Program Assessment of the Regional Environmental Program (PROARCA-II)

Final Report

Prepared for USAID/G-CAP
Guatemala City

Jan Post, Development Alternatives, Inc.
Richard Worden, Abt Associates

April 2004

Development *Alternatives,* Inc.
7250 Woodmont Avenue, Suite 200, Bethesda, Maryland 20814
Tel: (301) 718-8699 Fax: (301) 718-7968 Email: info@dai.com

TABLE OF CONTENTS

ACRONYMS

AID	Agency for International Development
ALIDES	Alianza para el Desarrollo Sostenible
ANDAH	Asociación Nacional de Acuicultores Hondureños (Honduran Association of Shrimp Farmers)
ARD	Associates in Rural Development, Inc.
AT	Asistencia Técnica
BM	Banco Mundial (World Bank)
BMP	Best Management Practices
BSP	Biodiversity Support Program
CAMTUR-FEDECATUR	Camara de Turismo de Guatemala-Federación de Camaras de Turismo
CAPAS	PROARCA Component (Central American Protected Area System)
CARICOMP	Caribbean Common Market Programme
CBO	Community-based Organization
CCAD	Comisión Centroamericana de Ambiente y Desarrollo
CCAD/DGMA	CCAD/ Dirección General de Medio Ambiente
CHF	Cooperative Housing Foundation
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
COCATRAM	Comisión Centroamericana de Autoridades Marítimas
CODDEFFAGOLF	Comité para la Defensa y Desarrollo de la Flora y Fauna del Golfo de Honduras
CONCAUSA	Declaración Conjunta Centroamérica-USA
Costas	PROARCA Component (Coastal Zone Management)
EPA	Environmental Protection Agency
FUNDAECO	Fundación para el Ecodesarrollo y la Conservación
GEF	Global Environment Facility
GIS	Geographic Information System
INAB	Instituto Nacional de Bosques – Guatemala (Guatemalan National Forestry Institute)
IRG	International Resources Group
LEPPI	Local Environmental Policy and Programs Initiative
MARPOL	International Convention on the Prevention of Pollution from Ships
NASA	National Aeronautics and Space Administration
NGO	Non-governmental Organization
NOAA	National Oceanographic and Atmospheric Administration
PASA	Project Assistance Service Agreement
PCU	Project Coordinating Unit
PROARCA	Proyecto Ambiental Regional Centroamericano
PROBIO	Programa de Biodiversidad
PROGOLFO	Proyecto de Planificación y Manejo Inte

PROLEGIS	Programa de Armonización y Aplicación de Legislación
PROMAR	Fundación para la Protección del Mar
PVO	Private Voluntary Organization
Ramsar	International Convention on Wetlands of International Importance
REA	Rapid Ecological Assessments
RENARM	Regional Natural Resource Management Project
RSMAS	Rosensteil School of Marine and Atmospheric Sciences
RSTA	Regional Site Technical Advisor
SAM	Sistema Arrecifal Mesoamericano
SE-CCAD	Secretaria Ejecutiva, Comisión Centroamericana de Ambiente y Desarrollo
SICA	Sistema de Integración Centroamericano
SO	Strategic Objective
TIDE	Toledo Institute for Development and Environment
TNC	The Nature Conservancy
UICN	Unión Internacional para la Conservación para la Naturaleza
UNEP-CEP	U.N. Environmental Program-Caribbean Environmental Programme
URI-CRC	University of Rhode Island Coastal Resources Center
USAID/G-CAP	Regional Program of the U.S. Agency for International Development in Central America and Panama
USEPA	United States Environmental Protection Agency
WWF	Worldwide Fund for Nature

EXECUTIVE SUMMARY

In 2001, USAID funded the continuation of the Central America Regional Environmental Program (PROARCA-II) that is scheduled to end in 2006. It succeeds two earlier Regional Programs: RENARM that was implemented from 1990 through 1995; and PROARCA –I, which ran from 1996 until 2001. This report presents the findings of a mid-term assessment of PROARCA II, conducted by a team of consultants in January and February of 2004, with assistance provided by USAID Regional and Washington based staff.

PROARCA's Strategic Objective is to achieve the improved protection and management of the Mesoamerican Biological Corridor through four Intermediate Results (IRs) that were the focus of this assessment. The four IRs are:

- IR 1: Promoting the sustainable management of protected areas in key sites that are part of the Mesoamerican Biological Corridor (MBC);

- IR 2: Promoting regionally environmentally sound products and services.

- IR 3: Enhancing compliance with harmonized environmental standards and regulations;

- IR 4. Fostering the increased use of less-polluting technologies.

A review of the evaluations of the predecessor programs to PROARCA II showed that many of the conclusions and recommendations made about RENARM and PROARCA-I held true for the current PROARCA-II assessment as well. Specifically:

- "The analytical parameters used at present to evaluate progress under each component are not sufficient to evaluate impact." Field observations confirmed that the number and kind of papers produced, alliances formed, and workshops held are not an adequate indicator for success on the ground. There is a lack of physical indicators in the PROARCA program, mostly regarding IR 1 (Sustainable Management of Protected Areas within the MBC).

- The lack of coordination among the various implementing partners (both within implementing NGO teams and among partners implementing the various IRs) has resulted in a failure to achieve the level of impact envisioned in the stated Strategic Objective.

PROARCA-II usually makes relatively small contributions to ongoing programs funded by many donors, which makes it almost impossible to attribute advancements directly to PROARCA-II. This is exacerbated by the fact that many of the interlocutors do not distinguish between activities funded under PROARCA-I and those activities we were asked to examine in assessing the impact of PROARCA-II

The absence of demonstrated *transboundary* impact on the ground also makes it difficult to demonstrate to the bilateral USAID Missions PROARCA's "added value" as a regional

program, an observation pointedly made during interviews with the leadership of several bilateral Missions in the region. As both the PROARCA I evaluation and this evaluation have noted, activities implemented under PROARCA-II are too dispersed and are not focused on the threats that occur across a continuum of land uses (i.e., the Protected Area with adjacent buffer zone, agricultural lands and urban development). As one respondent characterized the program: "There are many points of light but no illumination." We therefore recommend the following:

- Focusing efforts and more substantial funding on a few winners would do more towards the success of the program. No single organization receives more than 20 percent of its budget from PROARCA II and for many it is less than 5 percent.

- There is still a lack of coherence between the regional program and the bilateral USAID missions. Coordination and information sharing needs to be improved through formation of a USAID oversight group consisting of the environmental officers from each mission

- There is little evidence of joint programming as currently managed by the lead institution, leaving PROARCA II to function more as three self-standing independent contractual arrangements. The lead institution responsible for implementation should pay more attention to the management requirements of the NGO Team to ensure integration and coordination.

- However, the complexity of dealing with nine partners across four IRs, spanning seven countries and more than 100 collaborating organizations is an almost insurmountable obstacle for achieving coordination. This results in excessively high transaction costs for activities under PROARCA. As a result, the proportion of funds that ultimately make it to the site are very small. Assessing this proportion proved impossible to determine as the accounting system does not permit the disaggregation of what percentage of the expenses actually reach the target areas for activities on the ground. Some indication can be gleaned from Annex 3, Who's Who in PROARCA]

- USAID Project staff should help the implementing partners to critically assess their annual work plans and activities to reduce transaction costs. Possible areas to examine include use of various business internet technologies to facilitate communication and coordination, as well as restructuring the annual "round-up" meeting to become more of a forum for interchange of ideas, problem solving and sharing experiences and lessons learned, and seeking opportunities to better coordinate and leverage resources among the various partners and missions.

CCAD was created in 1989 as part of the CONCAUSA Agreement signed between the U.S. and the Central American governments to create a "regimen of regional cooperation for the optimal and rational utilization of the natural resources of the area, to control environmental contamination, and to establish ecological equilibrium to guarantee a better quality of life for the population of the Central American isthmus."[1] As such, CCAD was charged with directing and administering the regional portfolio of international donor environmental

[1] Capital I, Article 17 of the Constitutional Convention of CCAD, Costa Rica. December 12, 1989.

programs in its enabling legislation in order to "promote the coordinated action of the governmental entities, NGOs and international organizations."[2] A large number of foreign donors who are investing in managing protected areas in Central America, including USAID's PROARCA project, therefore fall within the jurisdiction of CCAD's enabling function to harmonize and rationalize such regional donor programs and projects.

Thus, with respect to the possible reduction of CCAD's operational role within the PROARCA project, especially regarding the selection of sites and consultation on annual work plans, this is a role legally established to CCAD by Capital VI, Article 17 of its Constitution, which cannot be abrogated unilaterally by PROARCA project staff without first consulting USAID's legal counsel. While there has been little evidence that CCAD has been effective in this important role over the past year, which has resulted in excessively lengthy and cumbersome operational processes for the PROARCA project, it is hoped that recent management changes in CCAD will remedy this situation quickly. However, USAID could consider a reduction in the operational role of CCAD within PROARCA's future implementation by consulting with CCAD during the process of developing annual work plans and selecting project sites for PROARCA activities, but not making those decisions contingent upon receiving CCAD's prior "approval" if adequate review and comment time has been given to receive and incorporate their input

INTERMEDIATE RESULT ONE—SUSTAINABLE MANAGEMENT OF PROTECTED AREAS

In assessing IR 1, a fundamental discrepancy developed between how the assessment team and TNC think objective 1 (the establishment of a self sustaining system of Protected Areas) can be successfully achieved. TNC proposes to achieve this through "focusing on site planning, monitoring, innovative management models, revenue generation, financial planning and marketing." These have been the focal areas since TNC first became involved in the PROARCA program. Although all these items are undoubtedly important in protected area management, they are in our opinion by themselves not sufficient in reaching the objective. We recommend that TNC focus on key areas and initiate "next steps" in order to achieve on-the-ground conservation results, before moving to the next location and repeating the same initial steps.

TNC, has largely been successful in implementing its work plan thus far, raising awareness, forging alliances, creating and training entities for management, drafting management and financial plans, strategies carrying out studies etc. However, TNC will not, in our opinion, achieve or made sufficient progress toward the stated goal by the end of PROARCA-II if it continues to produce more of what it has thus far. In other words people have been taught everything about fishing, but have no hope of getting a fishing boat, petrol or nets. What is missing in IR 1 is effective management and investment on the ground. The problem is therefore not so much with the performance of TNC in carrying out its work plan, but in the way TNC has proposed to achieve the objective. **USAID should attempt to renegotiate the scope of work to better achieve its current objectives.**

[2] Capital I, Article 2 of the Constitutional Convention of CCAD, Costa Rica. December 12, 1989

Although many of the project documents examined contained information of limited practical use, what has been achieved by TNC to date still constitutes an important and largely successful first phase in PROARCA-II. However, is now time to move beyond these kinds of activities and aim to achieve practical results. Consequently, the emphasis of this assessment is on providing recommendations for the remainder of PROARCA-II funding period (through 2006).

At the moment there is little likelihood that any of the protected areas will become self-financing before the end of PROARCA II. The financial plans reviewed here had little more to offer to achieve financial sustainability than a list of potential donors. Money spent on administration, logistics, and an excessive number of studies, plans and workshops might have been better used to construct a trust fund or (better still) an endowment for the longer term benefit of the MBC. Supporting trust funds or endowments seem well within the financial capability of PROARCA, as the best run area (and the largest) we saw would have their operating expenses covered to perpetuity by an endowment of US$2 million. (Port Honduras, managed by TIDE) In its original proposal, TNC stated that it would help with setting up trust funds. We could find no evidence of this.

PROARCA has created an impressive number of policy- alliances that work towards agreements between countries (such as TRIGOH), significant contacts and an extensive network of highly motivated professionals. The Program also utilizes a very effective management structure at the staff level through its use of Regional Technical Advisers (RSTAs) which we found to be very competent and dedicated professionals. There remains, however, a considerable risk that at the end of PROARCA many of the initiatives it supports will simply end because of lack of institutional and financial support.

One aspect of the Program which we feel contributes to the lack of impact is related to the management and decision-making and approval structure. This is especially true for the approval of the annual work plans. As time is pressing and changes are likely in view of the new CAM, CAFTA, the political reality and the recommendations in this report, we recommend that annual work plan approval procedures be simplified, reducing in number the current sixteen steps.

Regarding IR 1, there is a depth of technical expertise within USAID and therefore USAID should exercise greater say in what the eventual work plans should contain. While Cooperative Agreements limit the direct involvement of USAID, an amendment could be negotiated, paving the way for these changes. One way to reduce the burden and shorten the delay is to consider moving to adopting two-year work plans with annual continuation and approval contingent on demonstrated progress.

INTERMEDIATE RESULT TWO —ENVIRONMENTALLY SOUND PRODUCTS AND SERVICES

Regarding IR 2, PROARCA II is, in general, off to a good start. Certification of “green” products is a promising approach that PROARCA should continue. PROARCA supports the green certification process of coffee, cocoa, cashew, cultivated shrimp, wild caught lobster,

wood, and tourism. However, PROARCA is only a small donor among many in the field of certification and as such it is hard to determine its specific contribution. The interest of participation in green certification is largely driven by the fact that it helps in opening up markets and provides technical assistance in reducing the costs of production. Ultimately producers hope that their products will fetch a higher price or they hope to gain market access. Ideally certification, because it promotes economic, social, and environmental considerations and safeguards, should focus on areas close or adjacent to protected areas or areas that directly impact those sites.

Only with coffee does the green certification seem to fetch a higher price and is clearly on the road to success, largely due to the fact that niche markets have been established that are willing to pay a premium The emphasis of PROARCA II assistance in cocoa is in technical assistance to improve processing. Cashew is a promising, environmentally friendly crop in western El Salvador, but as other donors are dealing with developing this crop (IDB, Canadian Cooperative Association) it is doubtful PROARCA' s involvement is necessary.

