, fishing resource use for handicrafts, and tourism services);
- PA management-related issues (e.g., research and park guards);
- Institutional and related issues (including governance—e.g., decision making, enforcement, and alliances);
- Land use and tenure (including zoning within the PA, and titling and land use planning in the buffer zone);
- Community development and infrastructure (e.g., health and education);
- Infrastructure (e.g., roads, water, and electricity).

<sup>3</sup> Bruce Bayle, Jim Wurz, Jim Barborak, George Wallace, and Peter Newman (2003) "Evaluation of Co-management of Protected Areas Project (COMAP)," U.S. Department of Agriculture, Foreign Agricultural Service, International Cooperation and Development.

organic crops) and sketched out a means of addressing them. To maintain focus in the face of considerable pressure for many and scattered activities, the ARD team developed and used guidelines/criteria for deciding which commitments to make.

### 2.3.3 Core concepts

The original TO SOW called for special emphasis on:

- “Strengthening NGOs involved in co-management of priority protected areas and their buffer zones;
- Creation of a small grants fund, with emphasis on local community groups and NGOs as priority recipients;
- Training of a cadre of young Nicaraguan scientists capable of conducting biological inventories [and serving as local guides for visitors]; and
- Increasing economic alternatives and incomes of buffer zone communities using sustainable practices.”

During the design phase discussions, USAID, MARENA, and ARD together agreed upon a few core concepts:

- Providing support for at least six PAs to develop experience across a wide range of issues and actors;
- Preparing management plans for each of the six that would identify programs to address the key management issues in each PA;
- Providing funding for implementing PA management plans, including improving and/or installing infrastructure, operational funds, promoting ecotourism, and hiring the minimum required personnel;
- Building technical capacity within each NGO selected by MARENA as a partner under a co-management agreement—strengthening their capacity to manage PAs, their understanding of biodiversity, and their use of participatory methodologies that involve key stakeholders; and

Table 2.2. Profiles of the Six Protected Areas

Protected Area	Area (ha)	Key Ecological Values	Environmental Services	Threats	Key Stakeholders
Estero Padre Ramos	28,315 ha  (11,129 ha in the core zone, 6,255 ha in the buffer zone, and 10,961 ha in the marine zone)	<ul style="list-style-type: none"> <li>• Mangroves</li> <li>• Navigable estuaries</li> <li>• Refuge for migratory birds</li> <li>• Marine fauna</li> <li>• Extensive beaches</li> <li>• Marine turtle nesting</li> <li>• Alligator population</li> <li>• Migratory and resident birds</li> </ul>	<ul style="list-style-type: none"> <li>• Ecotourism and recreation</li> <li>• Navigation</li> <li>✓ Fishing</li> <li>• Biological research</li> <li>• Environmental education</li> <li>• Beautiful landscape</li> <li>• Carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>• Illegal conversion/harvesting from mangrove forests</li> <li>• Over-harvesting of mollusk and crustaceans</li> <li>• Unsustainable fishing</li> <li>• Contamination of estuaries</li> <li>• Shrimp farming</li> <li>• Salt production</li> </ul>	<p>SELVA</p> <p>14 fishing and/or farming communities</p> <p>El Viejo Mayor's office</p> <p>Commercial shrimp farmers</p>
Volcán Cosigüina	13,168 ha	<ul style="list-style-type: none"> <li>• Dry tropical forest</li> <li>• Tropical transitional forest—dry to humid</li> <li>• Volcanic cone</li> <li>• Crater lagoon</li> <li>• Beaches and cliffs</li> <li>• Endangered species</li> <li>• Outstanding associated fauna—red macaws, rattlesnakes, white-tailed deer</li> <li>• Hot springs</li> <li>• Wetlands in the buffer zone</li> </ul>	<ul style="list-style-type: none"> <li>• Aquifer recharge</li> <li>• Tourism and recreation</li> <li>• Scientific research</li> <li>• Environmental education</li> <li>• Beautiful landscape</li> <li>• Carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>• Illegal extraction of lumber and firewood</li> <li>• Poaching</li> <li>• Illegal gathering of mollusks and crustaceans from shores and estuaries</li> </ul>	<p>LIDER</p> <p>17 rural communities</p> <p>El Viejo Mayor's office</p> <p>Farmers (including large landowners)</p>
Isla Juan Venado	19,242 ha  (3,106 ha in the protected area; 16,136 ha in the buffer zone)	<ul style="list-style-type: none"> <li>• Mangroves</li> <li>• Navigable estuaries</li> <li>• Salt flats</li> <li>• Beaches</li> <li>• Outstanding fauna associated with mangroves—migratory and resident birds</li> <li>• Marine turtle nesting</li> <li>• Dry tropical forest</li> </ul>	<ul style="list-style-type: none"> <li>• Navigation</li> <li>✓ Tourism and recreation</li> <li>• Scientific research</li> <li>• Environmental education</li> <li>• Beautiful landscape</li> <li>• Carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>• Illegal extraction of lumber and firewood</li> <li>• Illegal gathering of mollusks and crustaceans from shores and estuaries</li> <li>• Contamination from the Chiquito River</li> <li>• Establishment of shrimp farms and salt production</li> </ul>	<p>FUNCOD</p> <p>MARENA's regional office in Leon</p> <p>2 rural communities: Las Peñitas and Salinas Grandes</p> <p>León's Mayor's office</p>
Tisey Plateau – Estanzuela Waterfall	21,680 ha  (9,340 ha in the protected area; 12,340 ha in the buffer zone)	<ul style="list-style-type: none"> <li>• Subtropical to humid transitional forest</li> <li>• Highland to humid transitional forest</li> <li>• Pine forest</li> <li>• Oak forest</li> <li>• Mixed pine and oak forest</li> <li>• Outstanding fauna associated with pine forests—woodpeckers</li> </ul>	<ul style="list-style-type: none"> <li>✓ Water production</li> <li>✓ Tourism and recreation</li> <li>• Scientific research</li> <li>• Environmental education</li> <li>• Beautiful landscape</li> <li>• Carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>• Conversion of forests to agriculture</li> <li>• Exploitation of pine forests without management plans</li> <li>• Forest fires</li> <li>• Insect infestations</li> </ul>	<p>FIDER</p> <p>MARENA's regional office in Estelí</p> <p>12 rural communities</p> <p>Mayor's offices in Estelí, San Nicolas and El Sauce</p> <p>Producers of agricultural and forest products</p>
Cerro Musun	19,559 ha  (5,374 ha in the protected area; 14,185 ha in the buffer zone)	<ul style="list-style-type: none"> <li>• Subtropical humid Forest</li> <li>• Humid highland forest</li> <li>• Endangered and threatened fauna</li> <li>• Outstanding associated fauna—jaguars and other felines, tapirs, three types of monkeys, wild turkeys</li> <li>• Orchids</li> </ul>	<ul style="list-style-type: none"> <li>✓ Water production on a regional scale</li> <li>• Tourism and recreation</li> <li>• Scientific research</li> <li>• Environmental education</li> <li>• Beautiful landscape</li> <li>• Carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>• Expansion of agricultural areas</li> <li>• Poaching</li> <li>• Timber extraction</li> </ul>	<p>FUNDENIC SOS</p> <p>MARENA's regional office in Matagalpa</p> <p>8 rural communities</p> <p>Rio Blanco's Mayor's office</p> <p>Agricultural producers (including cattlemen)</p>
El Chocoyero- El Brujo	1,736 ha  (131 ha in the protected area; 1,605 ha in the buffer zone)	<ul style="list-style-type: none"> <li>• Subtropical to humid transitional forest</li> <li>• Outstanding associated fauna—two types of monkeys, toucans, migratory birds, and small mammals</li> </ul>	<ul style="list-style-type: none"> <li>• Water production on a local scale</li> <li>• Tourism and recreation</li> <li>• Scientific research</li> <li>• Environmental education</li> <li>• Beautiful landscape</li> <li>• Carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in land use in the buffer zone</li> <li>• Poaching</li> </ul>	<p>CENADE</p> <p>3 rural communities</p> <p>Mayor's offices of Ticuantepe and La Concepción</p> <p>3 cooperatives with landowner members in the area</p>

Note: Issues and opportunities (i.e., values, services, or threats) were identified during management plan preparation. Those issues or opportunities selected as priority by NGO partners are bulleted with a ✓

Figure 2.1. Map of the Six Protected Areas of COMAP



- Devolving management authority for each PA to the NGO and a local co-management committee (*Comité Local de Comanejo* [CLC]).

Given the capacity and experience of the NGOs, the nascent institutional framework for co-management in Nicaragua, and the amount of funding available for the first four-year period of support, providing support in these core areas meant limited or no support in other areas.

### 2.3.4 Selection of the areas

The pilot PAs (see Figure 2.1 and Table 2.2) represent a range of Nicaragua’s ecosystems, from coastal mangroves to mountain pine-oak and moist forests. They include significant habitat for endangered and endemic species, migratory birds, and valuable natural resources. These sites provided concrete opportunities to address key management issues and thus inform the larger policy and institutional environment. Participatory appraisal methods were used to develop criteria for selecting the pilot PAs. Criteria included the biodiversity values of the areas, potential for tourism, socioeconomic

criteria, economic potential in the PA and/or buffer zone, links with other projects and PAs, organizational capacity of the NGO interested in co-management, and the interests of key stakeholders.

### 2.3.5 NGO selection and support

The design emphasized development of both NGO organizational systems and skills of individuals that were needed to guide the evolving processes of management and learning among the diverse stakeholders around the PAs. Training and technical assistance interventions were identified that would support skills, confidence, and management discipline in a broad range of areas, including both “technical” skills and skills relevant to social participation, outreach, and economic development—necessary for changing people’s behaviors on a large scale. ARD’s training and technical assistance was provided largely through local and Central American experts.

**Table 2.3. Profiles of the Six NGOs**

NGO	Legal status created and granted	Mission	Amount of NGO Personnel	Project Execution Experience	Personnel Allotted to PA
Rural Development Action and Support Center-CENADE ( <i>Centro de Acción y Apoyo al Desarrollo Rural</i> ) Protected Area El Chocoyero-El Brujo Nature Reserve Ticuanatepe, Managua	Created 1990 Legal status 1993	CENADE focuses on rural development, with an emphasis on the conservation of protected areas and basin management	49	CENADE had broad project implementation experience	8
Nicaraguan Foundation for Conservation and Development-FUNCOD ( <i>Fundación Nicaragüense para la Conservación y el Desarrollo</i> )	Created August 1991 Legal status 1993	FUNCOD was an environmental NGO whose purpose was to protect and preserve natural resources for sustainable development	24	FUNCOD had broad experience in implementing environmental conservation and protection projects	4
Association of Ecologists Struggling for Life and the Environment-SELVA ( <i>Asociación Somos Ecologistas en Lucha por la Vida y el Ambiente</i> )	Created 1990 Legal status 1997	SELVA promotes citizen participation in the conservation and protection of natural resources, sustainable production, ecotourism and institutional coordination	13	SELVA had limited project implementation experience	5
Foundation for Rural Research and Development-FIDER ( <i>Fundación de Investigación y Desarrollo Rural</i> )	September 7, 1991	FIDER focuses on rural development, environmentally friendly production processes, and credit fund management	30	FIDER had broad project implementation experience	6
Nicaraguan Foundation for Sustainable Development, FUNDENIC SOS ( <i>Fundación Nicaragüense para el Desarrollo Sostenible</i> )	August 4, 1994	FUNDENIC SOS promotes sustainable development through environmental preservation and natural resources	6	COMAP was the first project FUNDENIC SOS had implemented	4
Foundation of Fighters Integrated with Regional Development- LIDER ( <i>Fundación de Luchadores Integrados al Desarrollo de la Región</i> )	Created 1998 Legal status June 2000	LIDER is a local development facilitator, focusing on conservation of PA and nature resource systems, generation of alternatives, citizen participation, and gender focus	10	LIDER had small project implementation experience—COMAP was a major project for them	6

### 2.3.6 Relationships among USAID, MARENA, and the NGOs

The project design document set forth a number of basic principles for project administration that included “austere and accountable (‘transparent’)” financial management and ongoing horizontal coordination and cooperation. The Consultative Technical Committee—made up of representatives from USAID, MARENA and ARD (ARD Chief of Party)—provided policy and strategy guidance and helped resolve any misunderstandings or conflicts during the implementation process. The

CTC approved annual work plans and any significant adjustments to objectives. MARENA and ARD together committed to guarantee the scope of expected results under the USAID/GON Agreement. MARENA and ARD also maintained close relationships with the NGOs playing the key roles in implementing activities within each PA and facilitated the participation of key stakeholders.

### 3.0 WHAT WE DID—SUMMARY OF RESULTS AND OUTPUTS

#### 3.1 Overview

This section describes COMAP's principal outputs and progress toward the three main expected results over the life of the project. Progress under the respective result areas for each PA is summarized in Tables 3.1, 3.2, and 3.3. Further detail is provided in Appendix 1, which shows changes in indicators that resulted from COMAP initiatives, including the institutional strengthening of six NGOs and management progress in each PA.

#### 3.2 Result 1: Co-Management of Priority Protected Areas by NGOs

##### 3.2.1 Technical and institutional capacity-building of NGOs

The organizational analyses carried out during the process of selecting the partner NGOs identified essential organizational, managerial, and technical strengthening needs in all six NGOs for sustaining their presence as effective PA co-managers. ARD provided technical assistance and budget support for defining institutional strengthening strategies that helped four of the six NGOs achieve significant improvements. Appendix 1 summarizes the institutional capacity changes (organizational, financial management, and technical) for these NGOs following the support provided by the COMAP Project.

In 2003, two of the partner NGOs were suspended from receiving direct funding (CENADE and FUNCOD) because they did not comply with commitments regarding regulations and procedures for financial management and rendering of accounts. At the same time, MARENA suspended its co-management agreement with FUNCOD for failing to fulfill its commitments under that agreement. COMAP helped MARENA begin a bidding process for the Isla Juan Venado PA, so that the Reserve could continue under co-management with a new organization in the follow-on phase. In the

case of CENADE, ARD's COMAP technical team continued to provide technical assistance and training, and facilitated additional resources for the construction of the visitor center and the design and installation of a permanent interpretive display for El Chocoyero/El Brujo. However, direct funding was no longer provided. (Unresolved weaknesses in CENADE's financial management were confirmed in an audit carried out by Deloitte and Touche.)

##### 3.2.2 Rapid ecological evaluations

Rapid ecological evaluations were completed in all six protected areas, as part of the process of management plan preparation. PA directors and park guards from each of the six NGOs collected selected data on biodiversity during their routine patrols. Five of the six NGOs initiated relationships with researchers and students from national universities; however, only limited field research has been carried out.

##### 3.2.3 Management plans

Management plans were completed for five PAs and are being implemented; a management plan for the sixth area is being completed. COMAP managed the preparation of four of the plans with USAID funding, including COMAP funding and additional funds provided by USAID/G-CAP's regional PROARCA/Costas Project. Two management plans were prepared with complementary budget from other donor projects. The Inter-American Development Bank (IDB)-funded POSAF (*Programa Socioambiental y de Desarrollo Forestal*) project supported 30 percent of the preparation cost for the Tisey/Estanzuela PA Management Plan, and the World Bank-funded PRODEP Project funded the preparation of the sixth management plan, now being completed, for Volcán Cosigüina.

The preparation of these six management plans yielded two additional results for Nicaragua. Through these exercises, MARENA validated the methodology for preparing management plans, which has been formally adopted by MARENA/SINAP. More than 30 professionals,

including the Nicaraguan consultants who carried out the planning, were trained by COMAP and stand ready to assess resources and prepare management plans for additional PAs.

MARENA's Multidisciplinary Ruling Committee approved the five management plans, which subsequently received resolutions from the Minister. COMAP reproduced the five management plans and distributed copies to the main stakeholders. The COMAP technical team prepared an abstract for each plan, which was more widely distributed. COMAP then organized workshops and meetings with stakeholders to share key elements of the plan and corresponding regulations.

As valuable tools for co-management of these protected areas, the management plans have already led to initial impacts:

- The co-managing NGOs are using them as the basis for preparing their Annual Work Plans.
- Implementation of the plans has allowed NGOs to establish clearer and more effective priorities for programs and activities.
- Local committees have put into practice regulations for artisanal fishery management in the PAs and buffer zones (see photo below).
- Visitor management has begun; visitors are now given an orientation to the PA and registered.
- Compatible uses (e.g., organic agriculture) and sustainable practices according to established zones within the PAs are being promoted and adopted.
- Illegal logging and hunting have been reduced through control plans that help enforce new rules.
- Ecotourism (interpretation, local guides, promotion, linkages) has begun. Twenty-four people (12 park guards and 12 youths from communities near the PAs) were trained as local interpreters of PA natural history by a group of Nicaraguan researchers. They also present management plan programs.

Efforts to promote landscape-level thinking, including corridors and connectivity between sites and in relationship to buffer zones, have begun within the three PAs (Juan Venado, Estero Padre Ramos, and Volcán Cosigüina) that



*In protest, a woman shows the shattered spinal column of a dynamited fish she purchased in a nearby market to the Park Director of Padre Ramos. Through COMAP, local people have gained confidence and are increasingly proactive in protecting natural resources. (photo: Allen Turner)*

are relatively near each other. The NGOs in the latter two PAs (LIDER and SELVA) and their PA directors have begun collaborative actions to enhance biodiversity-related connectivity, research programs, and eco-friendly tourism within and around these PAs. LIDER is promoting private reserves in the buffer zones of Volcán Cosigüina, to connect with the Estero Real PA. The Nicaraguan Chamber of Tourism (*La Cámara Nacional de Turismo, CANATUR*) helped to organize a meeting with tour operators, who later, with the support of COMAP and the Nicaraguan Institute of Tourism (INTUR), visited the six PAs to explore their potential as new tourism site destinations for national and foreign visitors. They are now helping to market the six PAs and buffer zones. Farms in the buffer zones are promoted as eco-friendly agro-tourism destinations. These modest beginnings at landscape-oriented efforts will result in lessons that can be extended to other PAs.

### 3.2.4 Institutional presence

COMAP established institutional presence in each of the six PAs. The ARD COMAP team helped the local NGOs construct five park guardhouses and six visitors' centers; procured equipment and uniforms for field personnel, as well as vehicles; and set up radio communications in each guard post. COMAP helped the NGOs set up a permanent visual exhibit at each visitor center, including a set of banners describing the main objectives, the area's biodiversity, and the importance of its conservation. This enabled significant improvement in technical management activities within each PA. The park guards and the PA directors from the six NGOs have also begun to collect selected data on biodiversity during their routine patrols. This data is being used by each PA through databases, and by the SINAP monitoring system, with support from COMAP.

### 3.2.5 Training of partners and local stakeholders

Training NGO staff and key stakeholders was one of the COMAP's most important activities throughout the life of the project. ARD first carried out an assessment of the technical capacity of each NGO's staff. Based on this and an initial workshop, COMAP prepared a training strategy and annual training plans for different target groups. Altogether, COMAP supported and funded 59 training activities, as shown in Appendix 3. A total of 706 people participated—one-third of who were women (236 women and 470 men). Appendix 3 includes a summary table (Table A3.1) showing participants by institution and a full list of the 68 events by PA and numbers of participants by institution (Table A3.3). The primary subject areas were:

- Institutional strengthening: administration, financial management and technical aspects (for six NGOs and MARENA);
- Protected area and biodiversity management (for eight NGOs, MARENA and five mayoralties);
- Ecotourism services (for eight NGOs, MARENA, five mayoralties, and local interpreters and guides);
- Trail construction-planning training (for five trail systems, with additional support from the USDA Forest Service and Colorado State University);



Planning check dams and drainage structures at Volcán Cosigüina (photo: Larry Lechner)

- Training on visitor reception (through collaboration with Colorado State University);
- Local tour guide training (with additional support from INTUR and the BSP);
- Community participation (for NGOs and local community groups);
- Protected area monitoring system (for MARENA and seven NGOs);<sup>4</sup>
- Tropical flora and fauna for local interpreters and park rangers (for six NGOs and MARENA);
- Guidelines on ways and opportunities to expand and diversify fundraising for PA co-management (for PA directors and NGO executive directors); and
- Training on the preparation of PA management plans (for PA directors, MARENA technical staff and Nicaraguan consultants).

<sup>4</sup> Including the NGO *Fundación Cocibolca*, co-manager for Volcán Mombacho.

### 3.2.6 Outreach

Outreach activities supporting co-management of PAs were diverse, including meetings, workshops, seminars, conferences, and tours of the PAs with the press (newspapers, radio, and TV stations) and tour operators. These activities presented the natural beauty, tourism potential, and opportunities for social development around these sites. Complementary and equally effective strategies to promote visitation to the PAs were the design of a variety of printing materials (including posters, a map of the SINAP, visitor guides, flyers, and postcards), a web page ([www.apcomanejo.com](http://www.apcomanejo.com)), and participation in tourism fairs. Visitation, by both nationals and foreigners, increased over the three years, but varied greatly across sites. Visitation at El Chocoyero-El Brujo PA, already substantial due to its proximity to Managua, totaled 43,000 over the past three years. Estero Padre Ramos PA registered 1,320 visitors and Isla Juan Venado PA 546, although each also received more than 10,000 traditional summer beach visitors. Tisey/Estanzuela PA registered 4,060) and Cerro Musún PA 877. Volcán Cosigüina PA began keeping records only in the middle of 2003. Of the total visitors, 35,790 were students, from 175 schools and educational institutions. Prior to COMAP, records were not kept, but visitation at all sites except El Chocoyero-El Brujo was minimal. Altogether, these activities have engaged other projects and organizations, which are giving additional support to this USAID-initiated experiment in co-management. The PAs now present opportunities for hundreds of rural families to engage in ecologically compatible and sustainable economic activities.

Table A3.2 in Appendix 3 shows the materials by type and quantity that were designed and disseminated to promote visitation to seven PAs. Outreach materials and activities included:

- Production of a series of publicity materials in English and Spanish that are being distributed through the international airport; hotels in Managua, León, Chinandega, and

Río Blanco; INTUR; tour operators; and the NGOs;

- Permanent graphic exhibits at six visitor centers;
- Environmental education and marine turtle protection activities with communities and rural schools;
- Publicity and promotion of nature tourism activities and services in the six PAs using TV, radio programs, and articles in national newspapers;
- Preparation of seven visitor guides, one for each PA, including Volcán Mombacho, with an expert from the USDA Forest Service;
- Web site ([www.apcomanejo.com](http://www.apcomanejo.com)) for COMAP and an e-mail contact point for the general public ([infocomap@apcomanejo.com](mailto:infocomap@apcomanejo.com));
- Participation in ecotourism fairs, the First Mesoamerican Congress for Protected Areas, and the Biodiversity Congress in Costa Rica, which brought massive publicity for the PAs and the COMAP Project; and
- A national seminar on co-management, with participants from countries throughout Central America.

As a result of the outreach strategy, stakeholder and general public awareness of the PA's natural resource value and biodiversity has increased dramatically.

Table 3.1 presents the most significant advances on Result 1 over the life of the COMAP Project.