WWF supports the certification of forest products and wood in four areas focusing on the Nicaraguan and Honduran Moskitia and has offered training to meet the conditions for certification by the Forest Stewardship Council. Several areas have been certified and commercial enterprises using certified wood are being supported.

PROARCA has produced four studies on **shrimp aquaculture** as support to its endeavors for certification of shrimp. Thus far only one company (in Belize) has been certified. Certification has been recommended not for "catalysing the market, but to promote sustainable practice." Considering the enormous volume of existing literature on the subject we recommend that PROARCA concentrate its efforts on technical assistance to shrimp farmers, in particular small holders. Five studies have been produced on the **lobster fishery** along the Atlantic coast some duplicating work of others. Certification of lobster is still a long way off and PROARCA cannot and does not aim to play a significant role in the process. We cannot see a justification to continue work on lobster as this work has no bearing upon marine biodiversity conservation. Funds could best be reallocated to tackle the larger environmental issues faced by a Marine Biological Corridor like the slaughter of some 40.000 turtles in the Protected Area of Cayos Miskitos alone, or the protection of reef habitat of high biodiversity like the Cayos Sapodilla where the guards cannot patrol because of lack of funds for petrol. Ten reports have been produced on **sustainable tourism**. Certification of tourism struggles with the fact that there are many different certification systems and that there is as yet no accrediting entity. PROARCA has provided training with the Best Management Manual and will soon establish seven pilot operations. We recommend that PROARCA focus on these kinds of activities and help creating some "success stories" rather than tackling the broader issue of harmonizing certification systems as this issue is unlikely to be resolved within the duration of PROARCA.

INTERMEDIATE RESULT THREE—HARMONIZED ENVIRONMENTAL STANDARDS AND REGULATIONS

Environmental policy-making is an activity that cuts across each of the other three intermediate results (IRs), creating an enabling environment that advances them as well as other important regional initiatives, such as CAM, PROALCA, CONCAUSA, and CAFTA. Recent restructuring of CCAD within SICA has left the institution with its broad lines of responsibilities, obligations, and relationships intact. Despite an administrative "meltdown" of CCAD over the past year, new leadership seems to offer the possibility of a positive change of direction by CCAD to fulfill it's essential function of promoting regional policy and programmatic cooperation and coherence not only by harmonizing regional environmental policies, but also by applying them effectively as part of a larger sustainable economic development process.

Improving environmental policies and their application is advancing much more visibly at the local governmental level, rather than at the national or regional levels. Local governments are developing more capacity in planning and implementing environmental programs such as solid waste collection and disposal, recycling and re-use, as well as treatment of residential sewage and land-use planning, some of which has been supported by PROARCA project activities. Thus, the challenge for PROARCA should be to take these relatively localized successes and leverage them into broader, more visible region-wide initiatives. The important point is that both levels – local and national/regional—are linked and that the policy/regulatory element is as important as the operational factor for achieving on-the-ground actions and successes.

Finally, although CCAD and PROARCA manage websites for information dissemination, the effort is not realizing its full potential. Not all information is located in these sites nor is it conveniently accessible. PROLEGIS has not proven efficient or effective in the mass dissemination and circulation of policy and regulatory information. With knowledge and understanding of policies a fundamental prerequisite for broad application throughout the region, strengthening this vehicle could hold significant promise for the second half of PROARCA. Thus, improving communication at four distinct implementation levels is recommended:

a) Within the PROARCA partner groups;
b) Between PROARCA partners and CCAD;
c) Among the CCAD directorate and its member institutions; and
d) Between PROARCA and the ultimate users of environmental management information—policy-makers in government and in the private sector, interested organizations (i.e., NGOs and CBOs) within civil society, and other external development partners.

INTERMEDIATE RESULT FOUR—INCREASED USE OF LESS POLLUTING TECHNOLOGIES

Intermediate Result four is divided into two sub-IRs: 4.1 "Municipalities adopt improved solid waste and wastewater management systems" and 4.2 "Private Sector institutions

implement environmental management systems." ARD implements this project under the name of SIGMA. We found this project to be very well managed, and largely successful in achieving its objectives and producing useful documents of good quality. ARD provided us with very concise, clear and timely descriptions of their activities and results achieved to date, and with honest and accurate assessments of their project successes as well as their failures. The private sector achievements of SIGMA include:

- **Strengthening Regional Partnerships and Coordination.** SIGMA has collaborated extensively with an existing network of five national Clean Production Centers (CPC) in the region, assisting them in their institutional capacity-building by providing technical information on various subjects, and organizing opportunities for them to exchange technical knowledge and experiences through a series of regional and sub-regional training workshops.

- **Demonstration Projects, Case Studies, Technical Guides and Training Workshops in Priority Sectors.** One of the strategies of SIGMA in promoting the application or CP practices and technologies in the private sector has been to financially and technically support the CPCs in the development of more than two dozen case studies, technical reports, and technical guides in five priority sectors: (dairy products, coffee, and shrimp processing plants, slaughterhouses, and tourism), CP plant audits and case studies of CP applications in target industries or sectors that can then serve as key inputs to technical guides and training seminars that SIGMA prepares jointly with the CPCs for broader dissemination regionally.

- **Access to Financial Resources and Creation of Waste Markets**: SIGMA is working on several fronts simultaneously to enhance access to capital for cleaner production (CP) investments by companies in the private sector as well as training bank loan analysts in methods to better evaluate the benefits of CP investments in process changes and technologies. SIGMA has also recently launched several initiatives to create "waste markets" for recycling and reusing waste products.

On the municipal side of the SIGMA project activities, the results of the municipal capacity-building efforts have been equally, if not even more, impressive and important than on the private sector side. While we are aware that this side of SIGMA is under some scrutiny by regional PROARCA program staff, we believe that the benefits achieved include supporting several of the most important USAID goals or pillars of development, such as decentralization, democratization, and self-sufficiency. Therefore, continued support for these activities is recommended. Some of the products developed by the municipal component of SIGMA include:

- **Technical Guides** for local decision-makers, municipal public services managers, and communities wishing to build solid waste management (SWM) systems and/or waste water treatment plants[3]. These guides should be revised to include more information on cost-effective alternatives and assessing the willingness-to-pay of communities.

[3] Recommendations for a Central American SWM Action Plan, Final Version, Executive Summary. p. 3. U.S.EPA. September 9, 2003.

- **Three-part Municipal Financial Management Training** Packets that provide municipal managers with an Overview of Financial Management Systems, a Public Services Cost Analysis Guide, and a Directory of Financing Sources for CP investments. SIGMA should continue to follow this up with more client-oriented assistance through its network of CP Centers or local NGOs to connect interested borrowers with lenders participating in the DCA program or the small grants (i.e., PRODOMA) program.

- **Targeted Municipal Training and Capacity Building** – SIGMA has expended considerable time and effort to strengthen the technical, organizational, financial and managerial capabilities of municipalities in several community "clusters" in seven communities surrounding Estelí, Nicaragua; three communities in the La Union area of El Salvador, and the nine communities that comprise the "mancommunidad (small associations of municipalities) MAMBOCUARE near Choluteca, Honduras. The "breakthrough" in social attitudes, and sense of "ownership" that have been created by the efforts of SIGMA working with a small network of NGOs, such as CARE and PCI, in these communities is impressive.

- **Waste Water Treatment Plants** (WWTPs) – SIGMA took over the final design and construction of two waste water treatment plants. We question why PROARCA was in the business of building infrastructure demonstration projects. Ostensibly, it was for the purpose of demonstrating the effectiveness of the technologies used in these WWTPs with the idea of replicating them in other communities throughout the region. However, this purpose has several critical flaws: These technologies are too expensive as an effective solution for demonstration purposes in many other communities, They require qualified personnel to operate and they are dependent upon cooperation by the population in maintenance of individual septic tanks

Implications of the USAID CAM Strategy on PROARCA+

The latter half of the PROARCA-II program will now need to reflect the new Central America and Mexico (CAM) Regional Strategy proposed in 2003. This focuses on promoting more efficient functioning of markets and facilitating access to external markets by helping the countries in the region achieve more open, diversified and expanding economies. The USAID Regional Mission will soon be revising their Mission Country Plan in support of the CAM Strategy. Therefore, following this mid-term assessment, PROARCA (2001–2006), which will operate under a new Regional Mission (G-CAP) Strategy will also need to align with the CAM Strategy (2003–2007). In general, PROARCA-APM is already aligned, as an important goal of the CAM Strategy is to reduce unsound land conversion and deforestation, and to provide more direct benefits from protecting critical watersheds, including forests, riparian zones, wetlands, and coastal areas. PROARCA need not so much adjust its CAM Strategy, but should rather make better choices of implementation activities and in its definitions of "Results".

The other most relevant element of the CAM Strategy which aligns with the current PROARCA Strategy is under Strategic Objective Two (Economic Freedom: Open, Diversified Expanding Economies) and its Intermediate Result Four (Improved management and conservation of critical watersheds.) These seek to improve the management and conservation of critical watersheds. Thus there are two aspects of SO2-IR 4 that are in close alignment to current PROARCA Strategy: the focus on natural resource base and geographic site selection. PROARCA-APM already conforms to the focus of the CAM, which states: "work in protected areas will be community-based and focus on targeted watersheds."

The CAM Strategy and the associated bilateral USAID Missions Strategies measure success in achieving results (i.e., "improved management") as visible results achieved on the ground Possible misalignment with PROARCA-APM is seen in the performance monitoring plan, indicators, and how they define their results achieved as a measure of contributing to a process. Reformulating performance indicators is one of the recommendations of this assessment.

Implications of CAFTA Ratification on PROARCA

It is readily apparent that all of PROARCA's current activities easily fit within Annex 1 of Section 17 of CAFTA that deals with environment. Relevant for PROARCA are that CAFTA commits all parties to "effectively" enforce their own domestic environmental laws, and not to "weaken or reduce" environmental laws in order to attract foreign trade and investment. The inadequacy or lack of *harmonized environmental laws and regulations* compromises their effective application. This issue is addressed by PROARCA under its PROLEGIS component.

In the context of extra-regional markets, it will be increasingly important to have regionally or internationally recognized *certification systems* in place with objective, standardized protocols and transparent validation mechanisms in response to international demand. PROARCA, under IR 2 is successfully working in this area.

Some sectors, particularly the agricultural sector and small and medium-sized manufacturers will be hardest hit by increased trade and foreign investment to modernize productive capacity. Mexico lost 1.3 million jobs in the agricultural sector since NAFTA. The smallholders supported in certification by PROARCA are expected to be affected as well. Continued support by PROARCA is therefore recommended.

Finally PROARCA has supported the development of a regional network of Clean Production Centers (CPC) that provide technical assistance and training services to promote efficiency and cleaner production that will make industries more competitive under CAFTA.

CHAPTER ONE
INTRODUCTION

In 2001, the USAID funded regional environment project PROARCA-II was launched as a successor to two previous environmental projects, RENARM and PROARCA-I (see box 1 page 6). PROARCA-II will be implemented from 2001–2006. This report describes the result of a mid-term assessment of PROACA-II by a team of consultants with assistance from regional and Washington based USAID staff. The assessment took place in January/February 2004.

PURPOSE OF THIS ASSESSMENT

The main objectives of this assessment are to: 1) Document achievements to date and identify significant problems in implementation, 2) Determine the likelihood that the activities will achieve the regional mission's stated goals and objectives 3) Assess PROARCA programmatic approaches and make recommendations if needed to better align the PROARCA program with the new CAM strategy and CAFTA, and 4) Identify areas, mechanisms, and protocols where project inputs in the future can be optimized in achieving the Mission's new strategy.

A full Scope of Work is provided in Annex 2.

METHOD FOLLOWED BY THE ASSESSMENT TEAM

We have focused on an assessment of the four Intermediate Results (IRs) as stated by PROARCA-II .These are

- IR 1 :Promoting the sustainable management of protected areas in key sites that are part of the Mesoamerican Biological Corridor,
- IR 2 : Promoting regionally environmentally sound products and services,
- IR 3: Enhancing compliance with harmonized environmental standards and regulations, and
- IR 4. Fostering the increased use of less-polluting technologies.

The assessment of IR 1-4 covers to a large extent the more general and cross-cutting questions in the scope of work. Where this is not the case, separate chapters are provided.

We have based or findings on a review of a very large number of documents provided, (see Annex 1), interviews with staff from the partner organizations, TNC, RA, WWF, interviews with local organizations (see Annexes 3 and 4), and field visits (see Annex 4). Besides,

USAID provided technical staff to accompany the mission and provide information on organizational and other issues. We split up into a “Green team” covering IR 1 and 2, and a “Brown Team” covering IR 3 and 4. In the course of our work we visited all 7 Central American countries.

LIMITATIONS OF THE BACKGROUND INFORMATION

Because of various reasons, we could not start our work early in January as originally envisaged but only on January 19. However, USAID needed the results of this assessment as input to decisions to be made at a fixed time. This meant that we immediately had to begin field visits instead of being able to review the documents and meet with the partners first. In general, we obtained documentation related to IR 1 and IR 2 gradually up until almost the very end of the assignment, much of it unsystematic in its organization and presentation and often as multiple copies of the same material. All of this meant we had to spend an inordinate amount of time in sifting through documents, trying to identify the useful ones. In addition, the following constrained the assessment:

- Because the USAID Results Framework agreed upon and reflected within the PMP used indicators that do not reflect biophysical, social, or economic parameters under IR 1, it was not possible to address the question of the conservation impact of the Program (i.e., to demonstrate on-the-ground results in the conservation of the MBC). Thus it was difficult to evaluate the desired outcomes as stipulated in USAID’s “managing for results” framework. It is particularly difficult to evaluate the impact from training, seminars and workshops (i.e., training in and of itself does not necessarily equate to impacts on the ground)

- Because PROARCA II usually makes relatively modest contributions to ongoing programs of their collaborating entities, it is very difficult to unravel the effect caused by the PROARCA II input. For these groups PROARCA II tends to be a minor donor among many. This does make evaluation more complex.