### 3.3 Result 2: Strengthening of SINAP and Regulated Management of Protected Areas

COMAP provided support to SINAP through MARENA's Directorate General of Protected Areas (DGAP), which is now in a better position to supervise the nation's protected areas. COMAP's key contributions also included its support to MARENA's Biodiversity Management Office (OAB) for the formulation and dissemination of regulations and by-laws for implementing the model for co-management of protected areas in Nicaragua. These are the basis for opening the six PAs to co-management,

**Table 3.1. Outputs and Progress toward Results over the Life of Task Order by Protected Area: Result I**

Outputs and Progress toward Results	Protected Area					
	Estero Padre Ramos	Volcán Cosigüina	Isla Juan Venado	Tisey/ Estanzuela	Cerro Musún	El Chocoyero – El Brujo
NGO financial management capacity strengthened	●	●	⊙	●	●	⊙
NGO institutional capacity strengthened	●	●	○	●	●	●
NGO technical capacity strengthened	●	●	⊙	●	●	●
Management plans prepared	●	⊙	●	●	●	●
Management plans approved by MARENA	●	⊙	●	●	●	●
Management plans publicized	⊙	○	⊙	⊙	⊙	⊙
Management plans implemented	⊙	○	⊙	⊙	⊙	⊙
Guard posts constructed	●	●	●	●	●	●
Visitor centers constructed	●	●	●	●	●	●
Permanent exhibitions set up in visitor centers	●	●	●	●	●	●
PA technical personnel trained	●	●	●	●	●	●
Technical assistance for management provided	●	●	●	●	●	●
Patrols in the PA ongoing	●	●	●	●	●	●
Park guards well-equipped with field equipment for basic management activities	●	●	●	●	●	●
Means of transportation for management and protection actions improved	●	●	●	●	○	●
Laws governing resource uses and closed seasons complied with	⊙	⊙	⊙	●	⊙	●
Extraction of natural resources from the protected areas reduced	⊙	●	⊙	⊙	⊙	●
Number of forest fires reduced	NA	●	NA	●	⊙	●
Use of explosives to fish reduced	⊙	NA	⊙	NA	NA	●
Local people involved in management actions	●	●	●	●	●	●
Local guides trained	●	●	⊙	●	●	●
Interpretive trails identified and established	●	●	⊙	●	●	●
PA promoted and publicized	●	●	●	●	●	●
Public outreach materials prepared	●	●	●	●	●	●
Monitoring system implemented	⊙	⊙	⊙	⊙	⊙	⊙
Document center/library set up	●	●	●	●	●	●
Park boundaries well-marked and well-recognized	●	●	●	●	●	●
Scientific research on the PA's natural resources underway	⊙	⊙	○	⊙	○	⊙

● = Satisfactory, ⊙ = In progress, ○ = Limited or no progress, NA = Not applicable

through respective co-management agreements between MARENA and the NGOs. Implementation actions under these agreements, in turn, were supported through funding agreements between each of the co-managing NGOs and ARD. Table 3.2 shows specific results on strengthening SINAP/MARENA.

Specific support to MARENA and SINAP included the following:

- Definition and development of a structure and support for a Membership and Sponsorship Program (MSP) for SINAP. COMAP initiated a process for creating the MSP, culminating in 2003 with the signing

**Table 3.2. Outputs and Progress toward Results over Life of Task Order  
by Protected Area: Result 2**

Outputs and Progress toward Results	Benefited Sector		
	SINAP	Directorate General of Protected Areas	COMAP Protected Areas
<b>Result 2: SINAP Strengthened and Regulated Management of Protected Areas by MARENA</b>			
SINAP's operational capacity strengthened	NA	●	NA
Improved application of management norms by MARENA officials trained in SINAP administrative norms and procedures		●	●
Improved application of management norms by other (non-MARENA) officials trained in SINAP administrative regulations and procedures	●	NA	●
Laws and regulations related to PAs published and disseminated	●	●	●
Technical assistance provided through consultants	●	●	●
Membership and Sponsorship Program for financial sustainability established	●	NA	●
Economic potential of tourism in the PAs appraised		●	●
PA promoted and publicized	●	●	●
PA monitoring system validated	NA	⊙	⊙
Technical personnel trained abroad	NA	●	●
SINAP strategy prepared	NA	⊙	
First Congress on Protected Areas supported	NA	●	●
Interinstitutional coordination for PA management established	○	⊙	⊙

● = Satisfactory, ⊙ = In progress, ○ = Limited or no progress, NA = Not applicable

- of an agreement with the private sector (the Superior Council for Private Enterprise, *Consejo Superior de la Empresa Privada* [COSEP]) that created an administrative entity (foundation) under the umbrella of both MARENA and COSEP. The initial Follow-up Committee included MARENA officials and representatives from the Spanish Cooperation Agency and the German Technical Cooperation Agency (GTZ), whose projects coordinated with COMAP to turn the initiative into a reality. COSEP, too, is now actively supporting MSP implementation and TNC, which assumes management of COMAP in 2004, has expressed interest in continuing COMAP support;
- An economic appraisal of the supply and demand for tourism in PAs, which provided MARENA/SINAP and INTUR with information for future decisions;
  - Training of MARENA personnel in management plan preparation, PA management, the PA monitoring system, regulatory and legal aspects, and how to apply regulations in the field;

- Assistance in the development and publication of SINAP's norms and procedures, including the establishment of policies and regulations of tourist activities in PAs. Also assisted the publication of norms and administrative procedures for protected areas, including their formulation, dissemination, and public awareness activities (workshops, seminars, meetings, and publication in newspapers). COMAP also supported publication of a book on legal procedures for PAs in Nicaragua;
- Initial implementation of a SINAP monitoring and evaluation system, including support to MARENA for monitoring the PA management plans administered by the partner NGOs;
- Financial support to offset operational costs of the DGAP and its national counterpart, as well as the costs of technical training in Nicaragua and in other countries;
- Support for SINAP's Institutional Development Plan;
- Assistance to the DGAP in the public bidding process for each PA and the promotion of private and municipal reserves, including support for the signing of PA co-

management agreements between NGOs and MARENA;

- Contribution to the preparation of Terms of Reference (TORs) for, and evaluation and approval of, eight management plans submitted by NGOs, including the management plans for Volcán Mombacho, Los Guatuzos, and El Castillo; and
- Preparation of the TOR for, implementation and evaluation of, the respective reports of specific consultancies financed by the project.

### 3.4 Result 3: Local Communities Participating in PA Co-Management

#### 3.4.1 Participation

Community participation was fundamental to ensuring sustainable management in the protected areas and to enhancing the benefits

generated by appropriate management. Strengthening and consolidating local capacity for co-management was possible only through participatory approaches, which were tailored for the particular groups in each area. COMAP insisted on community participation in the elaboration of the management plan for each PA; in the plans for vigilance, control, and environmental education; and in the CLCs see Table 3.3). Working through the NGO partners, the COMAP team promoted participation at several levels:

- At the municipal level, involving local institutions and authorities with some responsibility for natural resource management or conservation. The mayors, the police department, universities, municipal environmental commissions, ecological groups, and other related groups all assumed responsibilities in the co-management process;

**Table 3.3. Outputs and Progress toward Results over Life of Task Order by Protected Area: Result 3**

Outputs and Progress toward Results	Protected Area					
	Estero Padre Ramos	Volcán Cosigüina	Isla Juan Venado	Tisey/ Estanzuela	Cerro Musún	El Chocoyero–El Brujo
Result 3: Local Communities participating in co-management of Protected Areas						
Local committees for co-management of PAs established and making management decisions	●	●	●	●	●	⊙
20 percent increase in standard of living for project beneficiaries participating in the microenterprise program	⊙	⊙	⊙	⊙	⊙	⊙
20 percent decrease in family income of beneficiaries participating in the microenterprise program that comes from natural resources not under sustainable management	⊙	●	●	●	●	●
20 percent increase in family income among project beneficiaries participating in the microenterprise program	⊙	●	⊙	●	●	○
Equality of gender in project activities	●	●	●	●	●	●
Environmental education in rural schools and communities of the buffer zone	●	●	●	●	●	●
Financially sustainable economic activities carried out by families in the buffer zones through microenterprise programs	●	●	●	●	●	⊙
Technical assistance for local people involved in PA activities provided	●	●	●	●	●	●
“Community funds” established	●	●	●	●	●	●
Community organization strengthened	●	●	●	●	●	●
Community members trained in areas relevant to PA co-management and sustainable management of natural resources	●	●	●	●	●	●

● = Satisfactory, ⊙ = In progress, ○ = Limited or no progress, NA = Not applicable

- At the community level, through large and small-scale landowners within PAs, by promoting mechanisms that encourage collaboration within the framework of co-management; and
- At the community level, through working directly with non-landowning community members and the communities located near PAs. Emphasis was placed on gender, and training local biological interpreters and tour guides.

### 3.4.2 Compatible economic activities

COMAP helped to develop economic activities compatible with sustainable management of the PAs and their buffer zones, promoting employment and income generation for poor families residing in and around the protected areas. This included activities of interest to PA visitors, such as craft production, food and lodging services, food processing, organic agriculture, home gardens, small grocery stores (*pulperías*), and related activities.

COMAP sought to involve the community in making decisions about the administration of the small grant funds under the project, designed for long-term benefit of community members. The amount of money available for each community ranged from US \$15,000 to US \$20,000. The COMAP team provided technical support to define criteria for helping the NGOs to channel these resources in the most effective manner possible.

The six small grant funds (one at each PA) catalyzed the development of 351 microenterprises, benefiting 426 families (see Table 3.4). In a sample of 90 of these families, the percentage of family income derived from products coming from the PAs was reduced by half in less than two years—from 15.40 percent in early 2002 to 7.44 percent in late 2003 (see Table 3.5). This is the result of sustainable economic activities promoted by COMAP and the effect of the small grants. Also, another positive result is the increase of women participating in economic activities (39.16 percent in 2002 to 42.03 percent in 2003) at the end of the project. These small grants were some of the motivational elements for the participation and contribution of the different villages in the co-management process.

### 3.4.3 Local Co-management Committees

The creation and strengthening of local co-management committees (CLCs) continues to be important, yet challenging for the NGO co-management partners, including the participation of the municipal office of MARENA in each PA. In some areas, the NGOs succeeded in facilitating the development of a CLC that brought together all key stakeholders and defined roles and responsibilities with respect to each other in the management of the PA and its resources. For LIDER, the control post near the entrance of the Volcán Cosigüina PA is a concrete example of shared responsibility.

**Table 3.4. COMAP-financed Microenterprises in Communities In and Around the Protected Areas**

Protected Area	Number of Microenterprises	Number of Families Benefited	Head of Household by gender		Amount Disbursed to Communities (Cordobas)
			M	F	
El Chocoyero - El Brujo	12	48	28	20	145,000
Isla Juan Venado	82	85	18	67	247,349
Estero Padre Ramos	44	55	26	29	202,100
Tisey/Estanzuela	22	52	21	31	238,540
Cerro Musún	42	43	34	9	316,180
Volcán Cosigüina	143	143	53	90	215,830
	<b>351</b>	<b>426</b>	<b>180</b> 42.26%	<b>246</b> 57.74%	<b>1,364,999</b>

**Table 3.5. Synthesis of the Standard of Living Index, Income and Income structure of 90 Beneficiary Families Benefited with Funding Within the Framework of COMAP**

INDICATORS	BASELINE	LAST EVALUATION
<b>I. STANDARD OF LIVING INDEX</b>	77.00 %	77.25 %
▪ Nourishment	71.00 %	73.00 %
▪ Housing	75.00 %	75.00 %
▪ Sanitation	82.00 %	82.00 %
<b>2. INCOME STRUCTURE</b>	Percentage of Income from Sale of Non-Managed Products Proceeding from the PA 15.40 %	Percentage of Income from Sale of Non-Managed Products Proceeding from the PA 7.44 %
<b>3. INCOME LEVEL**</b>	Average Monthly Income Estimated Per Family C\$ 3,100.81 (US \$ 212.36)*	Average Monthly Income Estimated per Family C\$ 2,875.40 (US \$ 196.93)
	Women's contribution to family income is 39.16 % and men's is 60.84 %	Women's contribution to family income is 42.03 % and men's is 57.97 %

\*Official exchange rate for the first week of January C\$ 14,601.1.

\*\*The monthly average per family is only for the 4<sup>th</sup> quarter of 2003. There are variations on incomes, according to seasonal differences and differences among the protected areas.

Nonetheless, LIDER found that not all organizations involved fulfilled their commitments equally and problems of communication, transport, and subsistence for those taking their turn at the post remain.

For some NGOs, working to establish and strengthen the CLC has been especially frustrating. For example, CENADE felt that difficulties arose in a large part from limited technical capacity, and a high degree of politicization of the local governments. CENADE found it particularly difficult to facilitate agreement regarding the balance between tourism and the “carrying capacity” of the PA with respect to visitation. CENADE responded by focusing its efforts more intensively on youth and children than on working with the more powerful stakeholders such as with the community groups and leaders. For CENADE, the difficulty was exacerbated by weaknesses in the CLC and by the low performance of the PA’s Director. In general, there was a discrepancy between the degree of autonomy expected by members of the CLC and that granted by MARENA under PA regulations. Initially, the role and responsibility of the CLC was not clear. CLC members felt that the committee should serve as a means of channeling their complaints to the central government rather than focus on management issues within the CLCs.

CENADE began making better progress once it identified local leaders with genuine interest in participating in co-management of the PA and with well-defined interests and expectations.

#### 3.4.4 Ecotourism microenterprises

Many activities were developed to promote ecotourism, which the design team had identified as a key opportunity area that could benefit communities around the PAs. To increase PA visitation, a mass communication strategy was carried out, as described earlier (see also Appendix 3, Table A3.2). As visitation increased, the demand rose for community services—including bike and horse rentals, food, lodging, local interpreters, and tour guides—and products such as handicrafts, organic crops, locally processed food, cheese, and consumer items available in small shops (*pulperías*).

Through COMAP’s promotional and training activities (in collaboration with INTUR), community tourism has yielded significant benefits for local residents—especially poor families—in at least three PAs (Volcán Cosigüina, Estero Padre Ramos, and Tisey/Estanzuela), who are providing food, lodging, and local tour services to visitors.

### 3.4.5 Environmental education and public awareness

Within each of the six protected areas, partner NGOs developed an environmental education plan, oriented mainly to youth groups in coordination with rural schoolteachers. Peace Corp Volunteers were involved in these plans in all six PAs. In three PAs, Volunteers worked with the microenterprise activities supported by COMAP. The experience in Volcán Cosigüina is illustrative. The environmental education activity helped LIDER's technical staff develop confidence and skill in working with communities and they now use environmental education as a crosscutting theme through all of their development activities. Local people and the representative of the Rural Schools Nucleus (*Núcleo de Escuelas Rurales* [NERA]) feel that environmental education was very effective in changing attitudes.

### 3.4.6 Collaboration with landowners and other local stakeholders

Introducing protected area management in communities with high levels of poverty was not an easy task. Priority problems for these people are how to feed their families and provide shelter, education, and health care. Working effectively under these conditions was only possible where there were very close relations between field staff and local groups. COMAP's partner NGOs developed excellent relationships in at least four of the six PAs (Tisey/Estanzuela, Cerro Musún, Estero Padre Ramos, and Volcán Cosigüina). COMAP gave technical assistance to landowners (especially small and medium landowners) regarding agricultural practices compatible with PAs. One landowner in Cosigüina reduced pesticide applications on his peanut plantation. This farmer was also encouraged to provide lodging, transportation, and food services to Nicaraguan tourists who had started visiting the PA. He has begun the conversion of 400 hectares into a private reserve. Other landowners have shown interest in reforestation with high-value timber species and in creating private reserves. At Cerro Musún, a group of small farmers stopped all use of pesticides in their cocoa plantations and are

seeking organic certification. They are receiving higher prices for their product. These farmers are also planting timber species to help protect soils and microwatersheds. In Tisey/Estanzuela, small farmers are producing vegetables and medicinal plants, including organically grown produce, and are raising poultry. Others offer visitors food and lodging on their own farms, benefiting their families and the community at large.

### 3.4.7 Training local stakeholders

As mentioned above, training was one COMAP's most dynamic activities, especially for field workers and community groups. The cadre of eight Peace Corp Volunteers and the field staff at each PA made possible a better understanding of the objectives and both direct and intangible benefits of the COMAP Project. Training local leaders (women and men) as guides, biological interpreters, and park rangers and environmental education for children and youth promoted commitment and participation from a large number of persons in the co-management process. In addition to training, another important incentive for participation was the community funds, which helped many families increase their incomes and generated more local employment. Fund beneficiaries changed their behavior and perceptions



*An organic farmers' association receives support from a Catholic Mission at Tisey/Estanzuela. The Association produces goats' milk cheeses of excellent quality and is in high demand from visitors. Intensive training to improve both technical and business management skills was key to the success of such enterprises. (photo: FIDER/MARENA)*

regarding the PAs, their natural resources, and their importance as a means for income generation in other ways than extractive practices that were not sustainable.

### 3.5 Conclusion: Adaptive Learning through COMAP

As a complex process that has had to take into account the interests of diverse stakeholders, COMAP has been a continuous learning process for all involved. The **adaptive learning cycle** described in Appendix 6 provides a simple scheme for examining COMAP's progress and better understanding what has been learned and how to apply it in the future. This is a useful tool for decision makers who seek to move from an initial emphasis on setting up the basics—institutional arrangements and processes—to an emphasis on achieving lasting results over the long term. As shown in Figure 3.1, the cycle identifies five basic steps:

- Identification and analysis of key issues and opportunities (Step 1),
- Program preparation or design (Step 2),
- Formal agreements and funding (Step 3),
- Implementation (Step 4), and
- Evaluation (Step 5).

These steps provide a useful “road map” for

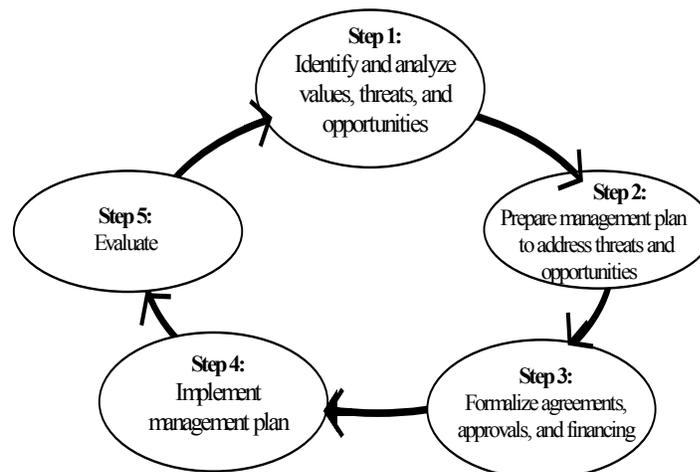
adaptive learning during the evolving process of co-management. The long-term nature of the process of developing co-management is shown in Figure 3.2. As was pointed out in the March 2003 External Evaluation<sup>5</sup>, the time required for developing the conditions for a truly sustainable co-management is considerably greater—in fact, beyond the time frames of most USAID-funded projects. As the tables in Appendix 6 show, although COMAP's expected results under the original design were largely “first order” results (i.e., changes in institutional arrangements and processes), higher order impacts were also achieved by the end of the project.

As ARD's task order draws to a close, COMAP faces two significant changes:

- A change in USAID's strategy, to focus more strongly on the market-led aspects of natural resource management, giving conservation less emphasis; and
- A change in implementing mechanisms, aimed at reducing USAID/Nicaragua's management burden.

For the latter, USAID will transfer implementation activities in 2004 to The Nature Conservancy for a one-year period, under an existing regional agreement managed by USAID's regional office in Guatemala. In 2005,

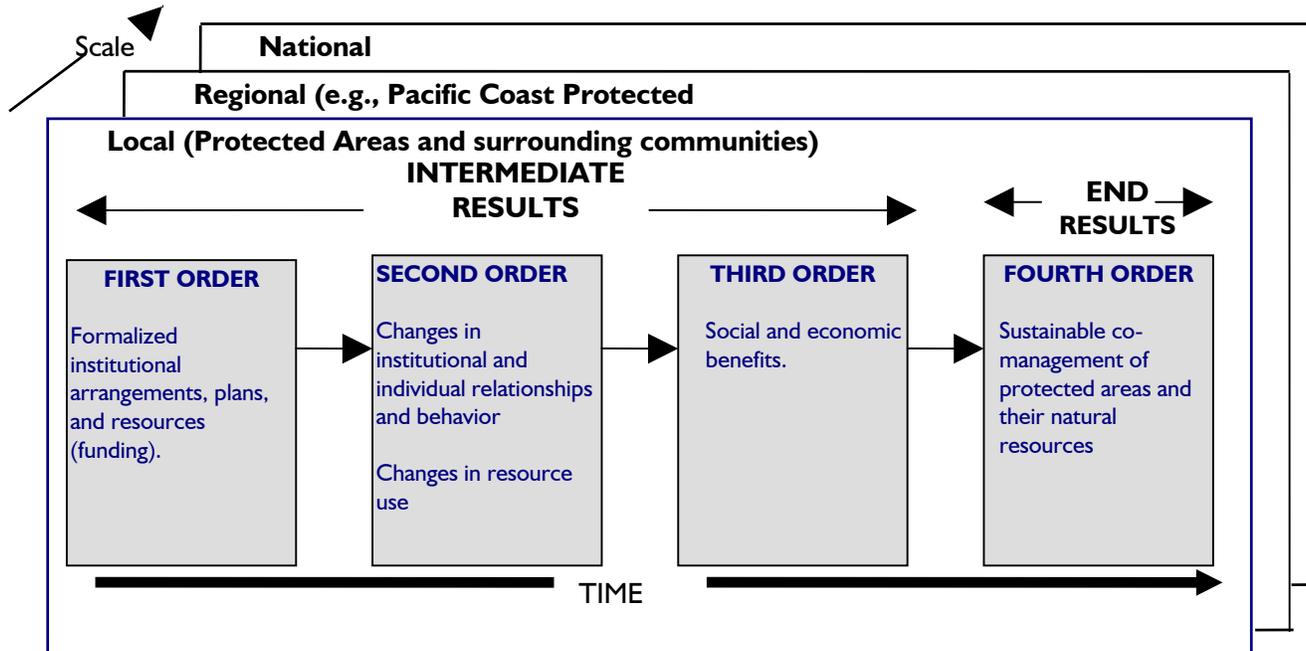
**Figure 3.1. Steps in the Learning Cycle for Adaptive Management**



Source: Figure 3.1 adapted from Olsen, *et al.*, 1998 (draft).

<sup>5</sup> Bruce Bayle, *et al.*, *ibid.*

**Figure 3.2. Ordering Protected Area Management Results**



Source: Figure 3.2 adapted from Olsen, et al. 1998 (draft) (from his adaptation of USEPA, 1994).

any continuing activities are likely to be managed under an umbrella contract that focuses on trade-led growth. In effect, these changes in strategy and implementation arrangements will move COMAP—somewhat prematurely—into another iteration of the program cycle described above. In light of these changes, a review of COMAP’s progress during this four-year iteration may provide insight for program managers—in USAID/Nicaragua, USAID/G-CAP, and The Nature Conservancy. Co-management “benchmarks” (see Appendix 6) serve as an alternate way to measure progress towards the consolidation recommended in the COMAP evaluation report. The step-wise approach complements COMAP’s present system for measuring progress through incremental increases in the number of outputs achieved. Appendix 6, Figure A6.3 presents a checklist of results leading to improved co-management of protected areas.

## 4.0 HOW WE DID IT—SUMMARY OF THE ACTIVITIES KEY TO OUR APPROACH AND PRACTICE

### 4.1 Overview

Developing skills and confidence at the local level was the foundation for building the capacity to manage protected areas effectively. This was a long process, with a number of basic elements:

- Strategy—ARD/COMAP’s priorities and focus;
- COMAP’s basic principles, the most important of which was a participatory approach, guided by systematic analysis;
- ARD’s operational approach, beginning with selection of the PAs and partner NGOs, and including relationships with USAID, MARENA, key stakeholders, and other supporting organizations;
- Specific methodologies and tools;
- Building sustainability into the PA management process from the start; and

- ARD’s supporting coordination and administration

## 4.2 Strategy: Priorities and Focus

As noted in Section 1, USAID, MARENA, and ARD agreed that COMAP should attempt an approach that was both “deep” and “wide”. COMAP focused in depth on management plans, institutional strengthening, and devolution of authority while at the same time spreading support broadly over six PAs. As the Mission Environmental Officer said at the time, “we don’t need to succeed with all six PAs—success in even two or three PAs is enough to demonstrate that co-management is doable.” Going both deep and wide was useful, in that it gave COMAP a rich diversity of context, talent, and interests to work with. On the other hand, limited funding meant limited or no support in some significant areas during this first four-year pilot project. These limitations were highlighted during the Evaluation of the COMAP Project in March 2003.<sup>6</sup> Although the Evaluation found that the project was “well conceived and executed,” it identified several areas that had suffered from the resource limitations.

For example, during project design, ARD identified the need to support research activities in coordination with NGOs and universities, e.g., involving students and national researchers in themes related to biodiversity, conducting inventories of flora and fauna, and assessing the biological values and resources of the PAs. The idea of training local/rural youth in ecological sciences was also considered. However, given the funding available, stronger support for research was not possible. Nonetheless, ARD proposed increasing resources for the six PA management plans to include six rapid ecological evaluations (EERs). Through USAID’s regional project, PROARCA, TNC collaborated significantly on two of these EERs, and the World Bank funded a management plan for the Volcán Cosigüina, now being completed.

Similarly, the decision to include at least six PAs, most of which were widely separated,

<sup>6</sup> Bruce Bayle, *et al.*, *ibid.*

limited the possibility of applying a corridor or landscape approach. Nonetheless, some efforts were begun among the three PAs along the northwest coast (Isla Juan Venado, Estero Padre Ramos, and Volcán Cosigüina).

## 4.3 Approach and Basic Principles

### 4.3.1 Participatory approach

In retrospect, the design underestimated the support required for participatory approaches, particularly for NGOs without strong experience in community-based work. Given the complexity of resource use, the diversity of stakeholder interests, and the limited trust among some stakeholders at each site, both the budget and time available were limited. This resulted in too-limited support for the vital processes of participation and consensus building that would build commitment during plan preparation. Furthermore, Nicaraguan NGOs and/or individuals with experience in developing management plans—especially through participatory methods—were few. Although the PA directors and potential consultants received training in developing the management plans through a participatory approach, the follow up provided by the PA directors and the COMAP team to the consultant teams was insufficient. In two cases (El Chocoyero and Cerro Musún), the management plan preparation process did little more than consult with the communities, but did not give communities a voice in decisions about the plans. As the 2003 Evaluation pointed out, this reduced buy in at the local level. To mitigate this situation, the NGOs and the COMAP technical team organized local meetings and workshops to reach more common understandings of some aspects of these management plans.

### 4.3.2 Management plans

In consultation with USAID, the COMAP team decided to use Nicaraguan consultants to develop the site-specific management plans—an approach that had both strengths and weaknesses. One of the principal results is that Nicaragua now has at least five technical teams with strong experience in PA management plan

preparation. In some cases, however, the use of consultants may have further limited participation. However, the alternative could well have been USAID's and MARENA's experience in supporting (separately from COMAP) the preparation of a management plan for Volcán Mombacho. After several years and several hundred thousand dollars, the PA still has no approved management plan. The NGO selected for co-management didn't accept assistance from outside professionals, who may have brought different perspectives. The principal advantage of using outside consultants was that neither the NGOs nor the PA directors had prior experience or expertise in developing management plans for protected areas. The CTC agreed that it was better to train and hire national consultants for this task, which permitted putting together interdisciplinary teams (see Appendix 3). Meanwhile, NGO staff participated in the process. However, in at least two PAs (Cerro Musún and El Chocoyero), PA directors gave only minimal support for community participation in this process.

As noted by LIDER, the management plan is a basic tool. Other tools, such as MARENA's optimum scenario, should be brought together under the management plan to align decision making, guide resource use within defined zones, and establish biological, sociocultural, legal, and financial indicators for PA management.

All of the management plans were developed following MARENA's methodological guide, which COMAP has amply validated. The MARENA methodology may now serve as a practical guide for all management plans to be developed in the future. The COMAP experience highlighted the need for some changes in the guide, in particular more flexibility to allow building on the creativity and experience of the consultants, local stakeholders, and those responsible for the plans' implementation. Nonetheless, MARENA'S methodology permits each management plan its own characteristics and content, guides development of studies specific to the PA in such areas as flora, fauna, biochemical analysis

of soils and water according to appropriate and applicable methods.

The management plans identified critical management areas and issues including potential areas for developing scientific research programs, compatible uses for the economic benefit of communities, and sites of interest for tourism and recreation. Issues and opportunities were identified with local stakeholders during management plan preparation through discussion groups, workshops and observation visits. Where necessary, biological inventories and biochemical analyses of waters, soils, and some species specific to estuaries were carried out.

#### 4.3.3 Sustainability

COMAP's focus on capacity building was fundamental to its contributions to sustainability. COMAP strengthened institutional capacities and arrangements in four basic areas:

- (1) Strengthening local NGOs in the following areas:
  - Methods and tools of conservation and resource management,
  - Decision making and management,
  - Financial management, and
  - Board strengthening and strategic planning;
- (2) Allying with stakeholder groups at various levels—rural communities, local municipalities, universities, Municipal Environmental Commissions, indigenous groups (e.g., the Sutiava), and private industries (e.g., CAMANIC);
- (3) Improving the legal framework; and
- (4) Providing a Membership and Sponsorship Program (MSP), with the participation of the private sector (i.e., COSEP).

COMAP's "low-cost approach," drawing heavily on local expertise, limited COMAP's activities. In the end, however, it contributed most effectively to COMAP's greatest strength:

ensuring that achievements were truly “owned” by COMAP’s local partners and thus have a far greater chance of enduring. By focusing on institutional capacities and arrangements, COMAP established the basis for sustainability.

#### 4.4 Operational Approach—PA and NGO Selection and Support

Building on the list of suggested PAs in the original TO SOW, the COMAP design team developed a short-list of 10 PAs. In addition to the six eventually selected, these included La Flor Wildlife Reserve and the Ometepe-Maderas Volcano in Rivas, the Mount Arenal Natural Reserve in Matagalpa, and Mount Tomabú Natural Reserve in Estelí. MARENA took NGO presence into account during the final selection of the PAs. The COMAP design team defined a number of criteria for selecting the NGOs that would receive funding, the most important of which was that the NGO should have signed a Co-Management Agreement with SINAP/MARENA for a protected area. Other criteria included the presentation of a basic document describing the NGO’s institutional capacities and potential areas for improvement, evidence of financial management capacity or a plan to establish such conditions prior to signing the agreement, commitments by its board of directors and administrative personnel, endorsements by local and community authorities, an economic feasibility analysis for PA management, and a conceptual document about co-managing the corresponding PA.

During the selection process, however, once MARENA had signed a Co-Management Agreement with a given NGO, some of these criteria were interpreted flexibly. The ARD COMAP team helped the NGOs prepare some of the documents and analyses. The COMAP team prepared a draft diagnostic tool with indicators for institutional strengthening, and insisted that each NGO hire the support staff needed to support the organization’s efforts.

The COMAP team established very sound systems and procedures for managing the grants and supporting the NGOs. This was especially true for financial management, where almost all

of the NGOs were extremely weak. Written agreements helped clarify the mutual understanding of roles and responsibilities. The COMAP team’s local advisors provided ongoing mentoring to NGO staff, often accompanying them in the field. They focused on helping the NGOs to develop the skills needed to guide the evolving processes of management and education among the diverse stakeholders around each PA, including:

- Technical approaches and methodologies (see below) for community-level work;
- Skills in developing governance—i.e., sound decision-making processes among the interested “powers” in each community or area; and
- Links to national-level policy and/or regulatory processes.

In retrospect, more attention to developing skills relevant to social participation, outreach, and economic development may have helped the NGOs develop their relationships with local stakeholders more efficiently. These are the skill areas most relevant to changing people’s behavior on a large scale.

Nonetheless, workshops, courses, and ongoing accompaniment by the three members (including the Financial Management Advisor) of the long-term team provided training and technical knowledge to support skills, confidence, and management discipline for high quality performance in a broad range of areas. Emphasis was placed on:

- Encouraging creativity and innovation on management processes;
- Facilitating the sharing of ideas and experience between partners (other NGOs);
- Analyzing results and lessons learned through monitoring and evaluation (M&E), within the NGO and with other NGOs and related groups;
- Promoting trust and understanding with local actors, especially community leaders and authorities;
- Applying a consistent approach; and

- Imbuing a positive spirit for efforts at the community level.

COMAP developed and used the monitoring and evaluation system to provide useful feedback for the COMAP team itself and for partners. One means for enhancing the value of the system's information was through discussion groups with the participation of NGO boards of directors, PA staff, the MARENA National Director, and the core ARD COMAP team. Such discussion helped identify weaknesses, obstacles, and opportunities for improving the co-management process in the PAs.

The COMAP team felt that diversifying the models for co-management would be very useful and, with six sites, feasible. As the 2003 Evaluation also pointed out, "experience in other countries suggests that co-management works well when it involves a variety of contracts, concessions, and cooperative agreements at a protected area." Nonetheless, as COMAP was the first example of systematic co-management of PAs in Nicaragua, the CTC decided to work only with NGOs and the COMAP team worked within this limitation. The COMAP team did encourage subcontracts with universities, especially for research support, but none of the six NGOs selected by MARENA as co-management partners came forward with this kind of arrangement. Similarly, management through multiple partners was impossible, as Nicaraguan law does not allow more than one organization for co-management of a given PA. Other changes in law and policy might also be advantageous, e.g., protection easements for private landowners.<sup>7</sup> Changes in policy could also be made that encourage greater investment in environmentally friendly enterprises, including ecotourism.

Training was critical in developing effective co-management of the PAs. As described earlier, at the beginning of the project all six partner NGOs had at least some experience in administrative and financial management but limited technical

<sup>7</sup> For example, Pronatura in Mexico has developed a range of innovative legal instruments to involve private landowners through such mechanisms.

capacity in PA management (see Table 2.2). The baseline studies on organizational capacities identified the main weaknesses in each NGO, and guide institutional strengthening strategies and the development of a training plan. Training helped increase technical and communication skills; improve understanding of PA and buffer zone ecosystems and opportunities for improved management; and improve program planning, implementation, and monitoring. Among the key training activities noted in Appendix 3 were the annual training workshop for the partners' technical teams and cross-site visits and study tours to observe other relevant activities elsewhere, within and outside Nicaragua.

Technical assistance (TA) support to NGOs and to MARENA/SINAP was provided continuously throughout the life of the project. Almost all TA was provided through Nicaraguan (CCN) and a few third-country (TCN) consultants from neighboring countries. TA support defined legal aspects of PA management, developed rules and procedures for co-management of PAs, developed methodological guides for preparing management plans, defined rules for tourism facilities and activities in PAs, defined and developed mechanisms for financial sustainability (e.g., the MSP), validated the M&E system for the PAs, and compiled data for all six PAs supported by the COMAP team. All legal documents available through MARENA were compiled in one document, *El Régimen Jurídico de las Areas Protegidas de Nicaragua*.

TA was provided to the NGOs as needed, according to the requirements identified in their Annual Work Plans, additional needs identified by the COMAP core team. NGO field staff commented that COMAP's proactive approach to technical assistance allowed rapid advances in NGO learning and improvement in their daily work. Although NGO partners began the project with limited technical capacity, they now feel they can proceed on their own with most technical responsibilities. The intensive use of local rather than expatriate consultants ensured that NGOs remained with ready access to expertise.

Monitoring the co-management process had two objectives:

- (1) To follow up on the objectives and main results for COMAP. The monitoring system developed by the COMAP team allowed tailoring of strategies and actions toward reaching the three main project results (see Table 2.1); and
- (2) For monitoring and evaluation of the changes being made on the PAs as a result of COMAP intervention. This gave MARENA/SINAP a validation system for monitoring and evaluating the PAs on management. Optimum scenarios for each PA were defined, with total responsibility given to the PAs' directors, park ranger personnel, and MARENA staff.

Support was also provided to NGOs on the procurement process. Equipment, vehicles, furniture, and many other materials were procured with the support of the ARD/COMAP administrative office, as a support grant to each NGO. ARD/COMAP also assisted in selecting and hiring consultants and technical personnel and arranging training activities.

#### 4.5 Relationships with USAID and MARENA

A positive decision during the design phase was the creation of the Consultative Technical Committee (CTC) for the COMAP Project. The Committee was designed as a core strategic team, and was made up of two MARENA representatives, two USAID representatives, and the COMAP/ARD Chief of Party (COP). The CTC met periodically—at first monthly but later bimonthly or as necessary. This mechanism helped to define (and periodically reviewed and redefined) roles and responsibilities and supported the COP when critical decisions had to be made, for example, when the grants to FUNCOD and CENADE were suspended or when other high-level decisions were needed.

#### 4.6 Coordination with Other Organizations

Throughout the project, at all levels, COMAP took great care in developing relationships. The ARD COMAP team developed its relationship with the MARENA/DGAP staff during the design process. For the first six months, the Inter-American Institute for Cooperation on Agriculture (IICA [*Instituto Interamericano de Cooperación para la Agricultura*]) offered office and logistical support, until MARENA was able to allocate office space in its main headquarters. Coordination with many other organizations and projects was essential to COMAP's results, including:

- An agreement with the Nicaraguan Rural Development Institute (IDR [*Instituto de Desarrollo Rural*]) which supports infrastructure (e.g., rural roads);
- Complementary TA from TNC under PROARCA/Costas and from the World Bank PRODEP project to LIDER and SELVA for the co-management of Volcán Cosigüina and Estero Padre Ramos;
- Support from the IDB-funded POSAF project to help elaborate the Tisey/Estanzuela PA management Plan.
- Agreements with the Nicaraguan Tourism Institute (INTUR), which supported training for NGO staff and community members on how to provide services to PA visitors, and with CANTUR, who promoted visitation to the PAs;
- Coordination with other supporting organizations, e.g., CARE, CLUSA, Peace Corps, Save the Children, Fairchild Tropical Garden, the Wildlife Conservation Society, and other donor-funded projects (These included projects funded by international agencies including IDB, the World Bank, GTZ, the Spanish Cooperating Agency, and other USAID projects such as PROARCA); and
- Monitoring of the PA management in coordination with MARENA/SINAP.

Appendix 8 provides additional details on COMAP's collaboration efforts.

#### 4.7 Relationships with Other Stakeholders

Given the diversity of stakeholders and interests, a framework for regulated management (i.e., governance) of the PAs, their resources, the buffer zones, and was difficult to establish. Although improved management depended on laws and regulations, it also depended on effective partnerships and working relationships that increased trust and confidence among the main stakeholders concerned with any given issue. Interest groups included not only those living in the buffer zone, but also others—e.g. tour operators. The kinds of stakeholders with whom ARD/COMAP and our local NGO partners worked closely included:

- Local communities;
- Government agencies and officials (national, with local-level representatives);
- Local governments, including municipal mayors and traditional leadership at the sub-municipal level. (This included formal agreements with all six municipalities);
- Private economic interests (varying in scale, and including both locals and outsiders);
- Other NGOs, including local and international NGOs, as noted in the preceding section, which often played significant roles;
- International agencies and governments, including USAID, multilateral donors, and others, as also noted above.

At the beginning of the project, collaboration was limited and levels of distrust and dissatisfaction were high among some actors, for example between MARENA, municipal officers, and local groups such as the Las Peñitas community leaders in Isla Juan Venado PA. We began with active collaboration on specific initiatives, which led to notable positive changes in behavior. These have helped to create greater trust and to influence approaches and priorities. Among the key elements of our approach were the following:

- **Formation of local co-management committees** (*Comites Locales de Comanejo* [CLCs]) that included the key stakeholders;
- **Hands-on collaboration** on specific initiatives, which helped create greater trust and to influence approaches and priorities;
- A **“two-track” approach**—from the bottom up and, through collaboration with MARENA, from the top down—again, focused on specific issues in each PA;
- **Development and use of guidelines/criteria**—in spite of pressures to make many and scattered commitments—for deciding which commitments to make;
- **Development of relationships** with government and other **leaders at all levels** who could influence conservation and development decisions. ARD/COMAP identified and worked with leaders who were both well intentioned and competent, including local community leaders who were interested in establishing norms for resource use;
- Complementing COMAP work in each specific PA with relationships with an expanded range of stakeholders with actual or potential interests in the PA, especially at the “central” level, with government agencies, international donors, and private sector interests. Key stakeholders in these initiatives included the NGOs, mayoralities, ecological groups, large-scale farmers, farmer associations, and COSEP; and
- **Definition of local responsibilities for supportive collaboration at different levels.** For example, the NGO and/or park directors’ main responsibility was to develop and help local communities develop effective relationships with MARENA and other government agencies involved in resource management and issues, e.g., MIFIC (*Ministerio de Fomento Industria y Comercio*), INAFOR (*Instituto Nacional Forestal*), MAGFOR (*Ministerio de Agricultura, Ganadería y Forestería*), IDR, and the police department.

## 4.8 Methodologies and Tools

ARD/COMAP used a number of methodologies for developing co-management at each site, which guided initial design decisions and evolving priorities in such areas as management planning, participation, decentralization, and other areas.

### 4.8.1 Management planning

Among the specific methodologies and tools used to strengthen management planning were the following:

- Baseline studies on biophysical characteristics and socioeconomic aspects of each PA, including biological inventories using a rapid ecological appraisal methodology;
- Baselines of the organizational, management, and technical capacity of each of the six NGOs;
- The NGOs' annual operating plans for the PAs;
- Elaboration of management plans, in accordance with MARENA guidelines. These plans were programmed for five years, but may be reviewed and adjusted as necessary during this period;
- A monitoring and evaluation information system for appropriate follow-up of plan implementation; and
- Participatory Rural Appraisals to define opportunities for sustainable economic activities around the PAs.

### 4.8.2 Participation

Efforts to improve participation began with the elaboration of management plans, involvement of the community and local authorities, and in accordance with MARENA guidelines. The methodologies had several key elements:

- COMAP developed opportunities for community-based resource management, beginning with participatory local-level workshops.

- The microenterprise funds provided opportunities for many small-scale, low-cost experiments or “practical exercises” in resource management. This allowed building on local interests and experience.
- The COMAP advisors “accompanied” NGO field staffs, helping them perform their roles more effectively, but not replacing them in these roles.
- Wherever possible, the COMAP team built on, supported, and developed local initiatives, “ownership,” and skills. As noted above (Sections 4.3.1 and 4.3.2), given widespread habits of dependency, this was not always successful.
- Also, given the complex requirements of MARENA’s management plans, these did not always effectively incorporate the key elements of concern to the community. Further and fuller public discussion of summaries of the plans could well enhance “ownership” by the communities in each PA.

### 4.8.3 Decentralization

MARENA gives responsibility and authority for PA management to NGOs working at the PA level. To support this devolution, COMAP:

- Set up a model for conservation-based management through a management plan;
- Established norms for resource uses and other aspects of managing key issues. COMAP helped define norms which were favorable to conservation and which provided some stability and predictability;
- Supported implementation of regulations through stakeholder working groups (CLCs); and
- Developed “enforcement” capacity, e.g., in reducing the use of explosives for fishing in Estero Padre Ramos and stopping illegal logging in Volcán Cosigüina with community participation.

Each of the NGOs faced a parallel challenge at the community level—to make a transition from NGO-driven activities to locally owned compatible management initiatives. As noted

above, this challenge was not met in all cases (e.g., in Cerro Musún And El Chocoyero PAs).

#### 4.8.4 Training and technical assistance

The ARD/COMAP approach to strengthening NGOs and building local capacity included:

- A consistent overall approach to guide delivery of technical assistance and subcontracted support;
- Meetings to exchange experience, technical approaches, administrative procedures, and lessons learned among staff, including those involved in other related projects;
- Ongoing “accompaniment” of NGO field staff by COMAP mentors;
- Technical assistance largely through local and Central American experts;
- Periodic workshops for all partners to exchange experience and lessons learned;
- Cross-site visits and study tours to observe other relevant activities elsewhere; and
- Use of the M&E system to provide useful feedback for the COMAP team and for partners.

The use of predominantly local advisors was both parsimonious and helped strengthen national foundations for co-management. Although an appropriate approach in the early stages of co-management, it limited access to cutting edge expertise in some areas, e.g., participatory methods and market development. By drawing actively on the resources of other projects, the COMAP field team was able to overcome some of the constraints imposed by COMAP’s limited budget and the CTC’s reluctance to increase international technical assistance.

### 4.9 Task Order Coordination and Administration

#### 4.9.1 Summary of task order history

The design phase was completed with the approval of a design document by USAID and by the CTC during the first quarter of 2000. The MARENAP Program, through the Agreement

between USAID and MARENA, originally contemplated support for 10 protected areas. Two areas, Bosawás and Mombacho Volcano were directly financed by USAID. USAID contracted with ARD to implement (together with MARENA) this co-management component and support NGOs in eight additional PAs.

The ARD and MARENA design team originally estimated that there would be enough funding for co-management of at least six PAs. The team hoped that once precise information on the situation in the PAs and surrounding communities was available through institutional diagnoses, two other PAs could also be supported, for a total of eight. However, after gathering information about the status of the PAs and their needs, it became clear that increasing the number of co-managed PAs would be impossible given the limited resources. The CTC and USAID approved this decision.

#### Task order modifications

- Task order signed December 21, 1999, with an effective date of January 10, 2000, an estimated completion date of January 10, 2004, and total obligated funding of \$1,300,000.
- First task order modification (September 5, 2001), to increase the obligated amount by \$1,428,000 to \$2,728,000.
- Second task order modification (January 23, 2002), to increase the ceiling price by \$135,000 to \$3,150,000 and the total obligated amount by \$135,000 to \$2,863,000; and to revise the budget and scope of work to increase support for management plan preparation, ecotourism development, and NGO financial management and organizational strengthening.
- Third task order modification (January 10, 2003) to fully fund the contract.
- Fourth task order modification (August 27, 2003), to revise the budget and workdays ordered, without modifying the total labor cost.

- Fifth task order modification (October 29, 2003), to incorporate a minor clause on reporting of foreign taxes.

### *External evaluation*

An external evaluation was carried out in March 2003 by a five-person expatriate team that included staff of the USDA Forest Service Cooperative State Research, Education, and Extension Service; and Colorado State University's Center for Protected Area Management and Training. The evaluation was very positive and helped USAID to decide to extend the project for one year.

#### 4.9.2 Project management

### *ARD Personnel*

ARD maintained a small project management and technical support office in the MARENA headquarters in Managua, with a TCN COP, two Nicaraguan technical staff, and an accounting specialist who also provided ongoing support for NGO partner financial management (see Table 4.1). These personnel remained with the project for the entire four years, indicating excellent team spirit and working conditions. Support staff included an administrative assistant, a secretary, a janitor and a driver.

In ARD's home office, Rebecca Butterfield began as Senior Technical Advisor and transferred her responsibilities to Allen Turner shortly after he joined the firm in 2001. ARD provided only modest direct short-term technical assistance, a total of six person-months of US and 6.5 person-months of third-country national (Central American TCN) technical assistance over the four-year life of the task order. To keep costs down, the majority of short-term technical support was provided through local purchase orders and through arrangements with other projects and organizations, under which ARD provided per diem, logistic, or other similar support. To reduce costs to the contract, ARD did not apply its BIOFOR IQC overhead multiplier to local (CCN) consultants. US technical assistance was only 1.6 percent of the total person-days provided under the contract.

Table 4.1 also shows the national counterpart personnel from MARENA working full time on the COMAP Project. Table 4.2 includes the personnel financed by COMAP and working in the six protected areas.

### *Other organizational and administrative support*

- Organization of the COMAP office (including equipment, and materials), local project administrative and management

**Table 4.1. ARD and MARENA Nicaragua Long-term Personnel**

Name	Position	Institution
Fernando Palacios M	National Director	MARENA
Carlos Rivas	Chief of Party	ARD
Jacinto Cedeño S	Protected Areas Specialist	ARD
Ninoska Rivera	Institutional Strengthening Specialist	ARD
Abraham Palma	Financial Specialist	ARD
Cristina Avellan*	Financial Assistant	ARD
Marvin Castillo	ND Assistant	MARENA
Dora Norori	ND Secretary	MARENA
Mercedes Delgado	Receptionist	MARENA
Marva Walton**	COP Secretary	ARD
Moises Arteaga***	Driver	ARD
Alina Cordonero	Caretaker	ARD
<b>Total: 12 people</b>		

\* Previous Financial Assistants: Lucía Corrales de Salazar and Marcela GodoyBaca.