- With the exception of IR 4 (Clean production component), the outreach and communication products produced by PROARCA II (often described as “facilitating x”, “enhancing y”, “coordinating z”) are not easily accessible, while the significance of the numerous interventions are subjective opinions of the interlocutors. This makes it even more difficult to assess this complex undertaking.

CHAPTER TWO
PROGRAM BACKGROUND

In an effort to understand the original intent behind regional programming that influenced the design of PROARCA-II, we felt it appropriate to review these earlier programs to determine (a) the objectives USAID identified when it proposed a regional program and the lessons learned through the two previous regional programs.

OBJECTIVES OF A REGIONAL PROGRAM

Regionalism: Confusion and disagreement over the role of a regional program and how to operationally define regionalism has been inherent in the Central American Regional Program since its inception. The first regional environmental program, RENARM, was designed to be flexible and allow for experimentation in an effort to encourage testing new approaches to improve the natural resource status. Adopting a regional approach to address environmental challenges was among the new approaches tested. The early concept of regionalism sought to involve regional institutions, and non-governmental organizations (NGOs) or consortia in natural resource activities of regional scope, i.e., those having significant economies of scale and cross-border impacts. RENARM activities were later criticized as being thematically and geographically dispersed and the recommendation was made to focus on consolidating the Central American Protected Areas System, especially the Mesoamerican Biological Corridor and improved regulatory frameworks and enforcement for environmental protection at a regional level in the follow-on program (PROARCA-I).

PROARCA-I however received the same criticism as noted under RENARM, that the program was too thematically and geographically dispersed and as a result, less effective. The recommendation was made that activities be reoriented geographically and integrally reconfigured based on protected areas and buffer zone management, biodiversity conservation, environmental sanitation, environmental legislation and enforcement priorities, in order to capitalize on strategic, technical, operational, administrative and economic (cost/benefit) efficiencies. It was recommended that the follow-on PROARCA-II program avoid the problem by concentrating all activities within transboundary subregions such as the Gulf of Honduras, Gulf of Fonseca, the Moskitia and Gandoca—Bocas del Toro (i.e., to geographically define regionalism).

In the final PROARCA-II design however, the definition of regionalism was broadened to include three forms: geographic regionalism (when an ecosystem, protected area or a unit of management straddles national borders), ecological regionalism (when ecosystems, or components thereof, are contained within individual countries but provide ecological services of crucial regional importance), and thematic regionalism (applies to environmental management issues that repeat themselves throughout the region). This expanded definition has perpetuated the problem observed in the earlier evaluations—activities too dispersed and lacking focus. Recognition of this problem and criticism of the PROARCA-II program is most expressed by many of the USAID bilateral mission in the region. Several have

expressed their desire to see more opportunity for synergies between the regional and bilateral programs. Others have expressed their frustration as illustrated in the following quote: "If we don't know what is going on how can we look for synergy, coordinate efforts at a site, or coordinate with the various Strategic Objectives within the Mission." This inherent conflict between the regional concept of PROARCA and the bilateral perspective of some of the USAID missions exposes the partners to criticism concerning contributions to the bilateral programs.

Recommendation 1: To alleviate the stresses between the regional and bilateral programs, a USAID Technical Review Committee, made up of the environment officers from each mission, plus specialist consultants as needed, should be consulted in the drafting phase and approve the annual work plans of PROARCA II.

Recommendation 2: In an effort to address the observation that PROARCA II lacks focus and should consolidate activities, it is recommended that PROARCA II define its approach geographically to focus on key watersheds that cross national boundaries. There is general agreement that activities in these areas are best addressed through a regional program which complements the work of the Missions because the bilateral Missions are prohibited from funding activities across national borders.

Recommendation 3: Several opportunities already exist for the PROARCA-APM program to demonstrate that the regional program does enhance the interests of the bilateral programs as in the case of forest certification (USAID/Nicaragua and Guatemala), clean production (USAID/Honduras), tourism (USAID/Panama), and payment for environmental services (water) (USAID/El Salvador and Guatemala). PROARCA-APM should improve their communication and coordination with the bilateral Mission respond to Mission requests for technical assistance when it will enhance both regional and bilateral programs; and manage for results as defined as on-the-ground impact to improve the conservation of natural resources and the lives of people that depend on these.

LESSONS LEARNED UNDER PREVIOUS REGIONAL PROGRAMS

Two of the key lessons to come out of the RENARM and PROARCA-I programs are repeated in this report as lessons apparently not learned and continued into the current PROARCA-II program design and management.

Lesson #1. Pay Attention to the Management Requirements of the NGO Consortium: One of the new approaches tested under RENARM was to involve and build the technical capacity of regional institutions, NGOs and NGO consortia, and overlapping networks of professional contacts. A study of these teaming efforts conducted in 1993 found that multi-NGO partnerships generally succeeded in tapping a broad range of skilled conservation and development professionals, but concluded that **whatever gains USAID hopes to achieve through promoting NGO consortia will only accrue if proper attention is paid to the management requirements of the consortium formed.** That is, the consortium itself becomes a new organization, and faces the same need to establish a vision, structure, and

ways of doing business as any new organization. The time spent together in preparing bids (or proposal) proved insufficient to establish the partnership as an organization; the vision needed to be more clearly expressed in order to foment appropriate partnerships

The decision was made to implement the PROARCA-APM component under an NGO-Team made up TNC, WWF and Rainforest Alliance to be administered through a cooperative agreement to TNC as the prime grantee, with WWF and Rainforest Alliance administered as sub-grantees. The lessons learned under RENARM to manage such a consortium however were not integrated as the current PROARCA-II program. The implementing NGO-consortium fails to achieve its full potential to provide complementary expertise and to deliver an integrated functional landscape approach linking both protected areas and areas of human use in an integrated fashion at the landscape scale. PROARCA-APM as it is currently being managed functions more as three self-standing, independent grants. There is little evidence of joint programming, decision-making, and the lack of communication and transparency between organizations at all levels, perpetuates the problem that the regional program lacks integration and therefore reduces its potential impact. The bilateral USAID Missions also question to what extent cooperative agreements are appropriate for a regional program.

Recommendation 4: To manage an effective NGO-Team, USAID/G-CAP must take a more active and involved role in promoting its structure. If a reduction in staffing levels or an increase in management burden is anticipated under the new CAM strategy, USAID should explore other management adjustment options to address this reality (see significant involvement under the cooperative agreement.). Another option is to create a Performance Fund to reward better integration of activities among the NGOs for planning and implementing activities jointly on-the-ground or in close coordination so that they achieve demonstrated impact.

Recommendation 5: The annual Roundup Meeting offers an excellent opportunity for the partners to integrate, interact, coordinate and plan jointly. However, as it is currently structured, it serves more as an opportunity for participants to present their individual achievements. The Roundup should be used as a forum for planning, coordinating, self-assessment and to achieve better integration.

Lesson #2. Appropriate social, economic and technical (biophysical) baselines and data are needed to monitor and assess the program progress and impacts: The current PROARCA-II implementing partners collect information in response to reporting requirements in their contracts and agreements However these data are not linked to indicators of environmental impact. This was a problem identified already under PROARCA-I as stated in that Program's evaluation which noted: "The analytical parameters used at present to evaluate work progress under each component as well as to evaluate (annual) progress, are not sufficient to evaluate Project activity impact."

The PROARCA-I COSTAS component introduced the use of the Monitoring and Evaluation Scorecard which is still being used under PROARCA-II APM to track progress. An illustrative example is the issue of payment for environmental services by PA's, in particular the provision of water. TNC measures success by the number of strategies developed for

levying payment for water rather than the number of areas where people actually pay. The success of Protected Area management is measured using parameters such as: legal status, co-management agreements; community and stakeholder participation; personnel and institutional strengthening and training; number of people who attended workshops, strategic and annual planning documents etc. but these presence/absence data cannot be linked to biophysical or other measures of on-the-ground results. Only by examining the impacts, for instance, to water quality, fisheries take, incidence of incursions, number of patrols, illicit harvesting of resources and judicial prosecution, numbers of threatened and key indicator species, vegetation cover, etc., can the effectiveness of the interventions (in terms of both biological impact and cost/benefit) be evaluated. It is the only mechanism to determine the direction and magnitude of any needed adjustments to the resources management approaches over the course of the Project. It also means that PROARCA-APM will be unable to show to the bilateral Mission how this regional program offers "value added".

Recommendation 4: Any effort to manage for results and to quantify progress toward achieving conservation objectives will require PROARCA-APM to immediately identify and implement a practical and appropriate monitoring system of use to resource users and managers

Recommendation 5: A single, centralized management information system should be developed in which data are recorded, broadly available, and analyzed in terms of trends and to assess impact. TNC has a database upon which such a system could build. The data should also include social and economic indicators to demonstrate progress toward achieving the CAM strategy.

Box 1.Chronological History of the Regional Program

1990-1995 RENARM Project: designed as a 10-year Regional Environmental and Natural Resources Management (RENARM) Project. Implemented for 6 of the 10-yrs.

Strategic Objective in support of ROCAP's Strategic Objective "Environmentally Sound and Efficient Practices in Natural Resources Management"

Implementation Components: broadly defined as (1) policy initiatives and technical support; (2) environmental education, awareness and biodiversity conservation; and (3) sustainable agriculture and forestry.

Partners and Administration: CATIE, EAP, CCAP, CARE/TNC, WCI/CCC, Associated C.A. NGOs, Cultural Survival, Peace Corps, INCAP, EPA, USDA

Regionality: RENARM was designed to be flexible and allow for experimentation to encourage testing new approaches to achieve an improved natural resource status in the region. Key among these were regionalism, involvement of regional institutions, NGOs and NGO consortia. Regionalism refers to programming activities to address natural resource activities of regional scope, i.e., those having significant economies of scale, cross-border impacts, and the involvement of regional institutions, NGOs, and NGO consortia. Under RENARM the concept of a wildlife or biological corridor was introduced, defined as linkages between protected areas and buffer-zone development, to serve as an organizing framework to unify research, advocacy, protection, and development efforts with the goal to establish both terrestrial and marine biological corridors.

1994 - CONCAUSA: In October, Belize, Guatemala, Honduras, El Salvador, Nicaragua, and Panamá formed the Alliance for Sustainable Development, **ALIDES**. In December the United States supported ALIDES by means of the Joint Declaration of the Presidents of Central America and the United States, **CONCAUSA**. This agreement established that the United States would form a counterpart to support the Central American Commission on Environment and Development (**CCAD**), which is part of the Central American Integration System (SICA).

Box 1.Chronological History of the Regional Program

1996-2001 PROARCA (I) Project: design a new Regional Environmental Program for Central America, (PROARCA) to replace RENARM in support of CONCAUSA and CCAD.

Objective to Improve Regional Stewardship of Key Natural Resources, focusing on consolidating the Central American Protected Areas System, especially the Mesoamerican Biological Corridor, and improved regulatory frameworks and enforcement for environmental protection at a regional level.

Implementation Components: (1) Central American Protected Areas System (**CAPAS**) in all 7 countries, (2) Coastal Zone Management (**COSTAS**) at 4 bi- or tri-national sites, and (3) Environmental Protection and Legislation, implemented under three subcomponents: Local Environmental Policy and Program Initiative (**LEPPI**) focused on solid waste management and sewage treatment to address environmental health concerns, the Legislation Program (**PROLEGIS**), and Pollution Prevention managed under a technical services agreement with the U.S. Environmental Protection Agency.

Partners and Administration: CAPAS [under institutional contract to the consortium of International Resources Group (lead) with a sub-contract to TNC]; Costas (under cooperative agreement to consortium of TNC (lead), with a sub-contact from TNC to WWF, and a sub-contract to the University of Rhode Island/Coastal Resources Center from WWF, and the Environmental Protection and Legislation implemented under three subcomponents. The first subcomponent, the "Environmental Risk Assessment and Prioritization" (by Chemonics International under a buy-in with the centrally-funded PRIDE Project); second, "Local Environmental Policy and Program Initiative" (LEPPI) (under cooperative agreement with the Cooperative Housing Foundation with technical assistance provided by U.S. EPA); and third, "Upward Environmental Legislative Harmonization and Enforcement," [managed by CCAD under two initiatives: the Legislation Program (PROLEGIS) with technical assistance from U.S. EPA and the Biodiversity Protection Program (PROBIO)]. Pollution Prevention activities were managed under a PASA with the U.S. Environmental Protection Agency, in providing on-demand services through the LEPPI and PROLEGIS subcomponents.

Regionality: Activities within and among different components were implemented thematically and/or geographically in isolation of each other. COSTAS worked in four mostly transboundary sites with established geographical boundaries. CAPAS, CCAD/PROLEGIS and CCAD/PROBIO worked throughout the region on a variety of technical themes (without a specific geographic location). LEPPI worked with 11 municipalities, but only five of these in proximity to Costas sites and the others were not programmatically tied to other components.