\*\* Previous COP Secretaries: Sharon Irstchi and Auxiliadora Castillo

\*\*\* Previous Drivers: Dennys Bermúdez and Cesar Castro

**Table 4.2. Personnel in Protected Areas Financed by COMAP Project, NGOs and Other Sources**

Name	Title	Funding Source
<b>EL CHOCOYERO-EL BRUJO</b>		
Edgar Antonio Castañeda Mendoza	Protected Area Director	CENADE
Yader Damian Peralta	Park Guard	CENADE
Juan Cruz Gamez Castellón	Park Guard	CENADE
Maria Teresa Rivas	Community Promoter	CENADE
Javier Matus	NGO Executive Director	COMAP/CENADE
Manuel Munguía Gutiérrez	Financial Administrators	COMAP
Brandon Hoslon	Peace Corps Volunteer	Peace Corps
Adolfo Lopez, Jose Valle, Bayardo Lopez, Burnis Mendoza, Danilo Paz, four of whom function as Park Guards and are paid by City Hall and PA funds	Community Volunteers	Community
<b>ISLA JUAN VENADO</b>		
Ruth Argentina Saavedra Solórzano	Protected Area Director	FUNCOD
Jesús Pompilio Fuentes Olivares	Park Guard	FUNCOD
Victor Manuel Galo Roque	Park Guard	FUNCOD
Ana Julia Vargas	Community Promoter	FUNCOD
Juan Jose Rocha Montiel	NGO Executive Director	COMAP/FUNCOD
Julio Carrasco Vidal Espinoza	Volunteer Police	Local Government
Roger Hernández Chamorro	Financial Administrators	COMAP
Erika Alen	Peace Corps Volunteer	Peace Corps
Manuel Calderón and Ricardo Ramón Hernández, both of whom function as Park Guards and are funded by local government	Community Volunteers	Local Government
<b>ESTERO PADRE RAMOS</b>		
Iván Antonio López Medina	Protected Area Director	SELVA
Martín Ramón Martínez Ramírez	Park Guard	SELVA
Nestor Isaac Díaz Molina	Park Guard	SELVA
Fatima Carolina Díaz Ulloa	Community Promoter	SELVA
Vidal Andino	NGO Executive Director	COMAP/SELVA
Jesus Moreno	Volunteer Police	Local Government
Bismarck Antonio Peñalba Palma	Financial Administrators	COMAP
Aram Terry y Olin Cohen	Peace Corps Volunteer	Peace Corps
Julian de Jesus Silva Canales	Community Volunteers	Community
<b>TISEY-ESTANZUELA</b>		
Roberto Iván Aguilar Benavidez	Protected Area Director	FIDER
Henry Lanuza Zamora	Park Guard	FIDER
Luis Andrés Pérez	Park Guard	FIDER
Jairo Cerrato	Park Guard	FIDER
Ismael Gutiérrez Castillo	Park Guard	FIDER
Teresa Ruíz Gutiérrez	Community Promoter	FIDER
Geovannia Morales	NGO Executive Director	FIDER
Ernesto Rubio	Financial Administrators	COMAP
Miguel Gerba y Andrea...	Peace Corps Volunteer	Peace Corps
<b>CERRO MUSÚN</b>		
Carol Ecith Chávez Orozco	Protected Area Director	FUNDENIC
Miguel Angel Jarquín Suarez	Park Guard	FUNDENIC
Ubencio Antonio Martínez Guzmán	Park Guard	FUNDENIC
Miguel del Socorro Jarquín Artola	Community Promoter	FUNDENIC
Rosario Saenz	NGO Executive Director	COMAP/FUNDENIC
Carla Cruz Vega	Financial Administrators	COMAP
Marc Hamel	Peace Corps Volunteer	Peace Corps
Jhony Jacobo Jarquin Artola (GP)	Community Volunteers	Community
<b>VOLCÁN COSIGÜINA</b>		
William Anastacio Areas Calvo	Protected Area Director	LIDER
Erick Antonio Valle	Park Guard	LIDER
Johnny Montes Mejía	Park Guard	LIDER
Yosmine Noel Cardoza Guzmán	Park Guard	LIDER
Ilario García Campos	Park Guard	LIDER
Francisco Javier Mendez Reyes	Community Promoter	LIDER
Hebert Jose Caballero Paniagua	NGO Executive Director	COMAP/LIDER
Two permanent police from the <i>Control Ecologico de Cosiguina</i>	Volunteer Police	Local Government
Edelmary del Carmen Vargas Rodriguez	Financial Administrators	COMAP
Matt O'Driscoll	Peace Corps Volunteer	Peace Corps
Isidro Ochoa (GP)	Community Volunteers	Community

MARENA. At the beginning of the project, the offices were located at IICA national facilities. MARENA then provided the office space used for the remainder of the project. It was necessary to invest some project budget funds for minimal project requirements, including furniture, equipment, basic services and materials.

- SINAP, the Directorate General of Protected Areas, and the national counterpart office, were strengthened during the life of the project. One 4x4 wheel-drive vehicle, one skiff with two outboard motors (one 75 HP and the other 25 HP), computers, a copier, and firefighting equipment were granted to SINAP. Technical assistance was provided to MARENA (as noted in Table 3.1).
- Provision of NGO support—a local system for the administration and management.
- Provision of consultant support.

For example, COMAP provided a consultant to work with MARENA and COSEP to draft terms of reference for the MSP administrative entity, Fundación Natura, which is now being legally registered<sup>8</sup>. Support was also provided to the US Forest Service consultant, Gerald Bauer, in designing the visitors' guides and other mass printed materials for the seven protected areas, including Volcán Mombacho.

The World Bank/Ministry of Finance PRODEP Project hired the consulting team for the Volcán Cosigüina management plan, which is near completion. The ARD/COMAP team and LIDER participated in the technical follow up for this consultancy by attending meetings and providing the necessary logistical support and information related to the protected area.

The PROARCA/APM Project provided assistance to LIDER in developing an EER on the buffer zone of the Volcán Cosigüina. PROARCA APM also collaborated with

<sup>8</sup> The consultant's final report (see Appendix 7) includes: the registration documents, norms, administrative manual, the fund management regulations, and a three-year institutional strengthening plan.

SELVA on the establishing the borders of Estero Padre Ramos PA.

### *Contract Performance*

The task order identified the following deliverables:

- Annual work plans—these were prepared by ARD each year. Upon signing agreements with partner NGOs, the annual work plans also drew upon the individual annual work plans prepared by each NGO for its PA.
- Performance monitoring plan—a draft preliminary Performance Monitoring Plan (PMP) was drawn up following consultations with project partners.
- TA reports—numerous technical reports were prepared by team members and short-term technical advisors, as shown in Appendix 7.
- Standard quarterly progress and financial reports were delivered to the USAID/Nicaragua Financial Management Office after the end of each quarter.
- The final report is the present report. It includes as an unattached annex the 16<sup>th</sup> Quarterly Progress Report tables.

In addition to these reports, an external project evaluation was carried out independently of the ARD COMAP team, as noted above.

USAID/Nicaragua implemented the decision to reduce management units by transferring COMAP to a regional mechanism, as described in Section 3.5. In the end, this transfer required extra management effort that, for an already overcommitted USAID staff, was not possible. A more continuous and effective transition could have been achieved at less cost and disruption of evolving local processes by following the recommendation of the Evaluation for a no-cost extension.

Project closeout was carried out during November and December of 2003. As planned, ARD closed out the NGO grants at the end of November. However, ARD continued to support some of the NGO activities, including finishing

the construction of the Cerro Musún park guard station, through direct payment to providers. The project office ceased operations on December 31, 2003. However, the COMAP Chief of Party and Finance Specialist continued through the end of the task order on January 10. Due to delays in receiving approval for the distribution of project equipment, the COP provided some administrative support for this formal handover after the task order completion date. In all cases, the recipients of equipment have committed themselves to using the equipment to further COMAP objectives and results.

## 5.0 WHAT WE LEARNED: SYNTHESIS OF CONCLUSIONS AND LESSONS LEARNED

The following sections propose some lessons learned that may be useful as co-management continues to evolve and spread in Nicaragua. Many of the following lessons learned were explored in depth during annual workshops in December 2002 and December 2003. Small groups intensively discussed such themes as decentralization of PA management, making stakeholder participation work, conservation-compatible economic alternatives (including ecotourism), and NGO commitment to PA co-management and sustainability.

The first section identifies a number of crosscutting factors, including factors that have helped or hindered the implementation of the co-management approach. The remaining sections describe lessons learned in each of the project's three main result areas: co-management by NGOs, MARENA's contribution to regulated management, and community participation in co-management.

ARD hopes that further reflection on these lessons will lead to a better understanding of how to carry out community-based co-management approaches more effectively in the future.

## 5.1 Crosscutting Factors

### 5.1.1 Consistency of approach

The ARD COMAP team's approach was basically the same across all six PAs, and there was considerable discussion about how uniformly or consistently it should or should not (or was in fact or was not) applied in each PA. The COMAP team struggled to find a balance between shaping technical assistance to fit each place—paying attention to the strengths and opportunities of each PA (including leadership, initiative, and skills)—and developing a consistent overall approach. As the Evaluation team noted, many of the NGOs felt that consistency was excessive—a 'one-size-fits-all' approach that reduced effectiveness.

However, the use of a common approach had two important positive effects. First, as anticipated in the design, it helped ensure focus—and that activities were not scattered and efforts spread too thinly. Second, it helped ensure that each of the partner NGOs gained direct, hands-on experience with each of the core approaches. The COMAP team insisted that they include some resources for each of the design's main approaches in their annual plans, opening them up to experience that, although not always successful were, in retrospect, seen by the NGOs as useful learning tools. Nonetheless, managing expectations was an ongoing task and not always successful. Some NGO partners complained of recurring incompatibility between COMAP's budget guidelines and activities that they wished to support.

### 5.1.2 Continuity and scale

Moving from nonsustainable or destructive resource use to sustainable resource use requires years of consistent focus in specific places with specific institutions.

Start-up processes are slow and should not be accelerated to meet spending or physical implementation targets.

The **scale** of the protected areas selected was small; Nicaragua's first initiatives in co-

management began in patches and not in a large-scale PA such as Bosawás. Working in small protected areas allowed a holistic approach based on knowledge of natural resources in the area, cultural and historical aspects, and the attitude of the population. By understanding and engaging with local problems and interests, it was possible to advance in a process that MARENA had not tried previously: involving communities in protection, conservation and, to a degree, regeneration of biological resources and the processes that sustain them. It is only possible to develop new models in difficult conditions by accompanying partners hand-in-hand with key stakeholders. To do otherwise would result in yet another project that passes through, accomplishing things while in place but leaving no solid basis that allow the community to continue and sustain the results achieved.

### 5.1.3 Helping and hindering factors

A great range of factors has contributed to the success of co-management, while others have hindered the process. Figure 5.1 presents key factors for co-management that MARENA, NGO partners, and stakeholders learned how to apply—with varying degrees of skill and effectiveness—in their respective PAs.

Among the **factors which have contributed** most to successful co-management are the following:

- Strength and support of the NGO, the local community, and leadership at all levels;
- Active involvement of local people from the very beginning;
- Consistent follow up by the NGO team, COMAP advisors, and MARENA;
- Improved understanding and increased use of the approach’s principles of participation, economics, etc.;
- The ‘fit’ of activities with local conditions, available resources, widely felt need or opportunity;
- Acceptance and encouragement of local government; and
- Networking activities which bring local people from different communities together

to discuss their experience in related activities.

Among the **factors which hindered** the co-management approach were:

- Limited hands-on experience and confidence at first in the use of the approach’s principles and steps on the part of the NGO teams; and
- Limited understanding of, and/or lack of commitment to, COMAP’s objectives,

#### Figure 5.1. Ensuring Stakeholder “Ownership” and Commitment: Key Factors for Effective Co-Management

- Ensure the active participation of local stakeholders throughout the planning process. Actively involve stakeholders from the very beginning, and ensure positive support from leadership.
- Listen to and work together with local people, and help stakeholders (and project implementers) understand each other, developing confidence and trust, and cross-fertilizing ideas and actions.
- Include highly visible activities that have strong community support among the first activities to be implemented.
- Create management committees and other means of follow up and control with active local participation.
- Ensure consistent presence and follow up by NGO staff and other facilitators, leading to confidence, trust, and a more realistic understanding of benefits, obstacles, and complexities of existing and planned systems.
- Enhance motivation, curiosity, and excitement.
- Build in flexibility in programs and working procedures, to allow activities to respond to specific opportunities and to ensure involvement.
- Carry out workshops and public presentations and distribute the plan in appropriate formats and events.
- Encourage group and community-level plans and activities by leaders and authorities.
- Avoid providing inputs or subsidies that compete with contributions local people or other stakeholders can make themselves.
- Carry out “community-to-community” and “user-to-user” extension and networking activities that bring resource users and leaders from different communities together to discuss their experience in related activities.
- Ensure understanding of, and commitment to, the objectives and principles of a participatory approach on the part of the agencies involved (MARENA, USAID, co-management partner NGOs, and local authorities).

principles, and implementation approach on the part of some NGOs or stakeholders.

Some NGO partners felt that greater clarity from the beginning regarding the co-management concept and the responsibilities these implied for each stakeholder would have helped overcome these hindrances. However, developing such understanding and clarity must evolve within and among stakeholders through hands-on learning and experience that increases the capacity for commitment, responsibility, and collaboration among the people of each place. To help foster this learning process, the COMAP team focused on a few key principles that were again borne out by our experience under the project. For MARENA and NGOs to carry out a community-based co-management approach they need to continue to:

- Give up considerable implementation control of resources and programs from the top down—and instead guide and facilitate locally identified and managed activities;
- Provide orientation and regular in-service training to field staff;
- Provide stronger support for decentralizing its planning and budgeting;
- Focus well on specific problem areas of priority concern; and
- Prepare and train facilitators well, whether local leaders or NGO staff.

## 5.2 Co-Management of Protected Areas

- (1) The most effective co-management partners—and those with the greatest chance of achieving lasting results—are those NGOs that are most grounded in the local communities and that respect and build on deep local understanding. Whatever their weaknesses or strengths, local NGOs and their communities hold the most viable seeds of the conservation ethic co-management needs to succeed in its larger goal.
- (2) Technical and financial management capacities are widely held to be indispensable. Many believe that an NGO

must have these capacities well established before it is selected to co-manage a PA because the time required to learn these skills is excessive. Although certainly desirable, COMAP proved able to strengthen these skills and capacities within a two-year period. Far more important was the NGO's commitment to working with the PA's surrounding communities and landowners as strategic partners.

- (3) As described above and in Section 4, a number of factors limited participation in the preparation of the management plans and, hence, ownership of them by the partner NGO and by community, municipality and other stakeholders. However, the COMAP team proceeded on the premise that (1) 'the perfect is the enemy of the good' and (2) responsibility and experience were prerequisites for learning how to co-manage (and for adopting a participatory attitude and approach). The consequences of a less-than-perfect management plan were not seen to be as great as no plan at all. At worst, a PA would merely continue to suffer from the same inadequate management. The key was to get co-management to begin. To change attitudes about and skills for co-management, the most important task was to create the experience of co-management.

COMAP chose, therefore, to develop initial management plans under a fairly tight schedule (most of plans were completed in less than six months) and using the existing MARENA methodology (which had never been successfully applied in Nicaragua). Given the general lack of experience among the partner NGOs (and the limited budget), COMAP chose to use teams of local consultants, giving them some training and guidance in the plan preparation methodology.

To the degree that local people have been involved in the baselines, it is that much easier to involve them in the management plan and, ultimately, in the execution of the

plan. The key skill is to make sure that the fairly complex document that MARENA needs is indeed owned by the local people. For all the emphasis that the official procedures place on ecological, socioeconomic, and other ‘baselines’, it would have been better to have also had some kind of people’s own profile. Then, the management plan could have built on that profile and the issues and opportunities as identified by the people of the place.

- (4) NGOs have had mixed success in perhaps the greatest challenge to co-management—developing common understanding and commitment among key stakeholders for the management of the PA. As noted, some of the NGO partners felt that the concept of co-management must be more fully and widely discussed and internalized by the different stakeholders before they commit themselves to act and sign agreements with MARENA.
- (5) Working through co-management partners alone (which under COMAP were all NGOs) is not the same as working with the stakeholder groups with economic or instrumental power (a single farmer with fire or a fisherman with dynamite can threaten a PA just as can a corporate shrimp farm).
- (6) PA management plans should be coherent and ‘fit’ with municipal and national development plans. In this way, funding for the PAs can better support the programs contained in the management plans.
- (7) Co-management must be more than simply a partnership between an NGO and some level of government, especially in large and complicated areas. Co-management not only through local and national NGOs, but also through firms, universities, and/or international NGOs under multiple agreements could work better.
- (8) To develop effective management based on the management plan at each PA, the process that COMAP supported has been

more important than the management plan itself (see also Figure 5.2<sup>9</sup>). Without participation during plan preparation, implementation would be difficult. And, the plan becomes just one more piece of paper for a paper park. Management committees with (local and national-level actors) are just as important as the management agreement.

- (9) A landscape approach can be useful in guiding how key economic actors are engaged and in ensuring that the productive base for economic growth is enhanced while biodiversity is protected.

### 5.3 SINAP Strengthened and Regulated Management of Protected Areas by MARENA

- (1) Development of a co-management model must rest on a clear legal base, with clear rules and roles for each key actor and activity. To be effective, interpretation and application of regulations must respond to adaptive learning.

#### Figure 5.2. How to Ensure the Plans are Carried Out

- Distribute the plan in user-friendly formats to different audiences.
- Develop performance evaluations for personnel and organizations and use them annually.
- Link long- and short-term planning processes and budgets.
- Annex plan summaries to proposals.
- Prepare plans in a format that can be updated easily.
- Make the plans official.
- Be realistic in step-wise implementation with a phased timeline.
- Ensure that the plans include financial and institutional strategies, or prepare these afterwards.

<sup>9</sup> Many of the ideas in Figure 5.2 were presented at COMAP’s first annual workshop in 2002 by Jim Barborak, (see “*Planes de Manejo...*” in *Memoria del Seminario: El Modelo de Comanejo de Áreas Protegidas: Las Experiencias del COMAP en Nicaragua*).

- (2) Implementing the effective regulatory control, essential for effective management, depends not only on laws and regulations but also on creating effective partnerships, alliances, and working relationships which, directly or indirectly, involve all of the principal stakeholders at the site concerned with a given threat. This may include not only the local stakeholders, but also outsiders who are linked at some level in the institutional or economic environment.
- (3) Co-management requires strong support from MARENA to ensure that other public agencies that grant permits for resource extraction—such as MIFIC and INAFOR—comply with environmental law.
- (4) Developing the necessary regulation and enforcement required active involvement of both local stakeholders and government. In all six PAs, the NGO partners were more able to foster commitment and responsibility through local action and local ownership, and not from the top down. Involving government officials at the levels needed to achieve effective enforcement of some kinds of actions and commitments was more difficult. At some levels of decision, it was difficult to secure attention and priority.
- (5) The private sector can be an effective partner for MARENA and NGOs, especially in helping them ensure financial sustainability for co-management. MARENA had never before considered an initiative like the MSP. With support from COMAP, COSEP made the commitment to participate in raising funds to finance part of SINAP's requirements.

#### **5.4 Local Communities and PA Co-management**

- (1) The effectiveness of the Local Co-management Committee (CLCs) varied from site to site. Success depended significantly on the ability of the PA director and on local stakeholders'

experience and satisfaction with the process of participation. Local participation and training leads to better integration of the CLC, better understanding and implementation of PA regulations, and improved relations between park guards and communities.

- (2) Genuinely participatory processes working through real leaders (including informal leaders) increase the possibilities for changing attitudes, exchanging experiences between local people and outsiders, and following up and replicating success.
- (3) As one local leader observed, processes of citizen participation supported by local government increase the possibility of success, strengthening not only local civic culture but also municipal government. Legal mechanisms strengthen these processes, and legal frameworks must be created for each area for action. Citizen participation is political participation, but must rise above party-based politics. Citizen participation requires ongoing persuasion, because given the economic situation; participation may be seen at any moment merely as an opportune scheme for survival.
- (4) Distrust and unmet expectations always occur and require continuous outreach and transparency to overcome. Active collaboration on specific initiatives is an effective way to create greater trust and influence approaches and priorities.
- (5) Communities participate fully if and only if their survival is not at stake, and only if their roles and responsibilities for planning, decision-making, and activity development under the management plans are defined jointly.
- (6) Among other factors, sustainability of co-management is possible only if stakeholders responsibly fulfill their respective roles and if the co-managing NGOs strengthen their technical,

organizational, and financial management capacities.

- (7) At the level of each PA, learning what is possible in terms of management requires that the people of the place learn by doing. What is possible grows from things local people can do and want to do. As a Park director noted, although the CLC was the mainstay for participation, the community's participation in preparing the management plan, the grassroots grant fund committee, and volunteer spirit were all tremendously empowering. Here, too, the NGO partners began a range of small-scale experiments that didn't cost much to begin—for example, the control post in Cosigüina, the rural tourism in Tisey, control of fires, turtle nesting conservation—building on local interests and experience.
- (8) Economic alternatives that help communities reduce resource extraction from the PAs are fundamental to improved co-management. Small grant funds that support such alternatives can promote attitude change and commitment to conservation and the co-management process, and result in significant reduction of resource extraction and destructive practices within PAs (see Figure 5.3).
- (9) Microenterprise and related economic development initiatives must be tightly focused and guided by an appropriate intervention strategy, including well-defined criteria for selecting beneficiaries and an effective strategy for communication among the various actors. Such initiatives depend on local experience and skills, and also on technical assistance and training. Peace Corps volunteers were extremely valuable in supporting these small community-based initiatives.

Ecotourism can contribute significantly to sustainable co-management. Increased PA visitation contributes to increased knowledge and protection of the PA's biodiversity.

### Figure 5.3. Small Grant Fund Success

Small grant funds can succeed when the NGOs and committees managing them:

- Ensure ownership of the fund on the part of the beneficiary community. COMAP required that the Local Fund Management Committee as well as the co-managing NGO participated in administration of the fund and ensured that stewardship of the fund served beneficiary objectives. The community's recognition that it owns the fund's capital and its participation in making the rules for its use and managing its recovery increases the possibility of the fund lasting.
- Remain flexible regarding fund guidelines, insisting only on essential factors. For example, most of the fund beneficiaries in Isla Juan Venado were women who had never before had the opportunity to receive financing for productive activities. Nonetheless, they had a high recovery rate without the fund requiring loan guarantees or interest payments. On the other hand, they did receive intensive orientation and training in microenterprise management.
- Take well into account their capacity as NGOs and committees in deciding geographic coverage and the number of persons to be served.
- Ensure flexibility in the selection of economic alternatives supported, while insisting that activities are compatible with conservation.

## 6.0 WHAT NOW? —OPPORTUNITIES, ISSUES, AND RECOMMENDATIONS

As noted in the preceding section, moving from long-established patterns of nonsustainable or destructive resource use to well-governed and sustainable resource use requires consistent support over many years. The 2003 Evaluation, too, pointed out that sustaining and “consolidating” the results achieved under COMAP's first few years will require follow through. ARD fully supports the Evaluation's many recommendations to continue what COMAP has begun:

- Make the management plans “living documents” that can be modified without extraordinary effort.
- Create a permanent endowment (i.e., the MSP), that can support ongoing management within the six protected areas.

- Build on the nascent partnerships with municipalities to control the scale and type of development that occurs within buffer zones, including participation in land use planning and acknowledging the contribution of municipalities to co-management.
- Continue to develop learning opportunities for park guards and other co-management stakeholders, including the relatively low cost exchanges among different PAs, and neighboring country study-tours.
- Actively support development of private and municipal PAs.
- Support the formation of an association of the three PAs along the Pacific Coast.
- Improve local community representation on the co-management committees.

USAID has not yet explored future programming together with MARENA and its NGO partners. Under USAID's new strategy, there is some chance that the important progress in building foundations and processes to improve governance, conflict management, and sustainable resource management may be left aside as efforts driven by other models seek other results in other places with other actors.