Evaluations Findings and Recommendations: evaluators found (1) project components and activities thematically and geographically dispersed (activities within and among different components are implemented thematically and/or geographically in isolation of each other because USAID/G-CAP and its partners have different conceptions of regionality. It was recommended that USAID/G-CAP and CCAD adopt a concept of regionality that promotes the thematic and geographic concentration of project activities in carefully selected transboundary subregions: should be selected based on rigorous analysis of environmental, socio-cultural and economic opportunities and vulnerabilities in the region. Project should capitalize on the strengths of a regional project seeking to add value to ongoing or new initiatives at the national and local levels with relevance to these subregions, including those activities supported by USAID bilateral missions and other donor agencies. Specifically, PROARCA II should concentrate all activities both thematically and geographically within four to six transboundary subregions rigorously selected based on environmental, social, cultural and economic criteria (further developed in the body of the report. The Gulf of Honduras, Gulf of Fonseca and Gandoca—Bocas del Toro).

2001-2006 PROARCA (II) Project: PROARCA-II was designed to provide continued to support the CONCAUSA agreement.

Strategic Objective to Improve Environmental Management in the Mesoamerican Biological Corridor in support of CONCAUSA and its commitments to biodiversity conservation and environmental legislation.

Implementation through three components: (1) the Protected Areas and Environmentally Sound Products components (APM), (2) harmonize environmental policies in the region (PROLEGIS) implemented by the Central American Commission on the Environment and Development (CCAD)

Box 1.Chronological History of the Regional Program
and the U.S. Environmental Protection Agency (EPA), and (3) Environmental Management Systems (SIGMA) use of less polluting technologies. **Partners and Administration:** by component include: (1) a Cooperative Agreement with The Nature Conservancy, in alliance with WWF and the Rainforest Alliance, (2) a contract with ARD, (3) a PASA with EPA, (4) a PASA with USDA, (5) a Cooperative Agreement with CATIE, (6) a PASA with DOI, (7) a PASA with NASA, (8) a Cooperative Agreement with ICRAN/UNF, and (9) a Strategic Objective Grant Agreement with SICA-CCAD. **Regionalism:** program defines three forms of regionalism geographic regionalism (when an ecosystem, protected area or a unit of management straddles national borders), ecological regionalism (when ecosystems, or components thereof, are contained within individual countries but provide ecological services of crucial regional importance), and thematic regionalism (applies to environmental management issues that repeat themselves throughout the region). Project works in territories defined by the watersheds of the Gulf of Honduras and the Gulf of Fonseca, the Mosquitia Coast (Honduras and Nicaragua), and the area from La Amistad to Río Cañas (Costa Rica and Panama).
2003 USAID Central America and Mexico (CAM) Regional Strategy: sets forth the USAID's policy and strategic direction for assistance to the countries in Central America (El Salvador, Guatemala, Honduras, Nicaragua, and Panama) and Mexico. Focus on promoting more efficient functioning of markets and facilitating access to external markets by helping the countries in the region achieve more open, diversified and expanding economies. An important goal to reduce unsound land conversion and deforestation, and to provide more direct benefits from protecting critical watersheds, including forests, riparian zones, wetlands, and coastal areas.

CHAPTER THREE
FINDINGS AND THEIR IMPLICATIONS

PROARCA IN GENERAL

Progress Toward Achievement of the Overall PROARCA Objectives

The complexity of dealing with multiple implementing partners, (TNC, USDA, WWF, RA, EPA, ARD, CATIE, DOI, NASA), the CCAD, seven countries, more than 100 collaborating organizations, four Intermediate Results and innumerable activities is an almost insurmountable obstacle to achieving coordination, synergy and a comprehensive understanding of the program.

PROARCA has established working relationships with numerous local groups that are doing an admirable job, however the funds allocated to these promising actors are usually too small to have a significant, visible impact. PROARCA does not meet, and was not meant to meet, the dire need of these groups for funds to implement their plans. Compared to the resources needed to get a particular job done, those contributed by PROARCA are not adequate, nor are others filling the financial gap To remedy this situation we do not think PROARCA needs to be restructured, but should be more focused, better integrated thematically and more closely monitored and managed by the technical staff of USAID.

Recommendation 6: The disruption that would be caused by major structural changes of PROARCA at this stage, such as changing partners, is probably counterproductive to achieving its goals. The recommended solution is to continue with the current structure and main actors, but to increase focus.

Many participating organizations are financed by the small grants program under PROARCA called PRODOMA, located in Costa Rica. The PRODOMA small grants program was designed to encourage equality between countries, between IRs, and to give a boost to disadvantaged groups. To obtain a PRODOMA grant, an organization has to submit a request that has to conform to certain standards and fall within a set of criteria. These multiple criteria mean that there will be few proposals to choose from in any one category and therefore there is a risk that there will be a tendency to fund poor quality proposals due to the limited number of proposals under each criterion. .

Recommendation 7: The structure of PRODOMA results in submission of dispersed, poorly performing proposals that will reduce the impact of PRODOMA and increase CATIE oversight costs. PROARCA should rethink the necessity of funding proposals based on category vs. awarding grants primarily on the basis of merit and their potential impact on the program.

IR 1: Promoting the sustainable management of Protected Areas that are part of the Mesoamerican Biological Corridor

Progress toward achievement of objectives. To assess this component of the project, we encountered a fundamental discrepancy between how we see that this objective should be reached and the way TNC proposes to achieve this aim. The PROARCA Program Objective states, that "USAID/G-CAP is addressing improved environmental management by helping to establish a self sustainable system of protected areas." The way TNC proposes to achieve this objective is "through focusing on site planning, monitoring, innovative management models, revenue generation, financial planning and marketing." Although all these items are undoubtedly important in protected area management, we do believe that they by themselves are sufficient in achieving the objective of "the establishment of a self sustaining system of protected areas."

Determining which sites would be targeted does in itself not directly contribute to their effective and sustainable management. Monitoring is mainly useful to see how well management is doing, i.e. after implementation has started. Innovative management models are conducive to PA management but as the problems the region is grappling with are symptomatic for PA's all over the world, relying on finding innovative models will probably not be a good strategy. In our opinion, it would be better to apply what we already know, starting with the obvious, rather than trying to find what countless others have tried in vain. Revenue generation is of paramount importance for the sustainability of protected areas, but as long as revenues cannot be retained by and recycled into the protected area, successful revenue generation will not do much for the sustainability of protection. Therefore the emphasis should lie in changing the rules for retaining the revenues rather than on revenue generation itself. Financial planning would include matching financial resources with expenditures and probably also fundraising. Fund raising per se can usually not be considered to contribute to sustainability because grants are usually given for certain purchases or for a limited period of time. Only when funds are put into an endowment can they be considered to contribute to the financial sustainability of the reserve. We assume that marketing refers to marketing of the reserve for tourism. This will only be conducive to sustainable management if the PA can retain the funds.

We see little hope that the protected areas that PROARCA-APM is currently working in will become self-financing before the end of PROARCA.II. Had the money spent on administration, logistics, and an excessive number of studies, plans and workshops been used to feed an endowment it would probably been of greater benefit to the MBC and the only hope for many areas of becoming sustainable. This is not beyond the financial capability of the project. The best run areas visited by us, those managed by TIDE in Belize, would have their operating expenses covered to perpetuity by an endowment of US$2 million, which TIDE has already started. In its original proposal, TNC stated that it would help with setting up endowments. We could find no evidence of this.

Recommendation 10: TNC should pursue the issue of the establishment of endowments with renewed energy. USAID should consider ways in which it could facilitate the establishment of endowments, given the agency's funding restrictions

What is missing in IR 1 in our opinion is **effective management on the ground**. TNC has largely been successful in implementing its work plan thus far, but will, in our opinion, not have achieved the stated objective (a sustainable system of protected areas) by the end of PROARCA if it continues producing more of what it has produced thus far. Our problem is therefore not so much with the performance of TNC in carrying out its work plan, but in the way TNC proposed to achieve the objective stated by USAID. The result is an enormous number of workshops, strategic planning documents, management plans, frameworks, financial strategies, studies, etc. Many of these are too general or phrased in too vague terms to be of much practical use for PA managers. **In our opinion USAID should never have accepted the TNC proposal the way it was formulated and now should take on a more active technical oversight role for the second phase of the program.**

What the various products and activities have thus far achieved with remarkable success is raising awareness, forging alliances and creating and training entities for management. We commend TNC for achieving this essential and basic step. In other words, people have been taught everything about fishing, but do not have a fishing boat nets or petrol. We think it is now time to move beyond what has been done thus far as we do not consider more of the same will achieve the objective.

We fully realize the difficulties facing PA management in view of the pressures and threats to be dealt with in Central America and having in place a self sustaining system of PA's at the end of PROARCA is not a goal that can realistically be achieved. However, we firmly believe that unless there are, at the end of PROARCA, some promising examples of effective management of PA's, imperfect as they may still be, but with a realistic expectation of future improvement, PROARCA will have failed in this respect. To work towards this goal, TNC would have to shift its focus. Therefore, the emphasis of this assessment is on providing recommendations for the remainder of PROARCA. It can be done. We have encountered an example that seems to work remarkably well (TIDE) in one of PROARCA's focus areas. Unfortunately, this area has received almost no support under PROARCA-II.

Recommendation 11: After years of workshops, strategies, plans, analyses and documents, it is time to change orientation of APM so as to get more of these widely consulted decisions carried out on the ground. Tangible results will attract more funds than more paper will. Management needs to cut down drastically on these kinds of products and improve quality through the following:

- Funding of equipment and running costs (patrols) for Protected Area management
- Funding and implementation for practical field measures such as demarcation, sign posts, zoning, etc.
- Critical decisions should be made regarding annual work plans by evaluating whether the activities that are planned are absolutely necessary to achieve the Intermediate Results.
- APM staff should take advantage of their travel to meet with small groups of the relevant, carefully selected individuals to discuss and decide upon actions to take, instead of organizing more workshops
- APM should communicate with the broader PROARCA partners, the bilateral mission staff and key stake holders. This could be achieved by an informal newsletter to circulate electronically at least monthly, reporting on significant progress, sources of and requests for information, contacts and other practical information of use to implementers.
- APM management should only commission studies that have in their terms of reference clearly spelled out what practical management questions the study is required to answer and the level of detail required. A study that states, “Alternative methods need to be applied,” is of no use to a manager.
- APM management needs to give more stringent guidance to consultants by requiring partial products as the work progresses and being more critical of quality before accepting the final results.
- Make better use of existing information produced by others, for example, first aid manuals for park guards do not have to be produced specifically for them. Such manuals exist.
- Seriously look for documentation that could adequately answer the questions addressed by some of the studies foreseen.

Recommendation 12: In addition to the suggestions of increasing focus, APM should use the following criteria in paring down its future interventions:

- Has a clear comparative advantage if done regionally
- Has the potential of becoming a winner within the life of PROARCA
- Could have a significant impact on some of the four target areas

Organizational structure and alliances. TNC, with its sub-grantees WWF and the Rainforest Alliance, forms a trio of some of the most experienced, leading NGOs supporting the management of protected areas in Central America. It is no doubt partly due to their many years of work in the region that in the three short years of PROARCA, they have been able to establish links with so many local groups. The division of labor between these three NGOs and their ability to complement each other is clear. TNC deals directly with IR 1 and has subcontracted WWF to cover forest certification. WWF, in turn has subcontracted the Rainforest Alliance to support IR 2 through their other certification programs.

TNC has developed working relationships and granted funds to a very large number of organizations in seven countries. This is an impressive achievement and a powerful tool for capacity building, having influence and obtaining feedback. Some of these are solid institutions doing an excellent job. Many are incipient organizations with a potential for

growth, struggling to protect areas that they co-manage or support (CODECA in El Salvador). Some are alliances that work toward agreements between countries at the policy level (TRIGOH). For coordinating and monitoring the work under IR 1 and IR 2, TNC and WWF have deployed a total of 5 Regional Site Technical Advisors (RSTA) spread over the four trans-boundary sites. We have found these to be qualified, dedicated individuals struggling to make the best use of the modest resources they manage. However, several have expressed their frustration over decision-making within the organization, especially concerning the total amounts of the budgets assigned to them. Moreover, there is a high risk that at the end of PROARCA, when funding ends, many initiatives will terminate because the sustainable financing of the entities created is still very weak everywhere.

Work plans: Their preparation, implementation and monitoring. It is generally recognized that work plans are not effective when imposed from above and that the implementers must participate in their preparation. However, under IR 1 and IR 2 the participatory process seems to have been taken to extremes. Preparation and approval of the annual work plans requires a total of 16 steps, with consequent high administrative costs and delays. Because the plans repeat unnecessary general information they tend to be excessively voluminous.

The requirement that the CCAD approve PROARCA work plans causes an operational obstacle that exceeds the political advantage of working through CCAD. Besides, in each country theoretically the respective ministry is responsible for coordination. Regionally this role would fall to CCAD. We have seen no evidence that CCAD is effective in this role.

Recommendation 13: In an effort to streamline operations and reduce the time between submission and approval of the work plans, USAID needs to negotiate a reduction in the operational role of the CCAD. PROARCA should keep the CCAD informed but CCAD should not need to approve working plans and site selection. One way to reduce the burden and shorten the delay is to consider moving to adopting two-year work plans with annual continuation and approval contingent upon demonstrated progress.

Regarding IR 1, there is a depth of technical expertise within USAID and therefore USAID should work more closely with the implementing partners, early on in the development and discussion phase, to help identify appropriate activities and drafting their annual work plans and to strengthen linkages between the various partners and program components. While Cooperative Agreements limit the direct involvement of USAID, various options should be considered including an amendment to the Cooperative Agreement to pave the way for these changes.

Recommendation 14: USAID should enable its technical personnel to provide inputs into the annual work plans of the partners. (At present, under the terms of the Cooperative Agreement, USAID can reject or approve but cannot impose its views, and therefore, has almost no influence on the content of the work plan.)

Coordination with other donors. A large number of foreign donors, including other USAID funded programs (e.g., Parks in Peril program), are investing in the Protected Areas

of Central America. By far most of the funds are directed at the individual country. The main interaction with activities of other donors occurs at the level of the beneficiaries because the latter almost always receive donations from several sources. PROARCA's TNC coordinators regularly meet with representatives of the large UNDP/GEF/GTZ Mesoamerican Biological Corridor Project. Besides, simultaneous with a weakening role in operational matters, CCAD is well positioned for a stronger role in donor coordination.

Recommendation 15: USAID should work with CCAD to help it play a stronger role in facilitating donor coordination

Transaction costs. Although working with over one hundred beneficiary organizations spread over seven countries including some in remote areas is a remarkable achievement, it has extremely high transaction costs. For example, none of the RSTAs manage budgets above $100,000. This means that only very little of the funds are actually left for achieving the planned results. As long as grants are doled out to beneficiaries in such small amounts, excessive transaction costs will be inevitable while all donors can claim credit and have their logos on the cover of the reports..

For reasons that are unclear to us, it is rare for any beneficiary organization to receive more than $20,000 per year. We found no organization for which the funds from PROARCA accounted for more than 20 percent of their budget, for many it is less than 5 percent. The positive effect is that the organization is unlikely to become dependent on PROARCA funding. But one can ask whether they might not obtain such small contributions from their other donors. The excessive diversification of funding sources decreases the efficiency of recipients as well as of donors. The former must spend inordinate time of their best staff in preparing proposals, reporting in numerous formats and taking around inspectors

Recommendation 16: Focus: PROARCA must improve its visible impact and reduce transaction costs by increasing its focus. This is best achieved through a combination of:

- Restricting the geographic range
- Decreasing the number of beneficiary organizations, by concentrating on those with demonstrated performance and with the best potential to contribute to achievement of the program objectives
- Increasing the size of the grants to the remaining beneficiary organizations
- Increasing synergy by concentrating as many activities as possible in the same geographic areas.

The beneficiary organizations use the PROARCA funds for implementation and the RSTAs track progress and offer assistance as needed. We found the RSTAs to be well informed about what is going on in their sites. However, they do not seem to be aware of activities carried out in their sites by other PROARCA partners or in other sites. The RSTAs periodically report the status of the work to the Coordinator for Monitoring and Evaluation who has it put into the monitoring system for IR 1 and IR 2. This is a well-designed, sophisticated system in MS Access through which he can instantly answer several of the most common queries and generate periodic reports at various levels of aggregation. Many interventions are also being geo-referenced and linked to digital maps in ArcView. We were impressed with the concept, functionality, details and potential utility of this monitoring

system and were therefore surprised that it had not been given more use in the numerous presentations that USAID and we had seen. Certainly this is a powerful management tool that is not being fully utilized and can serve as a powerful tool to help foster greater linkages and coordination among and between PROARCA partners and the missions.

Quantity, quality and utilization of products and events. We have the impression, that breaking the isolation of people working in APM through meetings ad workshops has had many positive effects. But as a leader of one of the more effective beneficiary organizations said, "The only thing we get from this PROARCA is to go to meetings." However, much could be achieved without face-to-face communication. For example, although the staff of the partners communicate well via email, there seems to be no network for circulating ideas and drafts to and between the beneficiaries, a process that could cut down on the number of meetings. Setting up this kind of network was supposed to be the task of an APM communication specialist who left the project. In addition, as a follow-up to workshops, reports were usually produced. The value of preparing detailed and voluminous reports on the workshops should be questioned, since it is doubtful that these are ever consulted again. Often an aide-memoire of a few pages would be sufficient

Annex 1includes a list of documents. These represent an enormous effort and financial investment. Quality control becomes complicated when various donors each pay for a small share of the product. We have found no indication of the use that is made of many of these, but doubt whether many of the more general descriptive documents, strategies and norms receive much use. Almost all seem to be supply driven. We fail to see who is asking for all this.

The use of good training manuals and references seem more promising, especially if institutions that periodically repeat the same training adopt them. The Protected Areas Management Toolbox, funded and produced under PROARCA COSTAS, contains documents of good quality and practical orientation. We found no evidence of it having been used in a systematic way, however, that might be partly due to the poorly developed habit of reading and self-instruction on part of the beneficiaries. The recently completed Protected Area rangers course covers a broad spectrum of subjects in six volumes, none of which contains less than 60 pages. To expect people with rudimentary reading skills to plod through more than 400 pages of text is not realistic. The style is very traditional, almost completely descriptive, with almost no practical exercises – this for a subject so easily adapted to useful exercises. Besides, similar, better manuals already exist (the US Forest Service published one in Spanish by Bill Wendt, CONAP has a manual of its own) and for several of these subjects specialized manuals are available (i.e., first aid is better covered in the best-selling "Donde no hay doctor."

Recommendation 17: Immediately put some order to the vast number of documents produced so that users can easily distinguish what is relevant to his or her interest, and important; from the intermediate steps or material included "for the record". The best way to do this is to produce a set of CDs, each with a table of contents hyperlinked to the complete text of the respective document. SIGMA has already presented us with such a CD. We believe that at least for IR 1 and IR 2 these documents are already in the database, although not currently available to the wider conservation community and mission programs.

Recommendation 18: Create a central depository of information for all of PROARCA and assign someone to manage this database and to guide seekers of information quickly and efficiently to the answers. The APM monitoring and evaluation specialist might take up this assignment.

Recommendation 19: The partner who has been assigned the responsibility for placing important documents on the PROARCA web site urgently needs to fulfill this commitment, in order to make useful information available to all.

For reasons that are unclear, the use of funds disbursed under the TNC agreement tends to be restricted to technical assistance and training. This causes two serious problems. First, it does not solve the desperate need that most protected area managers have for operating funds, equipment, and infrastructure. Second, it makes it extremely difficult to disburse according to the planned schedule. We realize that making beneficiaries dependent on external funding has its disadvantages and risks. However, the consequence of this restriction is that much of the result of the technical assistance and training cannot be applied because funding for follow-up is not available. We have found protected areas with plans and trained staff that do not have gasoline for patrols (Bastimiento) and management plans that do not guide any management (Cusuco).

Recommendation 20: The restriction of limiting funding primarily to technical assistance and training should to be lifted, to allow expenditures for obstacles that stand in the way of implementing some of the recommendations of this assistance. Preferably this should also apply to support for endowments.

IR 2: Promoting regionally environmentally sound products and services

Activities implemented under PROARCA funding focus primarily on promoting environmentally sound products related to green certification. However, some partners, working through other funding sources also support activities related to environmental services. An example is payment for water produced from a well managed watershed.

Green certification. Green certification is the primary tool that PROARCA uses to promote better management practices and thereby assure sustainability and new markets, a strategy that has found acceptance worldwide. Ideally PROARCA applies this tool to marginal populations that would otherwise over exploit natural resources. We saw samples of Rainforest Alliance certification of bananas (Chiquita in Honduras), wood (Mosquitia of Nicaragua), coffee (Santa Barbara in Honduras), cocoa (Bocas de Toro). In Panama, Nicaragua, El Salvador and Guatemala we discussed plans for certification of tourism

through Certified Sustainable Tourism (CST) and Green Deal. At the most, PROARCA only finances the introduction of a certification program, for which in the long run, the producer pays all the costs. Only for coffee does the green certification seem to fetch a significantly higher price. However, in all cases it is claimed that the management practices it requires do reduce production costs, although not necessarily total costs to get the product to the market, once the costs associated with certification are factored in. We believe, in general, that certification is a promising approach that PROARCA should continue. Since the producers expect to make money through greater market access and value as a result of certification, they have the incentive to keep it going. Ideally, certification should focus close to the protected areas, but admittedly, this might be difficult to achieve in many cases.

Recommendation 21: PROARCA should help to identify ways of reducing the costs of certification to small and medium sized producers as a way of further promoting certification.

Coffee certification seems to be on the road to success in many Latin American countries and Central America is no exception. Markets for certified coffee expand rapidly, smallholders receive assistance organizing themselves in cooperatives, and technical assistance helps small farmers producing more efficiently. The strategy is to use the "Conservation Principles for Coffee Production" which were largely developed by the RA, to further harmonize certification standards, cross train auditors, and build bridges between certification programs. Besides, to make coffee certification more practical, cost effective and valuable to producers and buyers alike.

The attempt to introduce certification of coffee in Santa Barbara, Honduras by starting with three pilot farms does not seem worthwhile because these farms are a very long way from the Gulf of Honduras and because ICADE, the Rainforest Alliance local partner has already certified more than 200 farms in two other Departamentos of Honduras, an accomplishment achieved with other funds and stimulated by the offer of Neumann to buy certified coffee at a premium.

The certification of **banana** production by Chiquita is impressive but requires no financial input from PROARCA since the company pays all costs, being motivated for reasons of public relations.

We visited a farm in Bocas de Toro that produces organic **cocoa** that sells at a premium, but organic production is a result of the inability of the farmer to pay for agrochemicals. The farm was badly maintained because cocoa production is uneconomic because of infestation with the monilia fungus for which there is no fungicide but which could be somewhat controlled through better management. Therefore cocoa certification and the consequent better management in Bocas has no attraction to producers until they can add value through further processing, something to which IR 2 is rightfully giving priority, mainly by examining the feasibility of an alliance with a processing plant in Costa Rica.

Although **cashew** is a promising, environmentally friendly crop in western El Salvador, certification is not promising or necessary. Other donors are dealing with developing this crop (IDB, Canadian Cooperative Association). Certification of tourism is making good

progress in training trainers and operators with the Best Management Manual PROARCA developed, in setting norms for the region and will soon establish seven pilot operations (in Bocas, Talamanca, Puerto Barrios, Placencia). Tourism certification collaborates with the Clean Production Centers and with waste management of IR 4.

Ten reports have been produced on sustainable **tourism** including diagnostic studies on the Gulf of Honduras, Gulf of Fonseca, the Honduran Mosquitia, the Nicaraguan Mosquitia and Talamanca and a regional study. The studies contain a wealth of information but also the message that a uniform certification system for sustainable tourism is still an elusive target. One of the main obstacles is the lack of an accredited entity for certification, because there are several competing programs.

The regional report contains 12 pages with conclusions and recommendations plus identification of pilot projects. Considering the confusion about certification systems and the general ignorance amongst hoteliers and tour operators about the certification issue, we recommend that consultants be requested to focus on a few doable priorities rather than let the client choose from a multitude of options. PROARCA was the catalyst to get the certification of tourism moving through a survey of ecotourism potential, creation of norms and training.

The unsustainable, dangerous and socially unacceptable **lobster** fishing with the use of Scuba gear along the Central American coast, in particular the coasts of Honduras and Nicaragua has been the focus of numerous studies and projects for many years. Any action to phase out lobster fishing with scuba gear has thus far failed, because the rewards are so high that divers are willing to take the risk of getting partly or completely paralyzed (in that case usually from the waist down) or even losing their lives. The diving occurs offshore out of reach of land based authorities and as neither country possesses an adequate coast guard there is little that can be done to enforce regulations even if these existed, short of banning the possession of scuba gear on lobster fishing boats altogether and taking measures when such boats dock.

In our opinion, the lobster fishing issue is too big and complicated an issue for PROARCA II to have a real impact, other than maybe facilitating the dialogue between fishermen and the government or the regional fishing organization OSPESCA. Thus far PROARCA efforts have focused on the Cayos Miskitos Reserve, an area that has three management plans, all three rejected by the local communities that do not want restrictions. As the sustainable, “green” exploitation initiative under PROARCA is not an aim in itself, but serves the goal of biodiversity conservation, the question can be asked why PROARCA II is spending scarce resources on lobsters that are not threatened as a species in the region nor in any particular country. If sustainable lobster fishery were to contribute to the overall goal of biodiversity conservation, as is the case with certified wood or coffee, or sustainable shrimp farming (by polluting less and preserving mangroves), we could see the rationale. But certifying lobster is not the aim of the activities. Therefore we see little practical use in studies such as “Cadenas de Commercializacion” for the lobster fishery that would only give an incentive to fish more.

Funds could best be reallocated to tackle the larger environmental issues faced by a Marine Biological Corridor much as the slaughter of an estimated 40,000 turtles per year in the

Protected Area (IUCM category I) of the Cayos Miskitos alone, or the protection of reef habitat of high biodiversity like the Cayos Sapodilla where the guards cannot patrol because of lack of funding for petrol.

Recommendation 22: PROARCA should drop the part of the program dealing with lobster, with the exception of facilitating communication between stakeholders and regulatory bodies such as OSPESCA and reallocates the funds to conservation of threatened marine biodiversity, such as sea turtles or reef habitats.

The activities regarding shrimp culture have focused on best management practices, to reduce environmental impact from pollution and on citing advice and regulations to reduce impact on mangroves. There is already an enormous volume of literature on the issue of better environmental practices in shrimp farming while studies on the economics have been finished.

Recommendation 23: PROARCA should not produce more studies on the issue of shrimp culture. Continuing involvement by PROARCA in extension to smallholders might be useful.

WWF supports the certification of forest management and wood in four areas. Their strategy is to transfer the ten years of experience with forest management and certification in the Maya Biosphere Reserve of the Guatemalan Petén (450,000 ha. certified), to incipient efforts in Nicaragua, Honduras and Belize. The advances in the Petén are primarily due to a bilateral USAID/Guatemala project.