The most significant issue facing USAID and the six PAs now is to ensure that the nascent governance and economic freedoms that have germinated so palpably are preserved and strengthened once they are brought under a program that focuses mainly on larger scale efforts to enhance competitiveness and remove trade barriers.

Some of the initiatives begun under COMAP can fit very well under a trade-led development program. These include ecotourism, organic and related sustainable agriculture, aquaculture, forestry production in buffer zones, and the new private sector (COSEP)-supported trust fund, the MSP.

However, sustainable resource use will not evolve merely through focusing competitively on markets and removing barriers. USAID should also help GON agencies to coordinate

responsibilities and regulations affecting the management of natural resources. Especially significant contributions could be made through helping MARENA strengthen its regulatory, policy, and monitoring functions, for example:

- Coordination with fisheries and forestry agencies to improve permitting and enforcement regarding fishing and timber extraction;
- Implementation of clear policies to strengthen the role of municipalities, private landowners, entrepreneurs, and universities in PA management; and
- Completion of regulations for managing tourism, in particular, clarifying how protected areas are to collect fees from concessionaires/tour operators offering commercial tours (hiking, mountain biking, etc.) within PAs.

With respect to the second of these—broadening the range and roles of co-management partners—few NGOs in Nicaragua bring together the technical, administrative, and financial capacity to manage protected areas. In the future, it will be important to consider the possibility of engaging other organizations—private sector groups as well as universities, municipalities, and other stakeholder groups as co-managers of PAs. In addition, the participation of universities and students will allow the design of long-term programs for biodiversity research and monitoring of endangered species.

With respect to the third of MARENA's contributions above, policy and regulatory changes should be supported at the field level. For example, the competitiveness of ecotourism can be strengthened through a variety of activities, also recommended in the Evaluation:

- Continue tourism planning in each area until a minimum capacity to manage is achieved. This would include planning for trail and waste management infrastructure, a zoning system, definitions of desired conditions, indicators and standards for reaching those conditions, associated visitor management

actions, and a concessions plan for tour providers.

- Develop a promotional strategy for increasing visitation in the pilot PAs in accordance with their management capabilities and supported by professional marketing efforts.
- Develop regional tourism connections to broaden the options available to visitors and publicize these well.
- Continue, as noted above, investments in human resources, particularly, system-wide training for tour guides, and training in small business management and long-term business planning for community entrepreneurs.
- Increase involvement of local residents by providing concessions to local entrepreneurs within protected areas for tourism.

Similarly, field activities should be developed to support sustainable and conservation-compatible forestry, fisheries, aquaculture, and agribusiness development.

In closing, we also suggest that USAID consider well how to protect the precious sparks of local initiative fanned into life under COMAP once a single contractor begins to implement an



*Solid waste management and other basic sanitation problems must be addressed prior to increased visitation and provide an excellent opportunity for community involvement and benefits (Padre Ramos, photo: Larry Lechner)*

umbrella program with a much broader mandate. Pressed for immediate and massive results, will the lessons of COMAP be forgotten? Will a contract designed for rapid results be able to afford the care and time required to apply technical assistance and related resources in a flexible manner that builds on, supports, and develops—rather than replaces—local initiative, “ownership”, and talent—particularly among communities just beginning to find their voices?

# Appendices

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**APPENDIX I: MEASUREMENT OF PROGRESS BASED ON INDICATORS IN  
COMAP'S MONITORING AND EVALUATING SYSTEM**

**Table A1.1. Progress through December 31, 2003, based on the Indicators of COMAP's Monitoring and Evaluating System**

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
<b>COMAP's overall objective: To increase the natural resources under rational use and sustainable management in Nicaragua.</b>									
<b>Result 1: Co-Management of Priority Protected Areas by NGOs</b>									
I.1 Agreements signed with NGOs for co-management of priority-protected areas.	I.1.1 Number of agreements signed between MARENA and NGOs for Co-management of Protected Areas	2	6	Activity completed	0	Activity completed	7	116.6%	ACTIVITY COMPLETED NGOs that have signed agreements with MARENA are: 1. CENADE; El Chocoyero-/El Brujo PA 2. FUNCOD; Isla Juan Venado PA 3. FUNDENIC; Cerro Musún PA 4. FIDER; Meseta del Tisey-Estanzuela PA 5. SELVA; Estero Padre Ramos PA 6. LÍDER; Volcán Cosigüina PA 7. COCIBOLCA; Playa La Flor PA
	I.1.2. Number of financial agreements signed between NGOs and ARD/COMAP	0	6	Activity completed	0	Activity completed	6	100%	ACTIVITY COMPLETED ARD/COMAP signed Financial Agreements with the NGOs: 1. CENADE; El Chocoyero-/El Brujo PA 2. FUNCOD; Isla Juan Venado PA 3. FUNDENIC; Cerro Musún PA 4. FIDER; Meseta del Tisey-Estanzuela PA 5. SELVA; Estero Padre Ramos PA 6. LÍDER; Volcán Cosigüina PA
I.2 To Strengthen the technical and institutional Capacities of NGOs.	I.2.1. Index of financial management capacity (average) a. El Chocoyero-CENADE b. Isla Juan Venado-FUNCOD c. Estero Padre Ramos- SELVA d. Tisey-Estanzuela- FIDER e. Cerro Musún-Fundenic f. Volcán Cosigüina -LIDER	44 Points 46.30 46.50 30.00 97.30 20.00 24.20	70.38 65 65 65 97.3 65 65	59.08 36.30 36.30 61.20 97.30 64.20 59.20	12.2 28.7 28.7 5.0 0.0 5.0 5.8	NA NA NA NA NA NA NA	59.08 36.30 36.30 61.20 97.30 64.20 59.20	83.94% 55.85% 55.85% 94.15% 100.00% 98.77% 91.08%	The final measurement of capacity was carried out during the quarter ending September 2003. NGO funding ceased in November 2003. COMAP terminated funding early for CENADE and FUNCOD. In the FUNCOD case, MARENA terminated the Co-Management Agreement for non-compliance.

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
	I.2.2. Organizational capacity index (average)	63	75	76.16	13.5	NA	76.16	101.6 %	Information was evaluated according to the initial baseline of NGO capacity and taking into account only personnel that worked with the COMAP Project.
	a. El Chocoyero-CENADE	74	75	89	10		89	119.0 %	Two NGOs (FUNCOD and CENADE) were not evaluated during the last three quarters as their Financial Agreements had been cancelled and they did not issue any reports.
	b. Isla Juan Venado-FUNCOD	52	75	35	31		35	46.6%	
	c. Estero Padre Ramos- SELVA	71	75	85	10		83	113.3 %	
	d. Tisey-Estanzuela- FIDER	66	75	75	10		75	100.0 %	
	e. Cerro Musún-Fundenic	58	75	86	10		86	114.7 %	
	f. Volcán Cosigüina -LIDER	58	75	87	10		87	116.0 %	
	I.2.3 Technical Capacity Index (average)	64	NGO achieved an average of 80 points	83.6 points	10 points	0	83.6 points	104.5%	
	a. El Chocoyero-CENADE	74	80	86.0	10	0	86.0	107.5%	The project design called for management plans that included Volcán Cosigüina PA. MARENA later decided that its management plan should be made through the PRODEP project, which had more funds for this purpose. Given this change, approved by the CTC, the COMAP Project completed 100% of the plans for which it was responsible..  The Volcán Cosigüina Management Plan is expected to be ready in early 2004, at which time the approval and stakeholder consultation process begins as indicated by the MARENA Regulations for Protected Areas.
	b. Isla Juan Venado-FUNCOD	62	80	86.5	10	0	86.5	108.2%	
	c. Estero Padre Ramos- SELVA	70	80	83.5	10	0	81.0	101.3%	
	d. Tisey-Estanzuela- FIDER	68	80	79.0	10	0	75.5	94.4%	
	e. Cerro Musún-Fundenic	48	80	84.0	10	0	77.0	96.3%	
	f. Volcán Cosigüina -LIDER	62	80	82.5	10	0	82.5	103.1%	
I.3 Management Plans being implemented	I.3.1 Number of management plans submitted to MARENA for approval	0	6	5	1	0	6	83.33%	

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
	1.3.2 Number of management plans approved by MARENA	0	6	5	2	0	5	83.33%	<p>Four of the management plans have a Ministerial Resolution signed by the MARENA Minister who makes these plans official (Estero Padre Ramos, Isla Juan Venado, Cerro Musún and Tisey-Estanzuela).</p> <p>The El Chocoyero Management Plan is under legal process for changing its boundaries and is awaiting a final document from the Minister, despite approval by the Ruling Multi-Disciplinary Technical Committee from MARENA.</p> <p>The PRODEP project is expected to present the for Volcán Cosigüina Management Plan in early 2004, as noted above.</p>
	1.3.3 Percentage of co-management activities carried out, from the total activities indicated per year in the AOP.	0	85%/year	61.22	85%	14.90 (average of 4 NGOs)	71.15	83.71%	
	a. El Chocoyero-CENADE	0	85%	44.27	85%	0	44.27	52.08%	
	b. Isla Juan Venado-FUNCOD	0	85%	43.71	85%	0	43.71	51.42%	
	c. Estero Padre Ramos- SELVA	0	85%	79.72	85%	12.09	91.81	108.00%	
	d. Tisey-Estanzuela- FIDER	0	85%	62.06	85%	18.80	80.85	95.12%	
	e. Cerro Musún-Fundenic	0	85%	63.39	85%	18.29	81.68	96.09%	
	f. Volcán Cosigüina -LIDER	0	85%	74.17	85%	10.43	84.60	99.53%	
<b>Result 2: SINAP strengthened and regulated management of Protected Areas by MARENA</b>									
2.1 Policies defined and norms and procedures disseminated for the management of SINAP	2.1.1 Regulations on tourism activities in protected areas established	0	100 Points	Activity Completed	0	Activity Completed	100 Points	100%	Regulations were finalized and approved by MARENA and are in process of being published.

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
	2.1.2. Percentage of MARENA employees trained in administrative norms and procedures for SINAP (male and female)	0	25 employees	Activity Completed	0	Activity Completed	106 Men = 72 Women = 34	424 %	Activity completed in 2001
	2.1.3. Number of people from NGOs trained and following up SINAP administrative rules and procedures (male and female)	0	40	Activity Completed	0	Activity Completed	91 Men= 64 Women=27	227.5 %	Activity completed in 2002
	2.1.4. Number of Publications Distributed.	0	1 document 500 copies	0	1 document 500 copies	1 document 1000 copies	1 document 1000 copies	200 %	Activity Completed  A compilation of laws regulating PAs in Nicaragua and their natural resources was prepared and is being distributed by MARENA
2.2. Regulatory management of SINAP in operation of Protected Areas	2.2.1 Co-management in operation index	0	100 points	Activity Completed	0	Activity Completed	210 points	210%	MARENA has established administrative procedures for applying co-management in protected areas. ARD/COMAP financed consultants, prepared and/or reviewed Terms of Reference (TORs), and promulgated these procedures extensively in workshops, meetings, and the press. TORs for 17 technical assistance consultancies were prepared, for creation of the same number of Management Plans in the following areas: 6 from COMAP, 4 from POSAF (Arenal, Datanlí, Chococente and Apante), 3 from CBM (Miskito Keys, Wawachan, Punta Gorda), and 4 for the Southeastern Reserve (El Castillo, Solentiname, Los Guatuzos and El Refugio in the San Juan River  The monitoring indicator not only measures project achievements, but also SINAP and specifically, TORs elaborated for carrying out Management Plans.

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
	2.2. 2 Monitoring of PAs management index	0	100 (10 points for each PA, which have data in MARENA Monitoring System. Each 4 visits conducted by the ND equals to 1 point.)	81.25	27.75 points	2	83.25	83.25 %	The National Director (ND) made 93 visits to protected areas, and MARENA Delegations supervised activity advancement in the PAs.
2.3. Channeling financial resources from the private sector and non-governmental sectors for co-management of PAs.	2.3.1 A Membership and Sponsorship program established by MARENA/SINAP	0	100 Points	70 Points	50 points	30 Points	100 Points	100%	The PMP was approved by MARENA and the Foundation that will administer PMP program funds was created. COMAP provided technical support to design the Foundation's administrative structure and operational strategy, as well as its administrative manuals and fund-raising manual.
	2.3.2. Number of PAs with a financial appraisal of their tourist potential.	0	4	Activity Completed	0	Activity Completed	6	150%	Activity Completed COMAP prepared an appraisal fo each of the 6 co-managed PAs
<b>Result 3: Local communities participating in co-management of Protected Areas</b>									
3.1 Supporting Local Committees working on co-management of the PAs	3.1.1. Index of local Committees working on co- management activities	0	100 points for six working committees	82	32	0	82	82%	Note: The score is calculated based on the following:  Six Local Co-Management Committees are functioning:: El Chocoyero-El Brujo, Isla Juan Venado, Estero Padre Ramos, Tisey-Estanzuela, Cerro Musún and Volcán Cosiguina. Three committees have more than four meetings annually: El Chocoyero, Isla Juan Venado and Estero Padre Ramos.  Five committees have more than 50% representation from the buffer zone  One committee presented a project initiative

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
3.2 Ninety families improve their quality of life and change their dependence on the PA resources	3.2.1 Quality of life index	75.25	A 20% increase	2.21 %	20 %	2.21 %		%	During the life of project, 351 micro-enterprises were funded that benefitted 426 families  El Chocoyero-CENADE 12 micro-enterprises 48 families benefitted  Isla Juan Venado-FUNCOD 82 micro-enterprises 85 families benefitted  Estero Padre Ramos-SELVA 44 microenterprises 55 families benefitted  Tisey-Estanzuela-FIDER 28 micro-enterprises 52 families benefitted  Cerro Musún-FUNDENIC 42 micro-enterprises 43 families benefitted  Volcán Cosigüina-LIDER 143 micro-enterprises 143 families benefitted
	a. El Chocoyero-CENADE	75.00		3.58 %	20%	3.58 %			
	b. Isla Juan Venado-FUNCOD	78.00		1.58%	20%	1.58%			
	c. Estero Padre Ramos- SELVA	73.00		0.70%	20%	0.70%			
	d. Tisey-Estanzuela- FIDER	78.18		1.29%	20%	1.29%			
	e. Cerro Musún-Fundenic	71.30		4.01%	20%	4.01%			
	f. Volcán Cosigüina -LIDER	76.00		2.09 %	20%	2.09 %			

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
	3.2.2. Income structure (percentage of income from unmanaged PA products)	16.78%	Decrease of 20% of income from unmanaged natural resources from the PA	---21.57%	20 %	---21.57%	--21.57%	107.85%	<p>Note:</p> <p>A value of zero indicates that family income is not linked to the extraction of resources from the protected area. If that value is maintained, then there is 100% compliance.</p> <p>A negative value indicates a reduction in income from resources extracted from the PA not in accordance with the approved management plan.</p> <p>A positive value indicates an increase in income coming from natural resource extraction not in accordance with the PA's management plan.</p>
	a. El Chocoyero-CENADE	0.0%		0.00 %	20%	0.00 %	0.00 %	0.00 %	
	b. Isla Juan Venado-FUNCOD	45.56%		-25.25%	20%	-25.25%	-25.25%	126.25%	
	c. Estero Padre Ramos- SELVA	50.64%		-17.90%	20%	-17.90%	-17.90%	89.50%	
	d. Tisey-Estanzuela- FIDER	0.0%		0.00 %	20%	0.00 %	0.00 %	0.00 %	
	e. Cerro Musún-Fundenic	4.5%		0.00 %	20%	0.00 %	0.00 %	0.00%	
	f. Volcán Cosigüina -LIDER	0.0%		0.00 %	20%	0.00 %	0.00 %	0.0 0%	
						Last quarter's levels were maintained			
	3.2.3. Income level	169.14	A 20% increase	18.66%	20 %	18.66%	See Remarks	93.28%	<p>Family Income Distribution by Gender: Figures include only the incomes evaluated for the 4<sup>th</sup> quarter of 2003, which are not cumulative.</p> <p>NGO</p> <p>Monthly Family Income (Dollars)</p> <p>Income% Contributed by Man</p> <p>Income% Contributed by Woman</p> <p>CENADE 15 families \$ 134.08 70.23% 29.77%</p> <p>FUNCOD 15 families \$ 289.34 30.11% 69.88%</p> <p>SELVA 15 families \$ 85.30 45.5% 54.5%</p>
	a. El Chocoyero-CENADE	130.97		2.37%	20%	2.37%		11.85%	
	b. Isla Juan Venado-FUNCOD	320.00		-9.58%	20%	-9.58%		-47.90%	
	c. Estero Padre Ramos- SELVA	92.77		-8.05%	20%	-8.05%		-40.25%	
	d. Tisey-Estanzuela- FIDER	164.71		28.00%	20%	28.00%		140.00%	
	e. Cerro Musún-Fundenic	152.31		81.84%	20%	81.84%		409.20%	
	f. Volcán Cosigüina -LIDER	154.09		17.35%	20%	17.35%		86.75%	
						This is not a cumulative value but a comparative value for the quarter	Percentage progress for 2003 is not cumulative		

OBJECTIVES, RESULTS AND ACTIVITIES	IMPACT INDICATORS	BASE LINE	PROJECT TERM GOALS	PREVIOUS PROGRESS (Sept 2003)	2003 Goal	2003 IV Quarter Progress	CUMULATIVE PROGRESS TO DATE (Dec. 31, 2003)		REMARKS
							Absolute	Percentage	
									FIDER 15 families \$ 210.84 61.50% 38.50%  FUNDE-NIC 15 families \$ 276.96 74.33% 25.67%  LIDER 15 families \$ 180.83 70.40% 29.60%
3.3. Environmental Educational Plan in the PA's communities and schools	3.3.1 Development and implementation of the Environmental Educational Plans in the six PA's communities and schools	0	6	6	0	Activity Completed	6	100%	Activity Completed  Environmental Education Plans were carried out in coordination with schools and cooperation from Peace Corp Volunteers. COMAP also set up permanent exhibitions at each of the PAs.

**APPENDIX 2: CUMULATIVE RESULTS IN ADMINISTRATIVE SUPPORT**

**Table A2.1. Administrative and Logistics Aspects of COMAP-Cumulative Goals and Results Achieved through December 31, 2003**

Activities	Unit of Measure	Results	Project Goals	Final Achievements	Remarks on Progress	Responsible
DESIGN AND ORGANIZATION PHASE		Document submitted to USAID and MARENA and translated to English		100% completed	100% finalized The design was approved by USAID and the CTC in 2001	ARD COP, ND MARENA
a) Elaboration And Approval of the Project's Design Phase	Document		1			
b) Final negotiation of design and budget with MARENA	Document	Budget assigned to MARENA/SINAP under execution	1	100% completed	Activity finished. Guaranteed US\$200,000 to SINAP for a 4-year period	ND MARENA, ARD COP, CTC
ORGANIZATIONAL PHASE	Office	Office fully organized, equipped, with its entire staff	1	100% completed	Office completely organized and implementing its activities	ARD COP
a) Temporary office at IICA	Office	COMAP temporary office operating	1	100% completed	The temporary office was closed and the permanent office was relocated in MARENA	ND MARENA, ARD COP
b) Set up permanent Office at MARENA/DGAP	Office	COMAP office set up, with 3 phone lines requested from MARENA/DGAP	1	100% completed	The project operated from MARENA's new installations	ND MARENA, ARD COP
c) Recruitment and hiring of personnel	Contracts	100% personnel providing administrative and technical assistance to NGOs	7	100% completed	100% national staff hired by ARD	ND MARENA, ARD COP, DGAP
d) Purchase of equipment and expendables:  1 COMAP 2 SINAP 3 NGOs	Purchases	COMAP offices, SINAP and NGOs fully equipped	100% needs budgeted from SINAP, COMAP and NGOs Plus an additional 5.75% for purchase of communications radio	105.61 %	Supplies purchases for SINAP and its national counterpart continues as programmed	ARD COP

Activities	Unit of Measure	Results	Project Goals	Final Achievements	Remarks on Progress	Responsible
e) Establish the project's Administrative System	System	COMAP project administratively organized, system established.\	1	100% completed	Activity completed. The system was completely established and functioning.. Key elements will be maintained by The Nature Conservancy	Admin/Finan Specialist, ARD COP
f) Monitoring and Follow-up System designed	System	Monitoring System designed	1	100% completed		Consultant BVT
g) Identification of success indicators for protected areas, NGOs and communities	Document	List of indicators developed	1	100% completed	A meeting was held with DGAP to harmonize indicators from the Project's Monitoring System with SINAP/ DGAP	Technical Team COMAP, ARD
h) Project Monitoring and Evaluation System Implementation	System	Monitoring System under implementation	1	100 % Completed	Presently the system is being implemented in six protected areas: Padre Ramos, Isla Juan Venado, El Chocoyero-El Brujo, Cerro Musun, Tisey and Volcán Cosigüina.	Technical Team COMAP, DN/MARENA
<b>OTHER ADMINISTRATIVE ACTIVITIES</b>						
a) Prepare monthly reports	Reports	Monthly reports developed	46	59 128.3 % compliance	COMAP's internal monthly and quarterly reports presented by EAP and EFI	PAS, IDS Admin/Finan Specialist
b) Participate in internal meetings for planning and evaluation activities	Meetings	Meetings held	130	168 123 % achieved	Internal meetings held with staff for planning and monitoring activities, between COMAP, ATP and ND	PAS, IDS, Admin/Finan Specialist, ND MARENA, ARD COP
c) Preparation of the project annual AOP	AOP Document	A AOP Document prepared	4	100% comple- ted	The AOP-2003 Document is finished, revised, and approved	ND MARENA, ARD COP, PAS, IDS, Admin/Finan Specialist

Activities	Unit of Measure	Results	Project Goals	Final Achievements	Remarks on Progress	Responsible
a) Administration of Project External Consultants	Recruitment and Hiring of Consultants	Report of Activities developed  Document Design	Several	299 Meetings for revision and follow-up to Consultancies Activity not programmed numerically		ND MARENA, ARD COP, PAS, IDS, Admin/Finan Specialist
b) Participate in workshop and/or meetings related to the subject, organized by other institutions	Attendance	Activities Report and documents of the workshop and/or meeting	Several	119		ND MARENA, ARD COP, PAS, IDS, Admin/Finan Specialist
c) Follow up to the Environmental Educational Plan execution, targeted at teachers and community members	Field visits	Environment Education being developed in the PAs rural schools	18	42 There is a fulfillment of 233% in relation to the initial targets		IDS, ARD COP
Bibliographic Revision	Documents	Search and analysis of bibliographic information related to PAs.	Several	217 documents available	This was an on-going activity that allowed collecting documents to be used as reference for COMAP. A COMAP's documentation center was organized with 217 titles. This book collection was transferred to SINAP	ARD, COMAP, Technical Team
Attention to visitors who need information about the Project	Occurrence	Information provided to visitors about the Project.	Several	88 encounters providing information about COMAP	This was an ongoing activity that promoted the project	PAS, IDS, ND MARENA, Admin/Finan Specialist

ND MARENA: National Director, MARENA  
 ARD COP: Chief of Party, ARD  
 PAS: Protected Areas Specialist  
 IDS: Institutional Development Specialist  
 Admin/Finan Specialist: Administrative and Financial Specialist

**APPENDIX 3: COMAP TRAINING AND OUTREACH SUMMARY**

**Table A3.1. Training During the Life of the COMAP Project (2000-2003)<sup>1</sup>**

Protected Areas and Others beneficiaries	NGOs	Communities	Mayoralties	MARENA	COMAP	Others	Total
El Chocoyero-el Brujo	52	18	3	0	0	0	73
Isla Juan Venado	81	29	9	0	0	0	119
Estero Padre Ramos	71	21	2	0	0	0	94
Tisey-Estanzuela	47	21	3	0	0	0	71
Cerro Musún	45	14	9	0	0	0	68
Volcán Cosigüina	41	17	3	0	0	0	61
Volcán Mombacho	10	3	2	0	0	0	15
Bosawás (ALISTAR)	4	0	0	0	0	0	4
MARENA	0	0	0	93	0	0	93
COMAP	0	0	0	0	46	0	46
Others	0	0	0	0	0	62	62
<b>Total</b>	<b>351</b>	<b>123</b>	<b>31</b>	<b>93</b>	<b>46</b>	<b>62</b>	<b>706*</b>

\* At total of 59 different training events were carried out, with 236 women and 470 men participating.

**Table A3.2. Mass Media Materials Promote PAs as an Ecotourism Destination and Promote Co-management**

Material	Spanish	English	Total
1. Posters for 7 PAs	42,000		42,000
2. Flyers	259,000	126,000	385,000
3. Post Cards (vol. I and II, 14 postcards each)	56,000		56,000
4. SINAP map	1000		1,000
5. SINAP guide <sup>2</sup>	2000		2,000
6. PA visitor guides (7 guides in English /Spanish)	1000	1,000	2,000
7. COMAP brochure	1,300		1,300
8. Periodic bulletins (3 number) <sup>3</sup>	300	100	300
9. Banners (2 editions) about COMAP	2		2
10. CD with PA photographs (100 photos and music)	5		5
11. Web page <a href="http://www.apcomanejo.com">www.apcomanejo.com</a>	1	1	1
12. Permanent exhibition in six PAs	6		6
13. Backlit exhibit	1		1
14. Compilation of all legal documents related to PAs		1,000	1,000

<sup>1</sup> Training activities shown are those organized directly by COMAP. See also the full list of training activities, by subject area, number of participants, gender, and date.

<sup>2</sup> The SINAP Guide is in English and Spanish.

<sup>3</sup> One of these bulletins was prepared in both Spanish and English.

Table A3.3. COMAP's Master list of Training Events  
(to September 2003)

No.	Description	Date	# Events	PARTICIPANTS																								TOTAL Participants					
				NGOS																					Institutions			H	M	Total			
				CENADE			FUNCOD			SELVA			FIDER			FUNDENI C			LIDER			Cocibolca			Alistar						MAR ENA	COM AP	Othe rs
				A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C						
1	1 <sup>ST</sup> Meeting on Coastal Shores, Miami, Florida	October 22 –29, 2000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
2	Forestry Congress. Montelimar, Nicaragua.	November 16 & 17, 2000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
3	Ecotourism Workshop, Parks and Communities	June 12 – 16 2000	1	1	2	1	1	1	1	2	1	0	0	0	0	1	3	1	0	0	0	2	3	1	0	0	0	2	2	4	20	9	29
4	Technical exchange visit to identify cooperation opportunities in PA management in the Dominican Republic	January 21 –27, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3
5	National Forum on Payment for Environmental Services	February 8 & 9, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	5	1	6
6	Experience exchange on Co-Management in Panama	April, 16 – 21, 2001	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	2	0	8	1	9
7	Implementation of the Biological Diversity Convention in Latin America	April 2 –6, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	3	1	4
8	Workshop for identifying ecotourism activities	May 11 – 13, 2001	1	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	4	3	7
9	Probationary course in ecological education in Santa Rosa National Park in Costa Rica	June, 4 to 16, 2001	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
10	PROARCAS CAPAS Regional Workshop Montelimar, Nicaragua	June 5 – 8, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	3	3	6
11	Introduction to the making and planning of Management Plans of the Protected Areas	July 4 –6, 2001 (2) July 14, 2001 (1) February 5-8, 2002 (2)	5	3	0	0	4	0	0	4	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	6	19

No.	Description	Date	# Events	PARTICIPANTS																								TOTAL Participants					
				NGOS																					Institutions			H	M	Total			
				CENADE			FUNCOD			SELVA			FIDER			FUNDENI C			LIDER			Cocibolca			Alistar						MAR ENA	COM AP	Others
				A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C						
12	Course on Wild Areas and Protected Areas. Colorado University, USA	July 11 August 12, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
13	Course on Making Management Plans	July 15 to 20, 2001	1	1	0	0	2	0	0	2	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	2	3	8	13	9	22
14	Monitoring System for Protected Areas Training Course	July-August, 30 to 2, 2001	1	1	0	0	2	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	2	1	0	9	2	11
15	II Course for Educating Guides, Interpreters of the National Patrimony CIMAC, Leon, Nicaragua.	Sept. 17-28, 2001	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
16	Exchange on Co-Management in Protected Areas, Cahuita, Costa Rica.	October 3 - 6, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2
17	Exchange on divulging, communications and environmental education, Costa Rica	October 24 - 27, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
18	Postgraduate Course in Economy of Natural Resources and the Environment UCA, Nicaragua.	October 2001, to April 8, 2002.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
19	V Congress of the Meso-American Society for Biology and Conservation San Salvador, El Salvador	October 15 - 19, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
20	Work on Regulations of Protected Areas	October 1, 2001	1	2	0	0	2	0	1	2	0	1	2	0	1	1	0	0	0	0	0	3	0	1	0	0	0	3	0	7	22	4	26
21	Exchange on Co-Management and Co-Administration with Environmental Authorities from Belize	October 28 to November 3, 2001.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	3
22	Course / Workshop on Project Design for Natural Resources with ZOOP Methodology	November 19-21, 2001	1	1	0	0	1	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	9	1	0	10	7	17

No.	Description	Date	# Events	PARTICIPANTS																								TOTAL Participants					
				NGOS																					Institutions			H	M	Total			
				CENADE			FUNCOD			SELVA			FIDER			FUNDENI C			LIDER			Cocibolca			Alistar						MAR ENA	COM AP	Othe rs
				A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C						
23	Twentieth Training Course for the Celstun Reserve Program Yucatan, Mexico.	October 3, to December 3, 2001	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
24	Introductory Workshop on Small Business	February 6 – 7, 2002	1	1	2	0	2	0	0	1	0	0	1	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	1	3	8	8	16
25	Workshop for Participative Planning	February 20-21, 2002	1	2	1	0	0	0	0	2	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	6	11
26	Course on Cartography as a Tool in PA Planning and Management	January 28-31, 2002 April 5-7, 2002 April 16-19, 2002 May 14-16, 2002 May 29-31, 2002	6	7	0	0	4	0	0	5	1	0	6	0	0	4	2	1	0	0	0	0	0	0	0	0	0	0	0	1	30	7	37
27	Workshop on Administrative and Financial Subject Matters	May 19, 2002	1	2	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	1	0	10	3	13
28	Workshop on Tourism Organization, Attention to Clients Techniques, Preparation and Food Quality	February 27-29, 2002	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
29	Training Workshop on Services for Economic Assessment of Tourism Potential in 6 PAs	23 - 25 de April, 2002	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	1	4
30	Workshop on Administrative Management Training COMAP	May 9, 2002	1	1	0	0	1	0	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	1	4	7	8	15
31	Administrative-Financial Workshop to NGOs	May 19, 2002	1	0	6	0	5	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18	9	27

No.	Description	Date	# Events	PARTICIPANTS																								TOTAL Participants					
				NGOS																					Institutions			H	M	Total			
				CENADE			FUNCOD			SELVA			FIDER			FUNDENI C			LIDER			Cocibolca			Alistar						MAR ENA	COM AP	Others
				A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C						
32	Regional Meeting of the RAMSAR Convention, Quito, Ecuador	July 1-5, 2002	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	4	4	8
33	III Course for Guides – Interpreters for Natural Patrimony in CIMAC. Leon, Nicaragua.	July 8 – 17, 2002	1	2	0	0	2	0	0	3	0	0	2	0	0	2	0	0	2	0	1	0	0	0	0	0	0	0	3	0	11	5	16
34	Course on Cartography as a PA Planning and Management tool	July 25-30	1	0	0	0	2	0	0	2	0	0	3	0	0	2	0	0	1	0	0	0	0	0	0	0	0	10	0	0	12	8	20
35	Administrative and Financial Training, and cash flow for small businesses	July	1	0	0	0	3	2	0	9	4	0	0	0	0	0	0	0	3	2	1	0	0	0	0	0	0	1	1	0	19	7	26
36	Training on PACCIOLE Financial Management	July	1	3	0	0	2	0	0	2	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	4	4	6	16	22
37	Experience Interchange on PA Management Honduras C.A	Sept. 8-13, 2002	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	3	1	4
38	II Meso-American Congress for Biology and Conservation Costa Rica del 2002	Sept. 18-20, 2002	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	2	5
39	I <sup>st</sup> Course on Local Interpreters on Tropical Dendrology	Sept. 23 to Oct. 4	1	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	12	0	12
40	Cartography course as a tool in Planning of PA	July 25-30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	5	1	6
41	Administrative-Financing training and cash flow for micro-business	July	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
42	Training on PACCIOLE 3000 Accountant System	July	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
43	Environmental Education and Interpretation Course	October 17 & 18, 2002	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	5	7
44	Workshop on Organizational Procedures for Financial Sustainability	October 23 to 25, 2002	1	2	0	0	3	0	0	3	0	0	1	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	3	0	13	5	18
45	Training on AOP 2003 budget preparation	November 18 to 22, 2002	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	1	5

No.	Description	Date	# Events	PARTICIPANTS																								TOTAL Participants					
				NGOS																					Institutions			H	M	Total			
				CENADE			FUNCOD			SELVA			FIDER			FUNDENIC			LIDER			Cocibolca			Alistar						MAR ENA	COM AP	Others
				A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C						
46	Management of PACIOLLI 3000 Accountant System	December 20-21/02	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
47	Training on cash flow for small businesses management	December 16 al 19, 2002	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
48	Local Interpreters training course on Fauna	Nov. 11-23, 2002	1	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	11	1	12
49	Experience exchange Seminar of co managing NGOs Network	December 4 to 5, 2002	1	6	1	1	6	1	3	5	1	1	5	2	1	1	0	3	2	1	1	0	0	0	0	0	0	12	7	25	57	28	85
50	I Mesoamerican Congress for Protected Areas	March 10 to 14, 2003	1	3	1	1	3	1	1	4	0	0	2	1	1	3	1	1	4	1	1	0	0	0	0	0	0	5	4	2	24	16	40
51	Course for the formation of Tourist Service Guides in the Protected Areas of COMAP	March 31 to April 5, 2003	1	3	1	0	2	2	0	4	0	0	2	2	0	1	2	0	4	0	0	0	0	0	0	0	0	0	0	0	2	21	23
52	Environmental Hydraulic Services Evaluation Course	May 14-16, 2003 Costa Rica	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
53	Interpretative Path Planning and Construction in Protected Areas Course	May 26-30, 2003 Estelí	1	2	0	0	2	0	1	2	0	0	3	2	0	2	0	1	2	0	0	1	0	0	0	0	0	4	1	1	20	4	24
54	Strengthening workshop to the Community Funds Committee in PA Isla Juan Venado	19-20 August Leon	1	0	0	0	2	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	10	15
55	Interpretative Path Planning and Construction in Protected Areas Course	Sep 30-Oct 3, 2003, Rblanco, Matagalpa	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	2	20	5	25
56	Planning course for local development	4-9 August, CATIE Mga.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
57	Interpretative trails in protected areas	14-17 October 2003, El Viejo, Estero Padre Ramos	1	0	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	7

No.	Description	Date	# Events	PARTICIPANTS																								TOTAL Participants					
				NGOS																					Institutions			H	M	Total			
				CENADE			FUNCOD			SELVA			FIDER			FUNDENI C			LIDER			Cocibolca			Alistar						MAR ENA	COM AP	Others
				A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C						
58	Interpretative trails in protected areas	20 - 23 October 2003	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	8	2	10
59	Exchange visit between Tisey and Juan Venado	13-14 November 2003	1	0	0	0	19	0	0	0	0	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	14	17	31
TOTAL TO December 2003				52	18	3	81	29	9	71	21	2	47	21	3	45	14	9	41	17	3	10	3	2	4	0	0	93	46	62	470	236	706

**A = NGOs Officials, B = Communities – NGOs with presence in the Pas, C = Municipal Hall Officials**

**APPENDIX 4: CHANGES IN NGO FINANCIAL MANAGEMENT,  
ORGANIZATIONAL, AND TECHNICAL CAPACITY**

## 4.1 Financial Management Capacity Index

### I. Centro de Acción y Apoyo al Desarrollo Rural”, CENADE

#### Financial Management Capacity Index (July-September 2003)

Financial Management Capacity Index: 100%	Base Score	1st Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
1. Existence of Accounting Records	20.00%	5.00%	0.00%	0.00%	-15.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%
2. Internal Control:											
2.1. Operations Manual	6.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.30%
2.2. Administrative-Financial Procedures Manual											
3. Personnel	20.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	20.00%
Financial Management capacity Index	46.30%	5.00%	0.00%	0.00%	-15.00%	0.00%	0.00%	0.00%	0.00%	0.00%	36.30%

Technical visits were not made during the current quarter. Nonetheless, CENADE’s accounting system is not updated. Last quarter, USAID reviewed and conducted a financial analysis of CENADE’s accounting system between April 22 to 25, 2002. The financial review could not be properly conducted due to the following causes:

1. Lack of cooperation from the Financial Director of CENADE, Mr. Manuel Munguia, who did not provide the necessary information for this financial review;
2. Complete and necessary documentation for the financial review was not provided in a timely manner;
3. CENADE’s accounts records do not coincide with financial reports sent to ARD, or with the bank account statements;
4. Incompliance with administrative and financial regulations stipulated in the secondary agreement made with ARD, and in CENADE’s administrative and financial manuals; and
5. Lack of updated financial and accounting documentation for the credit fund.

For these reasons, CENADE maintains the same scoring of 36.30% without any progress. USAID recommended hiring an auditing firm. We hired Dunkin Arguello Firm, S.A Deloitte & Touche to evaluate internal control and administrative-financial procedures, as well as identifying eligible costs that are questioned for the project.

## 2. Fundación Nicaragüense para la Conservación y el Desarrollo, FUNCOD

### Financial Management Capacity Index (July-September 2003)

Financial Management Capacity Index: 100%	Base Score	1st Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
1. Existence of Accounting Records	30.00%	0.00%	0.00%	-5.00%	-5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	20.00%
2. Internal Control:											
2.1. Operations Manual	6.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.30%
2.2. Administrative-Financial Procedures Manual											
3. Personnel	10.20%	-10.20%	0.00%	1.80%	4.20%	4.00%	0.00%	0.00%	0.00%	0.00%	10.00%
Financial Management capacity Index	46.50%	-10.20%	0.00%	-3.20%	-0.80%	4.00%	0.00%	0.00%	0.00%	0.00%	36.30%

In the current evaluation, FUNCOD did not present any significant advances in its financial management. FUNCOD finally reimbursed the sum of C\$ 46,307.84 plus interest and value maintenance to the micro-businesses account. Funds to this account were halted by ARD on October 7 and November 20 of 2002. ARD sent a communication on June 18, 2003 informing FUNCOD of the decision to suspend the financial agreement. The closeout of the micro-business account was accomplished, and on July 31, a new account was opened, under Ruth Saavedra, PA Director, Yadira Sanchez Niño, Rep. of Las Peñitas, and Leonardo Romero, Rep of Salinas Grandes. The equipment is was transferred to MARENA-Leon's responsibility. The vehicle Ford Ranger was repaired, covering 25% of the insurance with project funds.

## 3. Asociación Somos Ecologistas en Lucha por la Vida y el Ambiente, SELVA

### Financial Management Capacity Index (July-September 2003)

Financial Management Capacity Index: 100%	Base Score	1st Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
1. Existence of Accounting Records	20.00%	15.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%	0.00%	45.00%
2. Internal Control:											
2.1. Operations Manual	0.00%	0.00%	0.00%	0.00%	2.70%	6.30%	0.00%	0.00%	0.00%	0.00%	9.00%
2.2. Administrative-Financial Procedures Manual											
3. Personnel	10.00%	-1.20%	0.00%	0.00%	-1.60%	0.00%	0.00%	0.00%	0.00%	0.00%	7.20%
Financial Management capacity Index	30.00%	13.80%	0.00%	0.00%	1.10%	16.30%	0.00%	0.00%	0.00%	0.00%	61.20%

There were no significant advances. We reviewed SELVA's accounting system and administrative-financial procedures last April 2003 and found that the information is not being entered in the Pacioli 3000 Accounting System. In May we contracted the service of a consultant to update and elaborate manuals for administrative financing procedures of the NGO. At the end of this quarter report, they have not turned in the

final consultancy. In this quarter we approved a reprogrammed financing in order to cover costs of the new environmental park station that will be built in the park ranger house.

#### 4. Fundación de Investigación y Desarrollo Rural, FIDER

##### Financial Management Capacity Index (July-September 2003)

Financial Management Capacity Index: 100%	Base Score	1st Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
1. Existence of Accounting Records	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%
2. Internal Control:											
2.1. Operations Manual	27.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	27.30%
2.2. Administrative-Financial Procedures Manual											
3. Personnel	20.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	20.00%
Financial Management capacity Index	97.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	97.30%

There was no progress during this period, since this NGO maintains its Financial Management Index. We provided training in accounting management and cash-flow elaborations for micro-businesses with representatives of the NGO, community leaders, and community members. USAID made a revision and financial analysis of the funds coming from COMAP/ARD. There was 95% compliance with the recommendations they made.

#### 4.2 Organizational and Technical Capacity Index

##### I. CENADE

COMAP carried out a final evaluation of capacity during the quarter ending September 2003, as NGO funding was scheduled to cease in November 2003. COMAP terminated funding early for CENADE and FUNCOD.

##### Organizational and Technical Capacity Index (July-September 2003)

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
1. Institutional Planning											
1.1. Strategic Plan	42.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	46.00%
1.2. Operative Plan											
2. Organizational Structure	19.00%	0.00%	0.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.00%
3. Personnel	13.00%	9.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	22.00%
Organizational Capacity Index	74.00%	13.00%	0.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	89.00%

Technical Capacity Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
Technical Capacity Index	74.00%	8.00%	-8.00%	8.00%	0.00%	2.00%	2.00%	0.00%	0.00%	0.00%	86.00%

With regard to its organizational and technical capacity, CENADE maintained the levels of the preceding period. CENADE's funding had been suspended, but they still received some direct support in the form of technical assistance and inclusion in some activities. MARENA has maintained the co-management agreement in effect.

### 3. FUNCOD

#### Organizational and Technical Capacity Index (July-September 2003)

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
<b>I. Institutional Planning</b>	28.00%	0.00%	-7.00%	0.00%	-7.00%	1.00%	-8.00%	4.00%	0.00%	-1.00%	10.00%
1.1. Strategic Plan											
1.2. Operative Plan											
2. Organizational Structure	16.00%	-2.00%	-3.00%	-2.00%	2.00%	3.00%	-2.00%	0.00%	0.00%	0.00%	12.00%
3. Personnel	8.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-13.00%	-13.00%	-12.00%	0.00%
Organizational Capacity Index	52.00%	15.00%	-10.00%	-2.00%	-5.00%	4.00%	-10.00%	4.00%	-13.00%	-13.00%	22.00%

Technical Capacity Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
Technical Capacity Index	62.00%	16.00%	-8.00%	8.00%	0.00%	3.00%	1.00%	4.50%	0.00%	0.00%	86.50%

During the last period of measurement, FUNCOD's personnel was reduced by 13.00%, since the NGO lacked an Executive Director to effectively represent the organization. MARENA terminated the Co-Management Agreement for non-compliance.

### 3. SELVA

#### Organizational and Technical Capacity Index (July-September 2003)

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
<b>I. Institutional Planning</b>	34.00%	4.00%	0.00%	0.00%	1.00%	0.00%	0.00%	1.00%	0.00%	2.00%	42.00%
1.1. Strategic Plan											
1.2. Operative Plan											
2. Organizational Structure	14.00%	0.00%	0.00%	7.00%	0.00%	-1.00%	-4.00%	0.00%	2.00%	0.00%	18.00%

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
3. Personnel	23.00%	2.00%	0.00%	-1.00%	0.00%	-6.00%	7.00%	0.00%	0.00%	0.00%	25.00%
Organizational Capacity Index	71.00%	6.00%	0.00%	6.00%	1.00%	-7.00%	3.00%	1.00%	2.00%	2.00%	85.00%
Technical Capacity Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
Technical Capacity Index	70.00%	-2.00%	0.00%	18.00%	-12.00%	5.00%	1.00%	0.00%	1.00%	2.50%	83.50%

SELVA's organizational index increased by 4 percent based on the completion of a Strategic Plan. They included gender equality in their vision and mission. SELVA's technical capacity increased by 2.5%.

#### 4. FIDER

##### Organizational and Technical Capacity Index (July-September 2003)

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
<b>I. Institutional Planning</b>	29.00%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	34.00%
1.1. Strategic Plan											
1.2. Operative Plan											
2. Organizational Structure	14.00%	0.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%
3. Personnel	23.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%
Organizational Capacity Index	66.00%	6.00%	0.00%	2.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	75.00%
Technical Capacity Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
Technical Capacity Index	68.00%	14.00%	-14.00%	-2.00%	0.00%	2.00%	2.00%	2.50%	3.00%	3.50%	75.50%

FIDER continued to prepare its Strategic Plan. It's technical capacity index increased by 3 %, for training for NGOs on subject matter related to conservation and rural development.

#### 5. FUNDENIC

##### Organizational and Technical Capacity Index (July-September 2003)

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
<b>I. Institutional Planning</b>	20.00%	9.00%	3.00%	0.00%	0.00%	0.00%	4.00%	4.00%	0.00%	0.00%	40.00%
1.1. Strategic Plan											
1.2. Operative Plan											

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
2. Organizational Structure	16.00%	3.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.00%
3. Personnel	22.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	25.00%
Organizational Capacity Index	58.00%	12.00%	3.00%	2.00%	0.00%	0.00%	4.00%	4.00%	3.00%	0.00%	86.00%
Technical Capacity Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
Technical Capacity Index	48.00%	16.00%	-6.00%	8.00%	0.00%	3.00%	3.00%	1.00%	4.00%	7.00%	84.00%

FUNDENIC's Organization Capacity Index showed no change during the final evaluation period; nonetheless, it's Technical Capacity Index increased by 7%, based on staff training throughout the period.

## 6. LIDER

### Organizational and Technical Capacity Index (July-September 2003)

Operational Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
<b>I. Institutional Planning</b>	22.00%				15.00%	1.00%	0.00%	0.00%	3.00%	0.00%	41.00%
I.1. Strategic Plan											
I.2. Operative Plan											
2. Organizational Structure	14.00%				3.00%	2.00%	0.00%	2.00%	0.00%	0.00%	21.00%
3. Personnel	22.00%				3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%
Organizational Capacity Index	58.00%				21.00%	3.00%	0.00%	2.00%	3.00%	0.00%	87.00%
Technical Capacity Analysis: 100%	Base Line Score	1st. Evaluation Score	2nd. Evaluation Score	3rd. Evaluation Score	4th. Evaluation Score	5th. Evaluation Score	6th. Evaluation Score	7th. Evaluation Score	8th. Evaluation Score	9th. Evaluation Score	Progress
Technical Capacity Index	62.00%	0.00%	0.00%	0.00%	16.00%	2.00%	0.00%	0.50%	2.00%	0.00%	82.50%

LIDER's Organizational Capacity and Technical Capacity Indices showed no change during the final evaluation period.