The Forest Stewardship Council (FSC) has developed general certification guidelines and standards to be used worldwide. Although the official U.S. and USAID policy does not promote any one certification system over another, USAID supports any system the host-country Government or partners chose to adopt.

PROARCA/WWF has organized workshops to draft the more detailed norms to be applied in each country and for different forest types. Inevitably, any certification audit will identify conditions that the enterprise must meet in order to obtain or keep its certification. WWF has developed tools in the form of a “Step-Wise Approach” and offered training to enable the enterprises in all four countries to meet the conditions, usually the most costly aspect of the certification program.

In the Mosquitia of Nicaragua, WWF works with the 35,000 ha. community forest of Layasiksa of which 7,000 ha. are under management with the aim of becoming certified. There are many communities with thousands of hectares of forest nearby to which this experience can be extended some day.

In the Mosquitia of Honduras, WWF works through the federation of cooperatives (FINZMOS) that have users rights to a total of 68,000 ha. of forest of which 16,500 ha. in two cooperatives have been certified. WWF has taken leaders from these coops to the Petén to learn from that experience and has organized workshops on certification. Another

promising initiative supported through WWF, seems to be GreenWood, an NGO that teaches community groups in the Mosquitia to produce wood products (chairs, boats) from certified forests for the Honduran market. About one sixth of their budget comes from PROARCA.

In the Toledo District of southern Belize, near the protected areas of Port Honduras and the Sarstoon River, WWF is using its "Step-Wise Approach" to prepare Keckchí communities to certify their forests.

Of course certification is of no use if the wood cannot be sold, especially the non-traditional species. WWF is therefore placing great emphasis on developing a marketing network for Central American certified wood (Jagwood+). To achieve the above results, WWF has collaborated with other donors who have contributed a total of about $600,000 to this joint effort.

The only hope of having an impact in the large area of PROARCA is to initiate a process that then continues and proliferates on its own. Examples that have this potential, and that are part of the PROARCA design, are the creation of new links to a market, policy changes that facilitate financing for protected areas and the creation of powerful models that inspire others.

Section 3.4: IR 3: Enhancing Compliance with Harmonized Environmental Standards and Regulations

This section of the PROARCA Assessment Team contains an evaluation of the implementation of PROLEGIS by CCAD (Comisión Centroamericana del Ambiente y Desarrollo) under the third Intermediate Result (**IR 3**), "**Harmonized Environmental Regulations**" of USAID/G-CAP's 6th Strategic Objective (SO 6: Improved Environmental Management in the Mesoamerican Biological Corridor). IR 6.3 has four separate "lower level" IRs:[4]

- IR 6.3.1: Harmonized Environmental Standards and Regulations Developed;
- IR 6.3.2: Greater Capacity to Apply Environmental Regulations;
- IR 6.3.3: Application of International Agreements; and
- IR 6.3.4: Harmonized Regional Environmental Auditing and Certification Systems.

Methodology

Similar to the other analyses conducted for all the other Project components evaluated as part of this assessment, the legal analysis attempted to utilize the three "rapid appraisal" techniques described in the "Statement of Work" to acquire the information necessary to assess and evaluate the performance of CCAD under this grant agreement: 1) key informant interviews, 2) focus groups, and 3) direct observation. However, this proved to be unfeasible

[4] Central American Program Strategic Plan, USAID/G-CAP. June 28, 2000.

as CCAD did not have a "resource person" to assign to the review team to answer any questions or queries for additional information that they might have, nor did it prepare a "key issues" overview paper, nor did it ever provide any documentation to the team to allow it to conduct its evaluation until after the final report had been submitted to USAID/G-CAP, all three being preconditions required by USAID/G-CAP to "support the review team" in its assigned task.

An objective and thorough evaluation of CCAD as the implementing entity of IR 3 (which is part of the PROLEGIS Program carried out by CCAD with funding from several sources, not only USAID) has been made very difficult to conduct due to the fact that only two documents were ever obtained by the Legal Expert on the Team. The first was the CCAD progress report of March 2003, which the Mission[5] provided to the Legal Expert on Feb. 16 of 2004, just two days before the final report was due to the Team Leader. This was the last progress update submitted to USAID by CCAD's PROLEGIS project, covering activities and achievements between October 2002 and March 2003. The second document received by the Assessment Team from CCAD was their Work Plan for the period from October 2003 till September, 2004. However, during this entire period, CCAD had not replaced the person in charge of this responsibility, who left CCAD in October of last year. Thus, no activities have occurred under PROLEGIS for the past six months. No other documents or reports were ever provided to the Assessment Team by CCAD as part of the initial compilation of materials to be reviewed, due to the fact that all the PROLEGIS Project archives and files (both electronically on computers as well as paper hard-copies in files) were under "lock and key" in SICA due to an "administrative problem" between SICA and CCAD. SICA would not grant CCAD access to its files, computers, or offices within SICA, which made it impossible to obtain any information on Project implementation during the period of performance of this assessment. In addition, no files (with one exception) were available in USAID/G-CAP either due to the fact that all electronic copies of correspondence with the PROLEGIS Project had been accidentally erased on the previous CTO's computer in USAID.

Following the submittal of the final PROARCA Assessment report to USAID, the Assessment Team did receive three documents from the new Executive Director of CCAD (who was the person previously in charge of PROLEGIS activities: Marco Gonzalez). The first document was the Assessment Team's own report on IR 3 that was submitted to USAID/G-CAP on February 22, 2004, in which no comments, additions, or changes were made by CCAD. The second document was CCAD's "preliminary" Annual Work Plan (POA in Spanish). However, the Assessment Team subsequently reviewed CCAD's website and encountered a more updated version of the POA. It is important to point out that the goals or expected results for the life-of-project of that document differed in their order and contents from those of the 2002–2003 POA submitted to USAID under the environmental legislation component (i.e., PROLEGIS). In comparing the two POA documents, several differences were encountered in that the document sent to the Assessment Team by Dr. Gonzalez did not make mention of the areas contained in the work plan (POA) presented to USAID in terms of: elaborating harmonized environmental standards, executing multilateral agreements, and developing a regionally harmonized system of environmental audits.

[5] *Informe Semestral de Progresso (Oct. 2002 – Marzo 2003)* submitted to USAID/G-CAP by CCAD in March 2002, and transmitted to Alejandra Sobenes by María Nícte Leal on February 16, 2004.

Evaluation of CCAD Implementation of (IR 3) As Part of Its PROLEGIS Program

This analysis contains an evaluation of the CCAD's implementation of IR 6.3 (part of the PROLEGIS Project of CCAD), as well as an assessment of the application of international treaties and agreements in Central America by CCAD, and recommendations about how CCAD (or another implementation entity) might implement them more efficiently within the existing regional environmental regulatory framework. In addition, this analysis identifies the opportunities available to the Mission to contribute to this process, especially in terms of the technical assistance that it provides to regional entities, government agencies, and decision-makers in the private sector. Finally, there is a small section addressing the integration of the legal activities currently underway within PROARCA with the new CAM Strategy and their possible alignment with CAFTA implementation.

IR 6.3.1: Harmonized Environmental Standards and Regulations Developed.

The following analysis of IR 6.3.1 is based upon a review of the objectives, indicators and activities established in the Work Plan for 2002–2003 between USAID and CCAD: 1) to advance the negotiation of a proposed regional norm for EIAs, and 2) to advance the process of designing a regional model norm for handling wastewater discharges. In the former case, CCAD did not execute this program because it was "assumed" by the EIA Project in Costa Rica, according to the only available report from PROLEGIS.[6] In the latter case, a proposed model norm was prepared by CCAD with technical assistance from U.S. EPA, and with participation by the environmental and public health ministries of the member countries of SICA.

However, three observations should be noted. First, the proposed regional model norm for wastewater has still not been approved by the forum of environmental and public health ministers, who can do so by way of signing a regional agreement, or by developing national wastewater norms based upon this proposed regional model. Thus, the actual achievement of a harmonized legislative base depends entirely upon the political will of the member countries to implement it. Secondly, the final proposal submitted by CCAD did not represent a "model norm" as much as it did a "guide" for developing national norms to handle wastewater discharges, and thus it is suggested that the name of the instrument be changed to better reflect its content and true nature as a policy guidance document. Finally, the process by which this guide was finally achieved after a year and a half of intensive effort was, in the opinion of the Legal Expert for the Assessment Team, done in the wrong order. For a document which is eminently technical in nature, it is recommendable to start with the technical work first, and then once a technical approach is agreed upon, bring in legal advisors to fine-tune the final report and assure that it meets all the legal requirements. As it stands now, the current regional model norm will require yet another round of legal review before it is ready to be published since technical changes were made to the original concept proposed by the legal advisors working on the norm.

IR 6.3.2: Greater Capacity to Apply Environmental Regulations

Under the second sub-IR for IR 6.3, CCAD's 2002–2003 Work Plan proposed two objectives with their associated indicators and activities. The first objective was to strengthen the capacity of the regional networks of national environmental inspectors to apply existing laws and regulations, and secondly, to develop regional cooperative agreements to enforce the laws and ensure compliance. To achieve these objectives, CCAD pledged to develop a manual for conducting environmental inspections, and a regional agreement to more consistently apply and enforce compliance with environmental laws in each country.

With respect to the first indicator, CCAD did in fact develop a "Manual de Inspectorías Ambientales" with the assistance of USEPA. CCAD also proposed to train 28 environmental enforcement "trainers" and provide them with a "tool kit" of enforcement methods and

[6] *Anexo 3, Plan de Trabajo, Componente B, Legislación Ambiental;* document transmitted to USAID by CCAD in March 2003.

practices. However, the assessment team was unable to determine whether this "train-the-trainer" program ever was accomplished, for the reasons stated earlier in this report. As for the regional agreement to apply and enforce compliance more consistently with environmental laws in each country, that still has yet to be signed by the member countries. What was accomplished by CCAD was that the 3rd Regional Conference on Environmental Enforcement (III Encuentro Regional Sobre Aplicación y Cumplimiento Ambiental) was convened by CCAD, which was attended by the attorney generals and public prosecutors of the members countries as well as the environmental lawyers and legal advisors to the respective environmental ministries. The conference was also attended by the International Network of Environmental Enforcement (Red Internacional de Aplicación y Cumplimiento Ambiental (INECE); however, it is not known what outcome resulted from this conference.

With respect to the issue of applying the Protected Areas laws in the region, one of the principal legal challenges that CCAD should confront is the inconsistency between such laws in the various member countries. For example, in some countries these protections are granted the status of laws while in other countries they are regulations, a situation which requires greater harmonization. Another aspect of this issue involves the "co-management" of protected areas in terms of defining the authority of those entities entrusted with the care and protection of such areas, a problem which results in many difficulties of control and enforcement of the law. Finally, protected areas are categorized in different manners in different countries, resulting in different levels of protection, management, and allowable uses. This can be particularly troublesome when there are contiguous protected areas crossing national boundaries. These deficiencies in the current legal protected areas framework should be remedied with CCAD's active participation and coordination of key stakeholders.

Finally, it is worth mentioning that it is essential before signing agreements of this type to seriously consider their likely impacts and consequences, none more so than CAFTA, selecting terms judiciously and defining responsibilities carefully. This is the only way to assure the benefits and stability of any given agreement to achieve the desired results in the most efficient and economic manner. Given the importance attached to "application" of national environmental laws in CAFTA, it bears repeating that how environmental laws are applied and "enforced" is likely to be a critical issue in this decade, both for the region and individually for member countries.

IR 6.3.3: Application of International Agreements

CCAD has attended meetings to prepare regional negotiating positions in terms of forest definitions under the Kyoto Protocol framework, as well as in the Forest Working and Climate Change Groups, including organizing a regional forum on Climate Change in Panama. However, there is no accessible information about the negotiations or any information about the regional negotiating positions that were finally taken, as referenced in the activity update CCAD submitted to USAID.

The 2nd objective under IR 6.3.3 deals with addressing implementation issues associated with the Climate Change matrix of CONCAUSA (1995), resulting in a regional agreement regarding the use of Climate Change funds, technical assistance and training. CCAD has developed a tentative operation and maintenance (O & M) plan, (although it was not available to the assessment team), and chaired two Climate Change workshops used to analyze and discuss the allocation of PROARCA funds in the region. For the past several months, the PROLEGIS Project of CCAD has not had a contact or focus point person due to internal reasons, however, this situation seems to have improved with CCAD once again taking a strong role in the development of national greenhouse gas inventories and attending Climate Change technical committee meetings.

In the last progress report submitted to USAID by CCAD, it states that CCAD regularly updates it webpage incorporating accomplishments achieved under all of the international treaties and agreement signed and ratified by the member countries which CCAD assists in such matters. The Assessment Team considers this to be a valuable contribution to the application of such laws, although we would like to encourage CCAD to follow-through more evaluating the actual implementation of these laws with the goal of recommending corrective measures so that they achieve their full potential.

IR 6.3.4: Harmonized Regional Environmental Auditing and Certification Systems

Under the 4th sub-IR, there is only one objective, which is to define a regionally coherent and consistent system of environmental auditing capabilities and "green" market accreditation or certification programs. The only information available to the Assessment Team was that CCAD had agreed to conduct this activity as part of the PROSIGA Program within CCAD, and that they had realized a "regional congress" on environmental auditing.[7]

With respect to forest legislation, the Assessment Team would like to make three observations. First, there exists little regulation governing the standardization and minimum requirements of forest product certification programs. Secondly, legal penalties for infractions and non-compliance are applied inconsistently across the region; and thirdly, there is very little support or incentives for local community (especially indigenous farming groups) involvement and participation in tropical forest policy development and program implementation, even though they are the groups usually most affected by these policies.

CCAD has tremendous potential to play an important role in launching and promoting new ideas and concepts of environmental management in the region, not only in terms of harmonizing environmental norms, but also in terms of developing and promoting other instruments, such as economic instruments (fees for services, differential tariffs based on usage or toxicity, deposit/refund systems for recyclable or reusable products, etc.) and informational instruments (public discharge disclosure systems like USEPA's TRI database and Community-Right-to-Know law, or certification programs that give consumers more

[7] *Anexo 3, Plan de Trabajo, Componente B, Legislación Ambiental;* document transmitted to USAID by CCAD in March 2003.

information upon which to make their buying and investment decisions, etc…). Legal instruments and frameworks are more likely to succeed when they coincide with economic forces and trends in the world economy (such as certification programs like ISO) or when they take advantage of other "actors" in the policy-making processes, such as local affected communities, environmental NGOs, the "greening" of consumer preferences and corporate responsibilities, and the potentially influential role of mass media communications. This is especially true in the developing world where they tend to lack the credible enforcement capability needed to ensure compliance with established regulations, standards, and norms. The new "multiple actor, multiple incentive" approach has been promoted by the World Bank as the "third wave" of environmental management for the past five years in reaction to the disappointing results achieved under the traditional view of command-and-control approach of environmental regulation, which typically pitted weak government agencies against powerful economic and industrial interests. CCAD has already started in this direction by taking the first step of recognizing the importance and potential impact of cleaner production as one of its "strategic lines" as part of it Regional Environmental Plan or Plan Ambiental de la Región Centroamericana (PARCA) 2003–2004. They may want to orient themselves even more toward developing and promoting new models of environmental management that incorporate markets and consumers, as well as communities and civil society in reaching voluntary compliance agreements between government and industry. This is particularly true when there exist potential "win-win" situations utilizing cleaner production practices and technologies that can actually save businesses money, making them more competitive, while at the same time reducing environmental discharges, bad public press among consumers, and poor community relations.

General Observations Regarding the Role of CCAD in the Execution of PROARCA

It is self-evident that the cross-cutting theme or central focus that runs through all the components of PROARCA is the legislative or policy platform, which CCAD portends to promote and advance, and upon which the other three components of PROARCA, depend. The legal aspects of PROARCA should be integrated into each component rather than being implemented as a separate IR-level activity. Equally obvious is the fact that environmental legal instruments, such as regulations, standards and norms, tend to work much better when used in tandem with other economic and "market" forces. This will be particularly pertinent during the implementation of the CAFTA accords when laws and norms that support environmentally friendly commerce and trade will tend to succeed, such as "quality" or "green" certification programs and cleaner production practices and technologies.

Recommendation 24: Communication must be improved at four different levels in the PROARCA Program.

- First, communication must be improved internally within the different components of PROARCA, which still tend to implement the project in very uncoordinated and low-impact ways.
- Secondly, there are very serious communication difficulties and gaps between USAID and CCAD, and
- Thirdly, between CCAD and its member country counterparts and various projects.
- Finally, communication between the PROARCA Project and its client base needs serious attention, in particular with regard to its comparative advantage and role vis-à-vis other bi-lateral Missions and other development assistance organizations.

IR 4. "Increased Use of Less Contaminating Technologies." has two separate sub-IRs: IR.4.1 "Municipalities adopt improved solid waste and wastewater management systems" and IR 4.2, "Private Sector Institutions implement environmental management systems."

ARD implements this project under the name of SIGMA. Functionally, SIGMA is divided into two "sides" or programs: 1) a private sector program to assist companies apply and adapt cleaner production (CP) practices and technologies to their productive processes, and 2) a municipal waste management program aimed at building the capacities of municipalities to deliver better quality and sustainable (both economically and environmentally) public services of solid waste management (SWM) and wastewater treatment to their communities

Their staff, based in Guatemala, rely heavily upon and are supplemented by a broad, regional network of governmental institutions, NGOs and CBOs as well as financial institutions and technical consulting firms who have acted as local "extension agents," making it possible for SIGMA to significantly leverage its own human resources to reach a much larger target population of project beneficiaries.

Private Sector Activities and Results

1. Strengthening Regional Partnerships and Coordination. SIGMA has collaborated extensively with an existing network of five national Clean Production Centers (CPC) in the region, assisting them in their institutional capacity-building by providing technical information on various subjects, supporting the development of more than two dozen case studies, technical reports, and sectoral guides in six priority sectors (discussed below) by the CPCs, and organizing opportunities to exchange technical knowledge and experiences through a series of regional and sub-regional training workshops. Within the first year of their contract (July 2002), SIGMA had conducted an analysis of the comparative strengths and capabilities of each of the CPCs, identifying "technical areas of exclusive specialization" in ten productive sectors.[8] One criticism of this work by SIGMA is that they either did not

[8] Reporte de los Centros de Producción más Limpia en Centroamérica, pp. 17-18, SIGMA, July 15, 2002.

know about or chose not to take advantage of an excellent analysis prioritizing the main productive sectors through-out the Central American region (including Panamá) that was prepared by the United Nations Industrial Development Organization with the participation of all five CPCs.[9]

By intelligently utilizing existing institutions, capabilities, and networks in the region instead of trying to reach their target sectors directly, SIGMA has created learning opportunities and greater capabilities among the CPCs by facilitating the sharing of information and experiences within a given productive sector or a given area of interest (e.g., financial evaluations of CP projects or Life Cycle Analysis) without creating redundant capabilities between the Centers. For example, SIGMA has facilitated the cross-pollination of experiences by bringing in a CP expert from one CPC in slaughterhouses or coffee beneficios, to work in another country and train that CPC and productive sector instead of trying to build redundant skills and expertise.

These mutually beneficial partnerships with the regional network of national CPCs acting as "extension mechanisms" or "change agents" have been both efficient in terms of optimizing Project resources by leveraging SIGMA's limited human and financial resources while simultaneously building the institutional capacity of the CPCs, which will continue working with the private sector to promote the adoption of cleaner production long after the current project ends.

2. Demonstration Projects, Case Studies, Technical Guides and Training Workshops in Priority Sectors. One of the strategies of SIGMA in promoting the application or CP practices and technologies in the private sector has been to financially and technically support the CPCs in the development of a series of technical reports of CP plant audits and case studies of CP applications in target industries or sectors that can then serve as key inputs to technical guides and training seminars that SIGMA prepares jointly with the CPCs for broader dissemination regionally. Thus far, demonstration projects have been conducted in five of the priority productive sectors:

- **Dairy farms** in the Olancho watershed of Honduras, which have already adopted 80 percent of the CP recommendations made by the Honduran CPC (CNP+LH), resulting in 10 percent savings in operating costs to the dairy farms and significant reductions in organic matter contamination (BOD and COD). A Best Management Practices (BMP) Manual for the Dairy Farm sector was prepared by SIGMA, and will be disseminated regionally with funding from PRODOMA.

- **Coffee fincas** in the Rio Polochic watershed of Guatemala and the Lago Yojoa and La Trinidad de Santa Barbara region of Honduras are currently involved in a demo project with PROARCA/SIGMA & APM and their respective national coffee associations; ANACAFE in Guatemala and IHCAFE in Honduras, to assist with coffee certification, a BMP Manual and a Cost Manual and training courses. Now, SIGMA is assisting these coffee fincas to submit a grant proposal to PRODOMA.

[9] Sectores Prioritarios de Producción Más Limpia en Centroamérica: Resumen Final. Date unknown.

- **Slaughterhouses** in Nicaragua, Guatemala, and Honduras are developing a BMP Manual and a validation workshop with assistance from the Nicaraguan CPC (CNPML), SIGMA and U.S.EPA. While it is still too early to realize the full potential of CP benefits for the region in this sector, personal site visits and interviews made it quite clear that tremendous potential exists to improve sanitary conditions, worker safety, economic efficiency, and environmental protection by modernizing and regionalizing such operations.

- In collaboration with the national aquaculture associations for both Honduras and Nicaragua (ANDAH and ANDA, respectively), SIGMA has helped four **shrimp packing** companies in the Gulf of Foncesa realize water savings of 400,000m^3 / day (representing a drop of 43 percent and 30 percent in total water use) as well as a concomitant drop in energy costs to cool water and the cost to treat waste water,[10] and is now developing a CP strategy for that industry.

- SIGMA in coordination with PROARCA / APM has initiated demo projects and training workshops with six hotels and restaurants located in protected areas in Talamancha, Costa Rica and Bocas del Toro, Panamá to develop a CP strategy to reduce water and electricity consumption and improve wastewater and solid waste management in **the tourism industry**, and to help them with ecotourism certification. PRODOMA is financing an ecotourism initiative in the Gulf of Honduras, coordinated between Belize, Guatemala, and Honduras.

The ultimate objective of this technical and financial assistance to the CPCs and other organizations such as CARE or PCI working on demonstration projects is to facilitate a "multiplier effect" where other plants in a given sector will more likely be convinced of the benefits of CP by the "real-life" experiences of other firms in their sector operating in the region. To date, SIGMA has supported the preparation of seven case studies by the CPCs and is in the process of preparing 23 more case studies in various priority sectors.[11]

3. Financial Assistance Model. SIGMA is working on several fronts simultaneously in the area of facilitating access to capital for CP investments by companies in the private sector as well as within the financial sector itself to train bank loan analysts in methods to better evaluate all the economic and market security benefits of investments in CP process changes and technologies.

- *Database of Sources of Financing for CP Investments* on PROARCA website.

- *Training courses for Bank Loan Analysts* to train them to more accurately evaluate loan applications for CP investments in process change and technologies.

- *Developing a Portfolio of Loan Proposals for CP Investments by Companies*. SIGMA has been working with banks and other funding sources in the region, such as the DCA, other

[10] Notes from interviews with Armando Piñeda, Gerente General de SeaJoy Inc. on Jan. 22, 2004 in Choluteca, HN., and with Larry Drazba, General Manager and Owner of Camanica, S.A. on Jan. 24, 2004 in Managua, Nicaragua.

[11] Email transmisión from Ricardo Aguilar to Richard C. Worden. Feb. 16, 2004.

donors, and PRODOMA, to generate more demand for CP and environmental management system (EMS) investments.

- *Creation of a Loan Guarantee Program utilizing the DCA Mechanism.* SIGMA in coordination with USAID/W has been working to create Guarantee Agreements with 3–5 regional banks in Central America to administer loan guarantee funds backing up loans to companies implementing CP measures.

In interviews with three of the participating banks in Panamá, El Salvador and Nicaragua (i.e., Panabank, Banco Cuscatlan, and Bancentro, respectively), they showed a high level of interest in the DCA mechanism was evident along with confidence that the amount of the loan guarantee credit line available to the banks would be quickly exhausted as they see much pent-up demand for this type of investment.

All of the banks interviewed had made the decision to participate in the DCA program as a high-level, explicit strategy to attract new clients in several currently underserved "niche" productive sectors with "high potential" in the face of continued regional integration and globalized markets (e.g., CAFTA). All of the banks saw the relationship with the CPCs as mutually beneficial in terms of using the Centers to technically assist the applicants with their loan documents while attracting new clients. However, two of the three banks also saw the competitive advantages of forming strategic alliances with the CPCs and SIGMA by offering CP audits as a "service" to their clients wishing to modernize, stay competitive and remain profitable. In other words, they see the relationship as being a "two-way" street in creating greater demand for their financial services at the same time that they provide a technical quality-control checkpoint for the banks in technically evaluating loan applications for CP investments.

4. Creating "Waste Markets": National Materials Inventories. This is a relatively new undertaking by SIGMA, and represents a joint activity between its municipal services and private sector programs to better manage solid waste by-products by creating a "market" of buyers and sellers of recyclable or reusable by-products in secondary markets. SIGMA started like most CP programs by addressing the technical challenges it faced in convincing private sector companies of the financial and competitive advantages of adapting CP practices, measures and technologies in their plants and factories The second obstacle to CP implementation is access to capital in order to implement the recommended process and/or infrastructure changes. That initiative is now well underway, although the results may not yet be apparent. That leads to the next hurdle in this process, which is to maximize the extent to which the wastes that are inevitably generated in all production processes are recycled or reused in other productive processes instead of thrown away in landfills.

As a first step in that direction, SIGMA has supported the preparation of a National Report on the Management of Materials by the Costa Rican CPC (CNP+L) in which they characterized the composition and size of the national solid "waste stream" by sector, with the overall objective of creating a Strategy and a Plan of Action with concrete, measurable goals. Similar materials management studies are now underway in El Salvador and Guatemala. SIGMA believes that these three studies will give them enough of a baseline to

start work on a regional materials management model. It is a critically important task for SIGMA to strive to create such market mechanisms in the next year and a half, as there is no incentive to separate the recyclable portion of the solid waste stream if there are no markets where buyers can be cost effectively found to purchase them. In tackling this daunting task without knowing where it will necessarily lead them, SIGMA should be commended for taking that risk of following an emerging trend rather than being punished for not having all the answers before it starts "working the problem."

MUNICIPAL PROGRAM ACTIVITIES AND RESULTS

1. Technical Guides on Solid Waste Management and Waste Water Treatment Options. SIGMA has developed two very important technical guides for local decision-makers, municipal technical managers, and communities wishing to build solid waste management (SWM) systems or waste water treatment plants (WWTP). The guides do an excellent job of explaining technical information in simple terms while providing an overview of the more transversal issues. The guides are clear, concise and accurate. The brown team also agrees with the recommendations of the U.S.EPA regarding the components of any community SWM Action Plan in Central America,[12] but would urge them to place more emphasize on the cost-effectiveness and willingness-to-pay aspects of recommending specific technologies and standards in a region of developing countries.