**APPENDIX 5: SHORT-TERM TECHNICAL ASSISTANCE ON THE COMAP PROJECT**

## Short-Term Technical Assistance on the COMAP Project

PROJECT YEAR		2000				2001				2002				2003				2004	LOE	
Consultant	Subject	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan	days												
<b>US Program Support</b>																				
Rebecca Butterfield	Senior Technical Advisor*, Project Design, M&E		■	■	■	■	■	■												60.3
Allen Turner	Senior Technical Advisor*								■	■	■	■	■	■	■	■	■	■	■	55.2
Lawrence Lechner	Natural Resource Management Specialist/Planner																■			5
Tristram Johnson	Grant Management Specialist*					■														6
Robert Morin	M&E*																			4.6
<b>Third Country National (TCN) Consultants</b>																				
Alonso Delgado Matamoros	Project Design (WCS)		■																	10
Maria Teresa (Mayte) Gomezmaqueda Yrigoyen	Ecotourism Planning Specialist										■									30
Carlos Reiche	Economic Valuation Specialist and training											■								22
Dagoberto Rivera	Institutional Strengthening and Project Design		■	■				■				■								81
<b>Locally Contracted Consultants**</b>																				
Miguel Iñiguez	Training												■							7
Carlos Reiche	NRM project design								■											6
Antonio Grijalva	Training flora												■							14
Luis Hurtado de Mendoza	PMP design					■	■	■	■	■	■	■	■							53
Janet Gutiérrez	PMP design																		■	32
José Robleto	Ecotourism planning											■	■							44
David Parra Bozzano	Ecotourism planning				■	■	■	■	■	■	■	■	■							22
Liliam Jarquin	Ecotourism and SINAP rules								■	■	■	■	■							44
Alfredo Grijalva	Protected Area Specialist												■			■			■	35
Octovio Saldaña	NRM Specialist –fauna-															■			■	30
Manuel Silva Miranda	NRM Specialist –fauna-															■				12
John Pipoly	Protected Area Specialist																		■	14
Ricardo Rueda	Protected Area Specialist												■							14
José Cáceres Díaz	NRM Specialist												■							5
Jan Karremans	Community groups facilitator																		■	6
Jorge Guillén	Micro enterpreices training													■						2
Margarita Sequeira	Documentation Specialist									■										22
<b>Locally Contracted** Consultants: Management Plans***</b>																				
Rene Pérez Torres	Technical Coordinator, Estero Padre Ramos and Cerro Musún									■	■	■	■							

PROJECT YEAR		2000				2001				2002				2003				2004	LOE	
Consultant	Subject	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan	days												
Chester Conrado Páramo	Technical Coordinator Estero Padre Ramos and Cerro Musún								■	■										
Osmar Arroliga	Ecotourism & EER for Estero Padre Ramos & Cerro Musún & Chocoyero- El Brujo								■	■										
Freddy Ramírez	EER Estero Padre Ramos								■	■										
Marlon Sotelo Reyes	EER Estero Padre Ramos								■	■										
Arnulfo Medina Fitoria	EER Estero Padre Ramos and Cerro Musún								■	■										
José Estaban Barreras	EER Estero Padre Ramos								■	■										
Enoc Castillo	Hydrogeoclimates Estero Padre Ramos and Cerro Musún								■	■										
Fernando Palma Lacayo	Cartographer Estero Padre Ramos and Cerro Musún								■	■										
Marvin Galo López	Socioeconomics Estero Padre Ramos and Cerro Musún								■	■										
José Ángel García	Cartographer Estero Padre Ramos and Cerro Musún								■	■										
Jenny García	Documentation Specialist Estero Padre Ramos and Cerro Musún								■	■										
Fabricio Díaz Santos	EER Cerro Musún								■	■										
Heydi Herrera González	EER Cerro Musún								■	■										
Alejandro Mejía	Technical Coordinator Isla Juan Venado and Tisey/Estanzuela								■	■										■
Janet Sandino	Ecology Specialist Isla Juan Venado and Tisey/Estanzuela								■	■										■
Xiomara Pérez Flores	Methodology Coordinator Isla Juan Venado and Tisey/Estanzuela Socioeconomic baseline studies								■	■										■
M. Angeles Pérez	EER Isla Juan Venado								■	■										

PROJECT YEAR		2000				2001				2002				2003				2004	LOE	
Consultant	Subject	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan	days												
Rosa Zegarra	EER Isla Juan Venado and Tisey/Estanzuela El Chocoyero– El Brujo								■									■		
Fabio Buitrago	EER Isla Juan Venado and Tisey/Estanzuela								■									■		
Manuel Silva	Hydroclimates Isla Juan Venado and Tisey/Estanzuela								■									■		
Nicolás Arroliga	GIS Isla Juan Venado and Tisey/Estanzuela								■									■		
Luis Núñez	EER Isla Juan Venado and Tisey/Estanzuela								■									■		
Orlando Lagos	EER Isla Juan Venado								■											
Hector Somarriba	GIS Isla Juan Venado and Tisey/Estanzuela								■									■		
Samir Vanegas	Isla Juan Venado								■											
Efrén Castillo	Isla Juan Venado								■											
Sergio Jarquín	Isla Juan Venado								■											
Adrián Gutiérrez	Tisey/Estanzuela																	■		
Rosario Ruiz	Tisey/Estanzuela																	■		
Jaime Incer Barquero	Technical Coordinator El Chocoyero– El Brujo								■											
Alain Meyrat	El Chocoyero– El Brujo								■											
María Dolores Monge	El Chocoyero– El Brujo								■											
Jacqueline Bonilla	El Chocoyero– El Brujo								■											
Jorge Rodríguez	El Chocoyero– El Brujo								■											
Fabio Buitrago	El Chocoyero– El Brujo								■											
Francisco Almanza	El Chocoyero– El Brujo								■											
Carlos Cisneros	Ecotourism El Chocoyero– El Brujo								■											
Victor Cedeño	Revisions (Isla Juan Venado, Estero Padre Ramos, and El Chocoyero/El Brujo)										■									22
José Robleto Guademuz	Editing (Isla Juan Venado, Estero Padre Ramos, El Chocoyero/El Brujo and Tisey Estanzuela)												■							22
Marvin Ortega	Coordinator, Socioeconomic baseline studies (5 PAs)			■	■															60
Ivania Lobo	Socioeconomic baseline studies (5 PAs)			■	■															

PROJECT YEAR		2000				2001				2002				2003				2004	LOE	
Consultant	Subject	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan	days												
Abdón Espinoza	Coordinator, Socioeconomic baseline study (Volcán Cosigüina)																			30
Slivia Marín	Socioeconomic baseline studies (Volcán Cosigüina)																			
Johanna Guitierrez	Socioeconomic baseline studies (Volcán Cosigüina)																			
Lisbeth Zúniga García	Coordinator Socioeconomic baseline studies (Tisey Estanzuela)																			22
Yadira Sánchez	Socioeconomic baseline studies (Tisey Estanzuela)																			
Xiomara Montoya	Socioeconomic baseline studies (Tisey Estanzuela)																			
Xiomara Pérez	Socioeconomic baseline studies (Tisey Estanzuela)																			

\* ARD Home Office staff

\*\* To keep costs to a minimum, all Nicaraguan (Cooperating Country National, CCN) consultants were contracted locally, without applying ARD's overhead multiplier for Biofor task orders

\*\*\* The management plan teams were contracted to deliver finished products; in most cases, levels of effort for individual consultants were not specified precisely.

## **APPENDIX 6: ADAPTIVE LEARNING THROUGH COMAP**

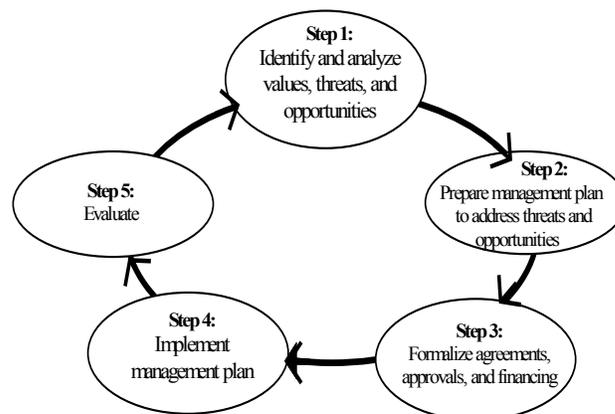
As a complex process that has had to take into account the interests of diverse stakeholders, COMAP has been a continuous learning process for all involved. The **adaptive learning cycle** provides a simple scheme for examining COMAP’s progress and better understanding what has been learned and how to apply it in the future. This is a useful tool for decision-makers who seek to move from an initial emphasis on setting up the basics—institutional arrangements and processes—to an emphasis on achieving sustainable results—how to make beneficial “changes that last.” One recent depiction of this cycle identifies five basic steps (see Figure A6.1):

- Identification and analysis of key issues and opportunities (Step 1)
- Program preparation or design (Step 2)
- Formal agreements and funding (Step 3)
- Implementation (Step 4)
- Evaluation (Step 5)

As described in recent “self-assessment” manual for a related kind of similar multi-stakeholder programs, the “cycle places the many actions of a program or project in a development sequence and helps unravel the complex interrelationships ... Experience shows that certain features must be in place for a ... program to be sustainable.... In this sense, the steps listed above provide a simplified “road map” to a complex, dynamic and adaptive process.”<sup>4</sup> The long-term nature of this process is shown in Figure A6.2. Given the relatively brief (four-year) period since COMAP began, progress was achieved mainly in the first and second order outcomes shown. As was pointed out in the March 2003 external evaluation, the time required for developing the conditions for a truly sustainable co-management is considerably greater—in fact, beyond the time frames of most USAID-funded projects. **Table A6.1** shows the results expected based on the original COMAP design. All of the original design’s explicit results were first order results, i.e., strengthening of institutional arrangements, plans, and resources. **Tables A6.2, A6.3, and A6.4** show that second and third order results were also achieved by the end of the project.

As described above, COMAP went through a significant “learning cycle” of initial analysis and planning (Steps 1 and 2) at each site, culminating in co-management agreements between MARENA and local NGO partners and funding agreements between ARD and these partners (Step 3). During the past two years, activities to support management plan implementation (Step 4) have begun. An evaluation (Step 5) was carried out in March 2003 and the final report was provided to the ARD COMAP team in August 2003.

**Figure A6.1. Steps in the Learning Cycle for Adaptive Management**



<sup>4</sup> Stephen Olsen, Kem Lowry, Jim Tobey, 1998 (draft) Coastal Management Planning and Implementation: A Manual For Self-Assessment.

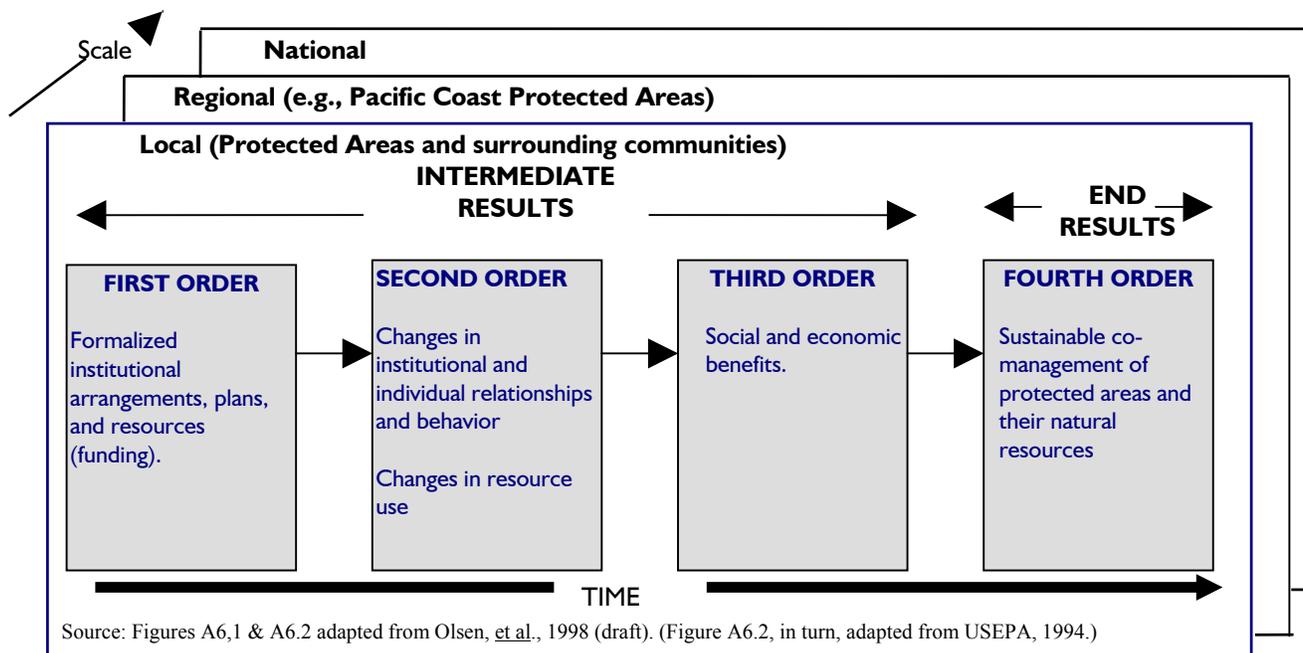
As ARD’s task order draws to a close, COMAP faces two significant changes:

- A change in USAID’s strategy, to focus more strongly on the market-led aspects of natural resource management, giving conservation less emphasis.
- A change in implementing mechanisms, aimed at reducing USAID/Nicaragua’s management burden.

For the latter, USAID will transfer implementation activities in 2004 to The Nature Conservancy for a one-year period, under an existing regional agreement managed by USAID’s regional office in Guatemala. In 2005, any continuing activities are likely to be managed under an umbrella contract that focuses on trade-led growth. In effect, these changes in strategy and implementation arrangements will move COMAP—somewhat prematurely—into another iteration of the program cycle described above. In light of these changes, a review of COMAP’s progress during this four-year iteration may provide insight for program managers—in USAID/Nicaragua, USAID/G-CAP, and The Nature Conservancy.

The co-management “benchmarks” worksheet<sup>5</sup> is a tool to help assess progress in developing management capacity. It serves as an alternate way to measure progress towards the consolidation recommended in the COMAP evaluation report. The step-wise approach complements COMAP’s present system for measuring progress through incremental increases in the number of outputs achieved. The methodology is an adaptation of that employed by the URI CRC in its 2001 review of TNC’s progress in protected areas under its Integrated Coastal Management initiative, PROARCA/Costas.<sup>6</sup> Figure A6.3 presents a checklist of results leading to improved co-management of protected areas. Table A6.5 is an example of a co-management “benchmarks” worksheet showing progress at each PA. Those “benchmarks” that have not been completed would merit attention in any follow-on projects.

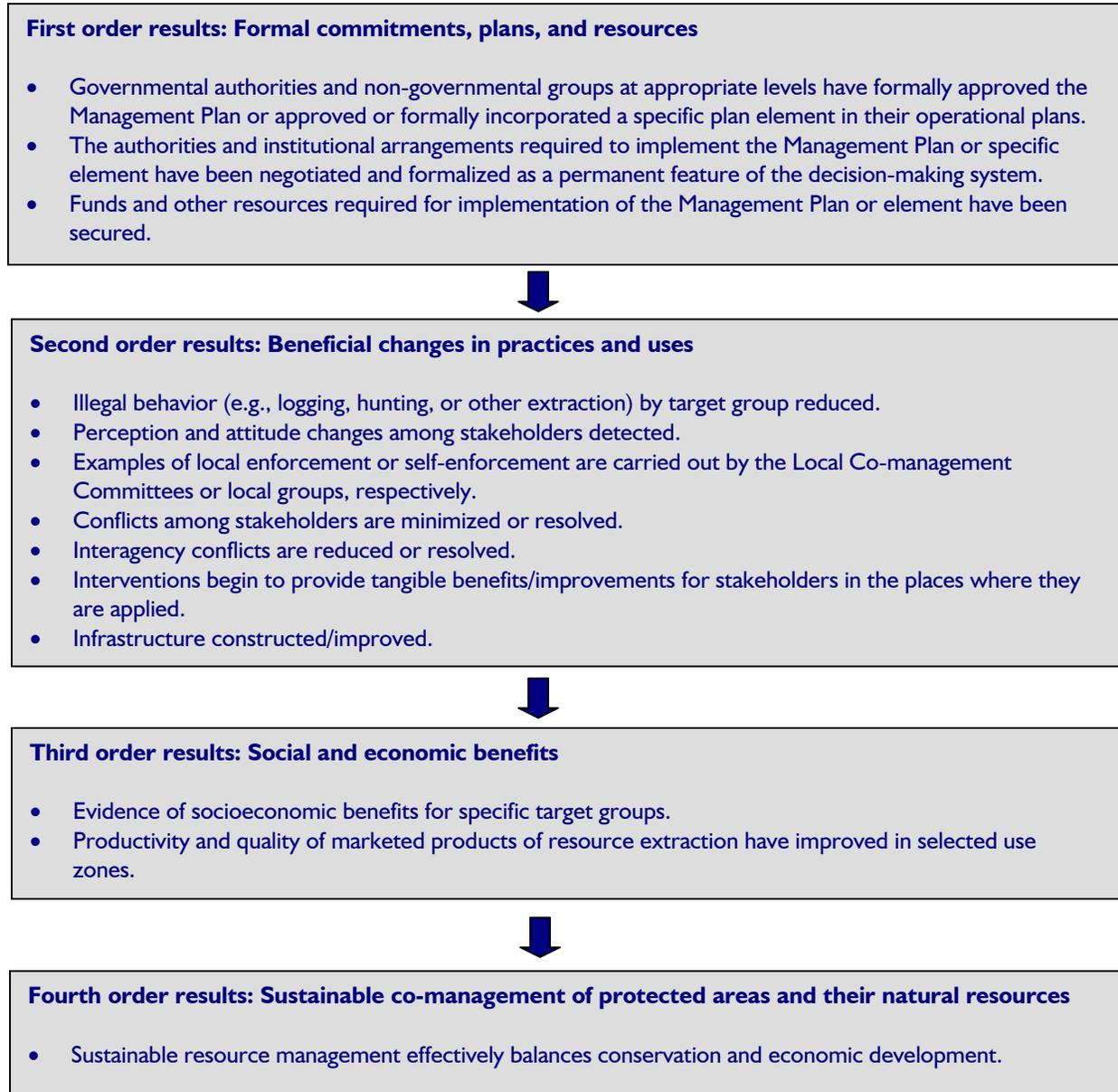
**Figure A6.2. Ordering Protected Area Management Results**



<sup>5</sup> The materials in this appendix borrow heavily from models developed to address the similarly complex issues of development in coastal areas, in particular Olsen, et al., *op. cit.* See also USAID’s Request for Proposals (RFP) No. M/OP-99-004, for Integrated Water and Coastal Resources Management.

<sup>6</sup> Emilio Ochoa, Stephen B. Olsen, Néstor Windevoxhel, 2001, *Avances del Manejo Costero Integrado en PROARCA/Costas*, Centro de Recursos Costeros de la Universidad de Rhode Island (CRC-URI), Centro Regional para el Manejo de Ecosistemas Costeros, Ecocostas.

**Figure A6.3. Progress towards Co-Management: Checklist for Results<sup>7</sup>**



<sup>7</sup> Olsen, *et al.*, *op. cit.* See also Figure 2.

**Table A6.1. Expected Results Based on the Design Document**

First Order Results: Institutional Changes	Second Order Results: Changes in Behaviors and Resource Use	Third Order Results: Environmental and Socioeconomic Benefits
<b>Result 1: Co-Management of Priority Protected Areas by the NGOs</b>		
<ul style="list-style-type: none"> <li>• Definition of priority protected areas.</li> <li>• NGO selection and formalization of agreements with MARENA.</li> <li>• Technical and institutional strengthening of NGOs</li> <li>• Execution of co-management plans</li> </ul>	<ul style="list-style-type: none"> <li>• [Implicit result:] Changes in behavior through execution of co-management plans with local stakeholders actors.</li> </ul>	<ul style="list-style-type: none"> <li>• [Implicit result:] New economic activities compatible with the management plans lead to reduction in unsustainable resource use/extraction in and around protected areas</li> </ul>
<b>Result 2: SINAP strengthened and regulated management of Protected Areas by MARENA</b>		
<ul style="list-style-type: none"> <li>• Support operations for DGAP in SINAP</li> <li>• Institutional Strengthening Plan for SINAP</li> <li>• Elaboration and publicity of regulations and procedures for SINAP</li> </ul>	<ul style="list-style-type: none"> <li>• [Implicit result:] Changes in behavior through knowledge and enforcement of regulations and procedures</li> </ul>	<ul style="list-style-type: none"> <li>• [Implicit result:] Clearer rules encourage increased investment in tourism promotion and services</li> </ul>
<b>Result 3: Local Communities participating in co-management of Protected Areas</b>		
<ul style="list-style-type: none"> <li>• Promotion, training and/or strengthening of local committees for co-management of Protected Areas.</li> <li>• Project formulation, negotiation and/or strengthening by communities with NGO support.</li> </ul>	<ul style="list-style-type: none"> <li>• Selected persons undertake new, compatible economic activities</li> </ul>	<ul style="list-style-type: none"> <li>• [Implicit result:] Increased family incomes through implementation of financially sustainable economic activities in the buffer zones</li> </ul>

**Table A6.2. Orders of Results Achieved During the Life of Task Order: Result I**

First Order Results: Institutional Changes	Second Order Results: Changes in Behaviors and Resource Use	Third Order Results: Environmental and Socioeconomic Benefits
<b>Result I: Co-Management of Priority Protected Areas by the NGOs</b>		
<ul style="list-style-type: none"> <li>• NGO financial management capacity strengthened</li> <li>• NGO technical and institutional capacity strengthened</li> <li>• Management plans prepared</li> <li>• Management plans approved by MARENA</li> <li>• Management plans publicized</li> <li>• Management plans implemented</li> <li>• Guard posts constructed</li> <li>• Visitors centers constructed</li> <li>• Permanent exhibitions set up in Visitors Centers</li> <li>• Protected area technical personnel trained</li> <li>• Technical assistance for management provided</li> <li>• Ongoing patrols in the PA</li> <li>• Park guards well-equipped with field equipment for basic management activities</li> <li>• Improved means of transportation for management and protection actions</li> <li>• Local guides trained</li> <li>• Interpretive trails identified and established</li> <li>• PA promoted and publicized</li> <li>• Public outreach materials prepared</li> <li>• Monitoring system implemented</li> <li>• Document center/library set up</li> <li>• Park boundaries well-marked and well-recognized</li> </ul>	<ul style="list-style-type: none"> <li>• Laws governing resource uses and closed seasons complied with</li> <li>• Reduced extraction of natural resources from PAs</li> <li>• Reduced use of explosives to fish</li> <li>• Scientific research on the PA's natural resources underway</li> <li>• Local people involved in management actions</li> <li>• Increased visitation of previously little-known PAs</li> <li>• Better understanding by general public of the importance of PAs and their biodiversity as natural capital for Nicaragua's socioeconomic development</li> <li>• Reduced use of pesticides in shift to organic crops on small farms</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in forest fires</li> <li>• Improved condition of natural resources and ecosystems in PAs</li> </ul>

**Table A6.3. Orders of Results Achieved During the Life of Task Order: Result 2**

First Order Results: Institutional Changes	Second Order Results: Changes in Behaviors and Resource Use	Third Order Results: Environmental and Socioeconomic Benefits
<b>Result 2: SINAP strengthened and regulated management of Protected Areas by MARENA</b>		
<ul style="list-style-type: none"> <li>• SINAP's operational capacity strengthened</li> <li>• MARENA officials trained in SINAP administrative norms and procedures</li> <li>• Other (non-MARENA) officials trained in SINAP administrative regulations and procedures</li> <li>• Publication and dissemination of laws and regulations related to PAs</li> <li>• Technical assistance provided through consultants</li> <li>• Membership and Sponsorship Program for financial sustainability established</li> <li>• Economic potential of tourism in the PAs appraised</li> <li>• PA promoted and publicized</li> <li>• PA monitoring system validated</li> <li>• Technical personnel trained abroad</li> <li>• SINAP strategy prepared</li> <li>• First Congress on Protected Areas supported</li> <li>• Interinstitutional coordination for PA management operating</li> </ul>	<ul style="list-style-type: none"> <li>• Increased awareness and common understanding of regulations and procedures has led to improved application of management norms in co-managed areas</li> <li>• Reduced authorization/approval by MARENA, MIFIC and INAFOR for extraction of resources from PAs and their buffer zones</li> <li>• Local officials from MARENA, MIFIC, INAFOR and Police Department are implementing control plans and coordinating enforcement of norms</li> <li>• Reduction in unsustainable fishing practices and illegal hunting</li> <li>• Reduced contamination of water sources</li> </ul>	<ul style="list-style-type: none"> <li>• Improved condition of natural resources and ecosystems in PAs</li> <li>• Reduction in forest fires</li> <li>• Improved water quality</li> </ul>

**Table A6.4. Orders of Results Achieved During the Life of Task Order: Result 3**

First Order Results: Institutional Changes	Second Order Results: Changes in Behaviors and Resource Use	Third Order Results: Environmental and Socioeconomic Benefits
<b>Result 3: Local Communities participating in co-management of Protected Areas</b>		
<ul style="list-style-type: none"> <li>• Local co management committee (CLC) organized</li> <li>• Local committee managing the community funds</li> <li>• Training of local leaders and youth on biological interpretation and local guides</li> </ul>	<ul style="list-style-type: none"> <li>• CLC members are making decisions locally through the co-management process</li> <li>• Increased interest in economic alternatives compatible with the PAs, such as ecotourism services</li> <li>• Reduction in unsustainable fishing and agricultural practices and illegal hunting</li> <li>• Reduced contamination of water sources</li> </ul>	<ul style="list-style-type: none"> <li>• Increased proportion of income from compatible economic alternatives for selected rural families</li> <li>• Communities better organized and accessing resources from other projects and organizations</li> <li>• Reduction in forest fires</li> <li>• Increased availability of higher quality water for community use</li> </ul>

**Table A6.5. Learning Cycle—Co-Management Benchmark Worksheet<sup>8</sup>**

Benchmark	Protected Area					
	Estero Padre Ramos	Volcán Cosigüina	Isla Juan Venado	Tisey-Estanzuela	Cerro Musún	El Chocoyero – El Brujo
<b>Stage 1: Analysis of issues and opportunities</b>						
Profiles of trends and conditions prepared:						
• The natural resource base (land, climate, etc.):	●	●	●	●	●	●
• Institutions and legal framework (local and national):	●	●	●	●	●	●
• Economic opportunities and constraints (market characteristics, linkages, and opportunities; access to capital; etc.):						
• Socioeconomic aspects (incidence of poverty, land tenure patterns, migration, gender, etc.):	⊙	⊙	⊙	⊙	⊙	⊙
Key stakeholders within government, the private sector, local and central levels, etc. identified?	●	●	●	●	●	●
Have the assessments been reviewed for technical quality?	●	●	●	●	●	●
Have the specific issues and opportunities for program investment been identified and selected?	⊙	⊙	⊙	⊙	⊙	⊙
Are the major short and long-term social and institutional implications of addressing these issues understood?	○	○	○	○	○	○
Have the objectives for each program intervention area been identified?	⊙	⊙	⊙	⊙	⊙	⊙
<b>Stage 2: Program design (redesign)</b>						
Has appropriate research/analysis on key issues been carried out?	⊙	○	○	○	○	○
Has information on baseline conditions been compiled against which the impacts of program implementation can be evaluated?	⊙	⊙	⊙	⊙	⊙	⊙
Has a plan been prepared which clearly identifies the strategies, objectives, and activities for the program investments in each opportunity/issue area?	●	●	●	●	●	●
Has the rationale underlying each intervention been clearly defined?	⊙	⊙	⊙	⊙	⊙	⊙
Have a core of key stakeholders participated in preparing the plan?	⊙	⊙	⊙	⊙	⊙	⊙
Are the institutional structure and procedures for management well defined?	⊙	●	⊙	⊙	⊙	⊙
Has a training program been developed for public and private sector institutions responsible for the implementation of each approach/methodology?	⊙	⊙	⊙	⊙	⊙	⊙
Have the costs of program implementation been realistically estimated and financing sources identified sustaining essential activities after donor financing ends?	○	○	○	○	○	○
Is the public well informed of the issues and opportunities being addressed?	⊙	⊙	⊙	⊙	○	○
<b>Stage 3: Formal agreement and funding</b>						
Have appropriate authorities and non-governmental groups formally approved the Management Plan?	●	○	○	●	●	○
Have the responsibilities of collaborating institutions and jurisdictions for implementation been specified?	●	●	●	●	●	⊙
Have the proposed implementors accepted the policies, objectives, and implementing mechanisms of the Management Plan?	⊙	⊙	⊙	⊙	⊙	○
Has needed funding been secured from private, government, or external sources?	⊙	⊙	⊙	⊙	○	⊙

<sup>8</sup> Adapted from Stephen Olsen, Kem Lowry, Jim Tobey, 1998 (draft) “Coastal Management Planning and Implementation: A Manual For Self-Assessment.”

● Yes

⊙ Partially

○ No, or not yet

Benchmark	Protected Area					
	Estero Padre Ramos	Volcán Cosigüina	Isla Juan Venado	Tisey-Estanzuela	Cerro Musún	El Chocoyero – El Brujo
<b>Stage 4: Implementation</b>						
Are modifications to the objectives and basic strategies of each program intervention/ innovation being made as needed?	○	○	○	⊙	○	○
Is technical data being gathered and used to inform management decisions?	⊙	⊙	⊙	⊙	○	⊙
Are staff of the various stakeholder organizations committed to achieving the objectives?	⊙	⊙	⊙	⊙	⊙	⊙
Do NGO staff actively support the strategies by which the objectives are to be achieved?	●	●	NA	●	⊙	⊙
Do co-management partner NGO organization and staff capabilities match program needs?	●	●	NA	●	⊙	⊙
Are NGO and employee performance assessed annually?	●	●	NA	●	●	●
Do budget processes, financial accounting and controls, and tracking mechanisms function effectively?	●	●	NA	●	●	●
Has the program monitoring plan been prepared and is it being executed?	⊙	⊙	○	⊙	⊙	⊙
Does the program have political support?	●	●	●	●	●	●
Are decision-making procedures known to stakeholders and the public? Are the reasons for decisions transparent?	⊙	⊙	○	⊙	⊙	⊙
Do major stakeholders actively participate in program implementation?	⊙	⊙	⊙	⊙	⊙	⊙
Are mechanisms for inter-agency coordination effective?	⊙	⊙	⊙	⊙	⊙	⊙
Are conflict resolution mechanisms being applied successfully?	⊙	⊙	⊙	⊙	⊙	⊙
Is necessary infrastructure being constructed and/or maintained?	●	●	●	●	●	●
Have the costs of program implementation been realistically estimated and the sources of such finances identified?	○	○	○	○	○	○
Have funds and other resources required for implementation been secured?	⊙	⊙	⊙	⊙	⊙	⊙
Are the steps in the adoption process for each intervention defined? Is a realistic strategy for carrying out these steps in place?	○	⊙	○	⊙	○	⊙
<b>Stage 5: Evaluation (begins another cycle)</b>						
Were external program evaluations conducted at major junctures in the project's evolution?	●	●	●	●	●	●
Do periodic self-assessments promote learning and adaptation?	●	●	⊙	●	⊙	⊙

**APPENDIX 7: REPORTS AND OTHER PRODUCTS UNDER THE COMAP TASK ORDER**

Author(s)	Date/Period	Title	Result I, II or III
Osmar Iván Arroliga Pérez, Octavio Saldaña, Manuel Silva Miranda, Carlos Cisneros	November 2002	<i>Formación de Interpretes Locales en Turística Fauna Silvestre</i>	III
Rebecca Butterfield, Carlos Rivas Almonte, Dagoberto Rivera; and Alfonso Matamoros	2000	COMAP Project Design ( <i>Diseño del Proyecto – Comanejo de Áreas Protegidas</i> )	I
José Cáceres Díaz	August 2002	<i>Taller de Monitoreo para Tortugas Marinas y preparación de Manual Básico para la Conservación y Manejo de Tortugas</i>	III
Victor Cedeño	2002	Revisions to Management Plans for: <ul style="list-style-type: none"> <li>• El Chocoyero –El Brujo PA</li> <li>• Isla Juan Venado PA</li> <li>• Estero Padre Ramos PA</li> </ul>	I
CENADE	August 2002  December 2003	Management Plan for El Chocoyero El Brujo Protected Area ( <i>Plan de Manejo de la Reserva Natural Chocoyero El Brujo</i> ) – Hard copy, Executive Summary extract, and CD  <i>Informe Final del Proyecto “Implementacion de un Modelo de Comanejo en El Chocoyero/El Brujo con la Participación de Actores Locales y Fomento de Alternativas Economicas en la Zona de Amortiguamiento</i>	I  I
Deloitte and Touche	August 2003	Audit of the Sub-project “Implementation of a Co-Administration Model in El Chocoyero/El Brujo with the Participation of Local Inhabitants and the Promotion of Economical Alternatives in the Protected Area,” executed with funds from ARD and managed by Ceentro de Acción y Apoyo al Desarrollo Rural (CENADE) for the period from December 15, 2000 to July 23, 2003	I
Abdón Espinoza, Silvia Marín, Johanna Gutiérrez	September 2002	Socioeconomic Baseline Study on: <ul style="list-style-type: none"> <li>• A.P. Volcán Cosigüina</li> </ul>	I
FIDER	May 2003  November 2003	Management Plan for Tisey Estanzuela Protected Area ( <i>Plan de Manejo de la Reserva Natural for Tisey Estanzuela</i> ) – Hard copy, Executive Summary extract, and CD  <i>Informe Final – Proyecto Comanejo del Área Protegida Tisey-La Estanzuela</i>	I  I
FUNCOD	June 2002	Management Plan for the Isla Juan Venado Protected Area ( <i>Plan de Manejo de la Reserva Natural Isla Juan Venado</i> ) – Hard copy, Executive Summary extract, and CD	I
FUNDENIC –SOS	August 2003	Management Plan for the Cerro Musún Protected Area ( <i>Plan de Manejo de la Reserva Natural Cerro Musún</i> ) – Hard copy, Executive Summary extract, and CD	I
Mayté Gomezmaqueda Irigoyen	April 2002	<i>Estrategia de Promoción Turística en Seis Áreas Protegidas Bajo Modelo de Comanejo (Tisey-Extanzuela, Cerro Musún, El Chocoyero-El Brujo, Isla Jaun Venado, Volcán Cosigüina y Estero Padre Ramos)</i>	II
Alfredo Grijalva, John Pipoly, and Ricardo Rueda	November 2002	<i>Primer curso para la Formación de Interpretes Locales en Áreas Protegidas</i>	III
Alfredo Grijalva and Raquel Quezada	April 2003	<i>Formación de Guías Locales de Atención turística en APs</i>	III
Janet Gutiérrez	December 2003	<i>Diseño Entidad Administradora del PMP:</i> <ul style="list-style-type: none"> <li>• <i>Informe Final</i></li> </ul>	II

Author(s)	Date/Period	Title	Result I, II or III
		<ul style="list-style-type: none"> <li>Estrategia de Desarrollo Organizativo</li> <li>Manual de Manejo de Fondo</li> <li>Manual Administrativo</li> </ul>	
Luis Hurtado de Mendoza	March 2001	Diseño - Programa de Membresía y Patrocinio Del Sistema Nacional de Áreas Protegidas( PMP-SINAP)	II
	October 2001	Addendum - Programa de Membresía y Patrocinio Del Sistema Nacional de Áreas Protegidas( PMP-SINAP)	II
ITZTANI (Instituto de Investigación) Marvin Ortega, Ivania Lobo, Xiomara Pérez	December 2000	Socioeconomic Baseline Studies on: <ul style="list-style-type: none"> <li>A.P. Cerro Musún</li> <li>A.P. Isla Juan Venado</li> <li>A.P. Estero Padre Ramos</li> <li>A.P. El Chocoyero/El Brujo</li> <li>A.P. Volcán Madera</li> <li>A.P. Playa La Flor</li> </ul>	I
Liliam Jarquin	2002	Elaboración Normas actividades turísticas en APs: Resolución Ministerial <ul style="list-style-type: none"> <li>Requisitos y procedimientos administrativos par la presentación de servicios turísticos en las APs del SINAP.</li> <li>Criterios, requisitos y procedimientos administrativos de la planificación física para el desarrollo del turismo sostenible en las APs del SINAP.</li> <li>Regulaciones para el otorgamiento del permiso ambiental en las APs del SINAP</li> </ul>	II
Lawrence Lechner	June 2003	Preliminary Review of Recreational and Tourism Potential, especially related to trail development at Reserva Natural Estero Padre Ramos, Reserva Natural El Chocoyero/El Brujo and Reserva Natural Volcán Cosigüina.	III
LIDER	November 2003	Informe Final – Proyecto Manejo Participativo Área Protegida Volcán Cosigüina	I
David Parra Bozzano	October 2000	Formulación de normas para el Desarrollo del Turismo Sostenible en las Áreas Protegidas	II
Carlos Reiche	April 2002	Valoración Económica del Potencial Turístico de Seis Áreas Protegidas Bajo Modelo de Comanejo (Tisey-Extanzuela, Cerro Musún, El Chocoyero-El Brujo, Isla Jaun Venado, Volcán Cosigüina y Estero Padre Ramos)	II
Carlos Rivas Almonte	2000-2003	4 Annual Operation Plans for Co-management of Protected Areas (Plan Operative Annual – Proyecto Comanejo de Áreas Protegidas)	I
	2000-2004	15 Quarterly Reports (Tercer Informe Trimestral)	I
	December 2002	Memoria del Seminario: El Modelo de Comanejo de Áreas Protegidas: Las Experiencias del COMAP en Nicaragua	I
Dagoberto Rivera	2000	Baseline institutional capacity studies for 6 NGOs	I
	2002	COMAP Feedback Workshop Report	I
José Robleto Guadamuz	2002	Editions to Management Plans for: <ul style="list-style-type: none"> <li>El Chocoyero –El Brujo PA</li> <li>Isla Juan Venado PA</li> <li>Tisey Estanzuela PA</li> <li>Estero Padre Ramos PA</li> </ul>	I
	2002	Estudio información primaria y secundaria para valoración económica potencial turístico en 6 APs	II
SELVA	June 2002	Management Plan for Estero Padre Ramos Protected Area (Plan de Manejo de la Reserva Natural Estero Padre	I

Author(s)	Date/Period	Title	Result I, II or III
	September 2003	<i>Ramos)</i> – Hard copy, Executive Summary extract, and CD <i>Escenario Optimo para el Sistema de Monitoreo de Áreas Protegidas</i>	I
	November 2003	<i>Informe Final – Proyecto Comanejo del Área Portegida Reserva Natural “Estero Padre Ramos”</i>	
Lizeth Zúñiga García	September 2001	Socioeconomic Baseline Study on: • A.P. Tisey Estanzuela	I

**APPENDIX 8: COMAP COLLABORATION WITH OTHER PROJECTS AND ORGANIZATIONS TO STRENGTHEN CO-MANAGEMENT**

Subject or Issue Area	Project or Organization	Donor or Funding Source	Activity or Support Provided
Management Plans	POSAF	IDB	Complementary funding for the Tisey-Estanzuela PA Management Plan
	PROARCA/Costas	USAID, WWF	Complementary funding for the Estero Padre Ramos PA Management Plan
	Proarca/APM	USAID/TNC	Funded the Rapid Ecological Evaluation Studies Management Plan for the Volcán Cosigüina PA
	Wildlife Conservation Society		Training on preparation of management plans
Ecotourism	INTUR		Training for local tour guides and visitor education
	Biodiversity Support Program	USAID	Training in ecotourism for local community guides and NGO technicians supported by COMAP
Community Tourism	Comarca Tur		Training, technical assistance and publicity
Tourism Promotion	CANTUR, La Prensa, Nuevo Diarios, Telenica Canal 8, Canal 12, Canal 2, Canal 10		Publicity through written and television mass media on the existence and importance of COMAP protected areas. CANTUR promotes visits to the PAs
Production of Promotional Material	USDA/Forest Service	USAID PASA	Posters, flyers, visitor's guides, SINAP map, postcards
Land for construction of Park Ranger Stations	El Viejo City Hall	Municipal donation	Land donation for park ranger station in the Estero Padre Ramos PA
	Subtiava Indigenous Community MEDA Leon City Hall	Community and Municipal donations	Land donation for the park ranger station in the Isla Juan Venado PA in Las Peñitas Sector. Leon's City Hall donated land in the Salinas Grandes Sector of the same PA for a control post
	Mr. Jorge Weimer Rio Blanco City Hall	Private and Municipal donations	Land for the park ranger station in Cerro Musún PA
	Mr. Walter Ortega	Private donation	Land donation for the park ranger station in Volcán Cosigüina PA
	Mr. Feliciano Ramirez Mr. Santos Murillo Mr. Pedro Ramirez	Private donation	Land donation for the park ranger station in the Tisey-Estanzuela PA
	Agricultural Cooperative "Juan Ramón Rodríguez"	Private donation	Land donation for the visitors' center and park ranger station in El Chocoyero- El Brujo
Sign posting	USDA/Forest Service	USAID PASA	Design for system of signs on roads for access to the PAs
Demarcation of PAs	PRODEP	World Bank	Landmarks for Estero Padre Ramos and Volcán Cosigüina PAs (activity in progress)
Water well construction	CARE	USAID	Labor and machinery in Volcán Cosigüina PA
Equipment	CLUSA	USAID	Beds, mattresses, desks and chairs for park ranger station
	USDA Forest Service	USAID PASA	Compasses, GPS, backpacks, water bags, lifejackets, measuring tapes, binoculars
Communications	Mitch Program	USAID	Portable and fixed unit radios
Training and interpretive nature trails	University of Colorado and USDA Forest Service	USAID PASA	Personnel training; construction of interpretative nature trails
	NFWF	USAID	Training, publicity, construction of viewpoint and interpretive trail in El Chocoyero-El Brujo
Training	Fairchild Tropical Garden	Private donation	Training of local interpreters in botanical taxonomy
	UCA AND UNAN		Training in botanical and biological taxonomy, water monitoring in Estero Padre Ramos
Improved management of cacao	CLUSA PASOLAC ??	USDA	Technical assistance and training
Shrimp certification	MIFIC, Camanica, Mag-For		Technical assistance for certification of cleaner production
TA & Training	US Peace Corps	US Peace Corps	Technical assistance and training for communities
Road Improvement	IDR		Road improvement in Volcán Cosigüina area and Cerro Musún in Rio Blanco (activity in progress)
Reforestation, Ecological Campaigns	Save the Children	USDA	Volcán Cosigüina and Isla Juan Venado
NGO Strengthening	DEA	GTZ	Institutional Strengthening for the NGOs LIDER and SELVA
Membership and Sponsorship Program	MARENA and COSEP	Private donation, GTZ, & Spanish Cooperation	Technical assistance and equipment for the program's administrative unit
Wildlife management	Fauna and Flora International		Training
Project start-up	IICA	USAID	Office space and logistic support for 6 months

**APPENDIX 9: INFRASTRUCTURE AND EQUIPMENT BY PROTECTED AREAS**

**Table A9.1. Inventory Tracking (Vehicles, Boats, Electronic Equipment)**

Description	Quantity for each organization								Purchaser
	MARENA/ SINAP	MARENA/ Isla Juan Venado	FUNDENI C/ Cerro Musún	FIDER/ Tisey/ Estanzuela	CENADE/ Chocoyero -El Brujo	SELVA/ Estero Padre Ramos	LIDER/ Volcán Cosigüina	COMAP Office	
Boat	1 (& trailer	1				1			ARD
Motor Mariner	1 25 HP, 1 75HP	1 25 HP				1 25 HP			ARD
Vehicles	1			1	1	1	1	4	ARD
Computers and accessories (printers, monitors, etc.)	4 (2 laptops	1	1	1	1	2	1	5* (1 laptop)	ARD
Photocopier	1							1	ARD
Fire Fighting Equipment and accessories	4								ARD
Digital Camera and accessories	1							1	ARD
UPS Batteries	2	1	1	1	1	2	1	8	ARD
Surge Protectors	2								ARD
White Acrylic Board	1		1	2					ARD
Compass	1								ARD
Projector	1							1	ARD
Binding Machine	1								ARD
Portable Screen	1								ARD
Fax Machine		1	1			1	1	1	ARD
Wellpump							1		ARD
Solar Energy System for Ranger Stations, with accessories			1				1		ARD
Phones	2 cellular	1 cell (lost)						7 (1 cell)	ARD
AC Voltage Regulators			1					7	ARD
Radio Equipment	1	6	6	6	6	5	5	0	ARD
Flip chart			1	1		1			ARD
Ranger Station building		1	1	1		1	1		ARD
Visitor Center building		1	1	1	1	1	1		ARD
Natural History Interpretive Post			1	1	1		1		ARD
Nursery							1		ARD
Radio Equipment and accessories (panels, batt)		3	3	2		2	3	4	USAID/PASA
Antenna Equipment (Tuner,Base,Dipole)		1	1	1		1	1		USAID/PASA
UPS (Energy Controller)		1	1	1	1	1	1		USAID/PASA
GPS and accessories		1	1	1	1	1	1		USAID/PASA
Compass (Silva Ranger)		2 (1 lost)	2	2	2	2	1		USAID/PASA
Cargador de Cuero		2	2	2	2	2	2		USAID/PASA
Cargador de Tela		2	2	2	2	2	1		USAID/PASA
Binoculars (10x42)	1	1	1	2	2	1	1		USAID/PASA/1 by ARD
Night vision binoculars		1				1			USAID/PASA
100-meter tape measure		2	2	2	2	1	2		USAID/PASA
Life preservers		12				12			USAID/PASA
First Aid kits (w/ snakebite kit)		2	2	2	2	2	1		USAID/PASA
Extra-durable canteens		2	2	2	2	2	2		USAID/PASA
Backpack		4	3	3	4	4	3		USAID/PASA
Camping equipment (tents, nets, mats, etc.)	1 (lost)	3	3	3	3	3	2		ARD
Typewriters								1	ARD

\* Includes a CD burner and 3 additional monitors

\*\* Furniture was provided at all sites, including desks or workstations, chairs, file cabinets. Wooden bunk beds were provided for all PAs except Chocoyero. Additionally, Volcán Cosigüina was provided with mattresses, a gas stove, and a fan; and Cerro Musún was provided with a fan and gas stove.

**APPENDIX 10: MAPS OF THE SIX PROTECTED AREAS**

Figure A10.1. Cerro Musún



Figure A10.2. Chocoyero-El Brujo



Figure A10.3. Estero Padre Ramos



Figure A10.4. Isla Juan Venado



Figure A10.5. Tisey-Estanzuela

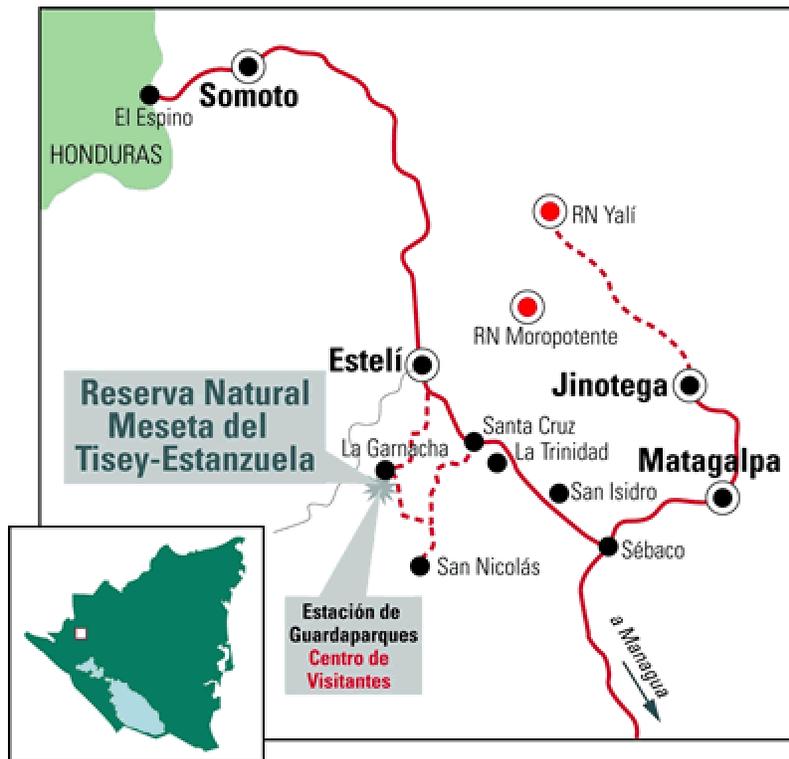


Figure A10.6. Volcán Cosigüina