By way of making recommendations, we would suggest the following:

Recommendation 25: Disseminate the SWM and WWTP guides as useful tools standardizing concepts, terminology, and technical criteria to the broadest audience possible

User groups could include technical staff in municipalities, consultants and consulting firms working in the private sector, regional (FEMICA) and national municipal associations (such as INFOM and ANAM in Guatemala), other non-governmental and community-based organizations (NGOs and CBOs) in civil society, and other bi-lateral and multi-lateral development partners working in the same thematic area.

Recommendation 26: The guides are an excellent first step in the process of informing users about the general scope of issues that they must address in designing and implementing integrated and successful infrastructure projects, but should be refined into smaller, more specific guides for "niche" users

Content and orientation should vary according to the intended user (more narrowly focused), the technology described, the type of location (geographically or climatically), and other salient factors such as financial methods for costing out projects, staff training programs, or improving administrative systems to accurately identify beneficiaries and efficiently recover costs of providing services to complement the SWM and WWTP technical guides.

[12] Recommendations for a Central American SWM Action Plan, Final Version, ExSum. p. 3, U.S.EPA. September 9, 2003.

Recommendation 27: To contract a local NGO which has worked with communities to develop Action Plans for SWM systems and/or wastewater treatment plants to more fully develop the sections in the two guides on community involvement, public participation and awareness-building processes and techniques to improve those sections of the guides.

Similarly, an individual consultant or local NGO could provide the same type of technical assistance on the legal aspects of undertaking such projects and the local "ordenanzas" that have been widely used to create a legal obligation on the part of local citizens to take steps to protect the infrastructure project, or at least not to damage it. It might also be helpful to include several real communities examples to show concretely how this can be done.

2. Municipal Financial Management Training Packet. SIGMA has developed a broad spectrum, three-part packet of financial management training tools. The purpose of the first guide is to provide municipal managers with an overview of the financial management system and show them a logical sequence of actions and decisions that should be taken to achieve successfully operating public service programs. It succeeds in providing a crisp discussion of the path or "ruta crítica" to follow from the identification, planning and preparation of a project to its construction, evaluation and feedback phases.

The second guide in the set is the Public Services Cost Analysis Guide, prepared by the Salvadoran Municipal Development Institute (ISDEM). It is a very simple and clear document with good examples (case studies) for costing out common municipal services, such as street cleaning, and solid waste collection and disposal activities. However, it may be too general and non-specific to be of maximum utility.

Finally, the Directory of Financing Sources for Cleaner Production Projects is very comprehensive and an excellent 1st step in the process to connecting proponents of CP investment projects with different sources of financing to overcome the current problem of lack of available capital for such projects.

Recommendation 28: SIGMA to review the Public Services Cost Analysis Guide for completeness, and decide whether it should be supplemented with a more rigorous treatment of this critically important topic, using case studies and experiences that they have gained over the past two plus years, to the extent practical and desirable.

As stated above, the Directory of Financing Sources for Cleaner Production Projects is an excellent 1st step in the process to creating efficient capital markets, and SIGMA should continue to follow this up with more client-oriented assistance through its network of local NGOs, such as CARE and PCI, to connect interested lenders, such as those banks participating in the DCA program or the small grants PRODOMA program.

Recommendation 29: SIGMA should continue working with those interested communities in the targeted geographic areas of SIGMA's current activities in Estelí, Nicaragua, Choluteca, Honduras and the La Union area of El Salvador, all located within the Gulf of Fonseca watershed.

3. Targeted Municipal Training and Capacity Building. SIGMA has expended considerable time and effort to strengthen the technical, organizational, financial and managerial capabilities of municipalities in several community "clusters" in seven communities surrounding Estelí, Nicaragua; three communities in the La Union area of El Salvador, and the nine communities that comprise the "mancommunidad (that is, small associations of municipalities) MAMBOCUARE near Choluteca, Honduras.

We reviewed the "Action Plan for SWM" that the town of Condega, Nicaragua had developed with assistance provided directly by CARE and supported by SIGMA. We found it to be very forward-looking and progressive Plan in its understanding of the need to take the institutional, coordinative, managerial, financial management and cost recovery, educational-cultural, communication and public participation aspects of the proposed project into consideration in designing a SWM system. This was in addition to the focus on technical, legal and capitalization issues that is typically found in infrastructure proposals by local governments. This represents the kind of "breakthrough" in social attitudes and sense of responsibility and "buy-in" that are present in most successful community public service programs. We did not have time to review other Action Plans that have been prepared to date, but we were very favourably impressed with this Action Plan for Condega, Nicaragua as well as with the commitment and support that CARE was providing to these communities on behalf of the PROARCA Project via a subcontract with SIGMA.

In one meeting with the mayor and several heads of municipal operations of another town in the Estelí area, we were told that the technical and organizational assistance provided by CARE had made significant changes in the community's attitudes toward first identifying their most pressing problems by themselves (the first time they said that this had ever happened in their collective memory), and then taking the decision to do something about the problem by preparing a Community Action Plan. Their application for a small grant from PRODOMA had been approved, as had their Action Plan, and they were now starting work on implementing their plan to build a new SWM landfill and shut down the existing open pit dump. It spoke volumes about the potential for achieving "results" in terms of empowering communities, supporting decentralization, creating open and transparent democratic processes with full community participation, fighting corruption at local government level by opening up their financial management system, and reducing the significant human health risks and environmental damages caused by inadequate collection and disposal of solid and liquid wastes, typically felt most acutely by the most vulnerable in society: the poor, the young, and the elderly.

In terms of "achieving results," it might have been quicker and easier for SIGMA to have shown more "results" by simply identifying a community willing to allow them to design the optimal trash collection route plan and build a SWM landfill without doing any of this community empowering and enabling "leg work" first. However, it would be analogous to giving a computer to a person without any software or training, We therefore believe that the

approach taken by SIGMA to develop "enabling" capabilities in communities first as a precursor to building infrastructure projects is the correct approach with the greatest chance of achieving truly lasting and sustainable results. It is a daunting task to transform present attitudes, but it is a critical task because all of these "enabling" capabilities need to be present at the municipal level if the infrastructure investments in SWM systems and WWTPs are to have a realistic chance of becoming self-sustaining over time.

We are aware that the municipal side of the SIGMA project is under considerable scrutiny by the regional PROARCA program when compared to the impressive results that have been achieved to date on the private sector side of SIGMA. However, we strongly believe that the "results" of the municipal capacity-building efforts of SIGMA have been equally, if not even more impressive and important than those on the private side. These benefits include supporting several of the most important goals or pillars of development that USAID works toward in many ways, such as: greater decentralization by demonstrating competence at the municipal level, greater democratization caused by community involvement and public participation in decision-making processes, greater transparency and anti-corruption once municipal administrative and financial management systems have been opened up to the light, and enormous reductions in public health risks and environmental damage caused by untreated sewage and uncontrolled solid waste disposal practices that most impact the poorest and most vulnerable segments of society. These "results" may be harder to demonstrate or quantify than the private financial benefits accrued by business owners of reducing water or energy use by a shrimp-packing factory, or reduced chemical input costs for an owner of a metal-plating business, but it doesn't make them any less significant or important to USAID's core mission. If, however, the regional program is unwilling to make this commitment to capacity-building seriously, then they should probably not continue with this work because without that commitment to and investment in municipal and community capacity-building, there frankly isn't much hope of achieving the expected results for this activity, namely, the widespread adoption of more adequate SWM facilities and WWTPs.

Secondly, SIGMA should continue to focus on mancomunidades due to the efficiencies in Project resources spent to reach a larger number of potential beneficiaries needed to have a critical mass of users that justify implementing more expensive, but ultimately more cost-effective solutions, such as regional SWM landfills, WWTPs, or publicly-operated slaughterhouses with proper sanitation safeguards in place.

Recommendation 30: The PROARCA Project should resist the temptation to see results only in terms of "hardware," such as the number of infrastructure projects completed. There still is a tremendous amount of "software" training and awareness-raising that must occur before those technical fixes can be truly successful and sustainable over the long haul.

4. Construction of Two Waste Water Treatment Plants (WWTPs). SIGMA took over the final design and construction of two waste water treatment plants in Livingston, Guatemala and La Union, El Salvador that were begun under the LEPPI component of PROARCA I. SIGMA has encountered numerous problems with design flaws, multiple reiterations of technical reviews by other partners involved in these projects, and delays in awarding construction contracts due to excessive cost proposals. All of these problems have resulted in

the projects requiring much more time to complete than expected, and they have also siphoned off tremendous amounts of SIGMA staff time and attention. The fundamental problem with the implementation of these two WWPTs appears to be that the wrong tool was selected for the job: SIGMA is not an engineering firm. Thus, there has been a poor match between what was required in this case and the comparative strengths of the organization hired to carry it out.

However, there is an even larger question of why the Mission was even in the business of building infrastructure demonstration projects in the first place as part of PROARCA II. Ostensibly, it was for the purpose of demonstrating the effectiveness of the technologies used in these WWTPs with the idea of replicating them in other communities throughout the region. However, this purpose has several critical flaws:

First, while the plants are without question technically effective, achieving very high levels of organic matter and suspended solids removal, they were very expensive to build. For example, the wastewater treatment plant in La Union cost approximately $193,000 of SIGMA's subcontractor line-item budget and presently serves around 250 users, but will ultimately serve an additional 800 once the new central marketplace is constructed, which works out to an average of $185 (max number of users) to $800 per current user; the plant at Livingston cost SIGMA nearly $245,000 of its subcontractor funds to serve 425 users currently with the potential to serve up to 1,100 users eventually which works out to per user costs ranging from $225 to $575 currently. By way of comparison, the treatment plant at Suchitoto, El Salvador, cost around $280,000 to build using a similar technology, but serves a user base of roughly 10,000 persons, resulting in a per capita average cost of $28/user. Thus, these technologies may not be a cost-effective solution for demonstration purposes in many other communities where waste stabilization lagoons and percolating filters are less expensive to build and operate. The costs cited above were taken directly from SIGMA[13], and do not include the costs of their staff time nor that of staff from USAID and USEPA (with their additional costs of transportation and lodging). All of these PTARs require technically qualified personnel to maintain and operate, placing greater burden on the technical and administrative capacities of communities.

The plant in Livingston uses a "combined" system that relies on individual septic tanks at the household level to separate solids from the liquid portion of the waste stream before reaching the treatment plant, but there is little existing cultural awareness or experience to fully understand the need and importance of maintaining those tanks in working condition so as not to adversely affect the operation of the treatment plant. This will place additional pressure on the municipality to maintain the community informed and to take punitive action, when necessary.

Both plants use re-circulating sand filters for biological secondary treatment, which requires the use of water pumps and electricity, both of which add to construction and operating (O & M) costs. In the case of La Union, the decision was made to demonstrate the re-use potential of residual treated waste water to irrigate a nearby soccer field via an impressive, but very

[13] Notes from meeting with D. Peterson, D. Salazar, N. Gamboa, A.Pocasangre, and R.C. Worden in ARD's offices in Guatemala City on Feb. 19, 2004.

expensive (i.e., $20,000) underground sprinkler system. This has been a public relations success, but it has come at a high cost.

Neither plant chlorinates the treated waste water before releasing it. In Livingston, the residual waste water is discharged into a small creek that feeds directly into a highly populated bay and tourist area. However, the evaluation team noticed that this creek was chock full of garbage and debris thrown into it by neighbors living along it. This illustrated the importance of first raising the community's awareness of the problem and involving them in seeking solutions. As evidenced by the Sustainability Plan that SIGMA is preparing in Livingston, it is apparent that they are aware of this issue and have worked hard to involve the community, but it does demonstrate the difficulty of changing bad habits and old attitudes.

Finally, both demonstration sites use effective, but expensive technologies, and are located in isolated, hot environments that are difficult to access. This limits their value as sites that other community leaders are likely to visit with the goal of replicating those experiences in their own communities.

The Suchitoto PTAR has been a more successful replication model, for reasons of its lower per capita cost and ease of accessibility. In fact, of all the field sites we visited during this assessment, Suchitoto had the most impressive PTAR and SWM system that we saw. This is mostly attributable to an active local government with a history of working very closely with the community and with local NGOs to achieve results that are impressive by any standard in Central America, such as over 90 percent coverage of both solid and liquid waste collection and disposal with practically 100 percent cost recovery for unsubsidized public services provided, conservation of its most important natural resource nearby (the Gran Cerrón reservoir) with plans for a new tourist recreation center to be located there, and source separation of domestic organic (composted for the community) and inorganic solid wastes.

The fundamental question that the brown team poses to the Mission is the following: Was this the best use of Project resources? Given the success of other more cost-effective and self-sustaining "capacity-building" activities undertaken by SIGMA on the municipal sector side, and considering some of the limitations of replicating the technologies used in La Union and Livingston in other communities, it is far from certain that the answer to that question would be an unqualified "yes." At the very least, the Brown Team would make the following suggestions and recommendations:

Recommendation 31: Cost/benefit and/or cost/effectiveness studies should be conducted of the different treatment alternatives available and commonly used in the region before recommending the replication of the pilot project technologies in other locales.

Recommendation 32: More effort should be placed on first strengthening the local awareness, full participation, and support for these projects before launching into infrastructure works.

This is not a criticism of the current pilot projects, but rather an admonition about the difficulty of the task, which is admittedly much easier said than done. Purely educational materials and community awareness-raising meetings must be combined with more coercive means, such as enactment and enforcement of local ordinances governing unacceptable behaviors and uses of these public investments.

Recommendation 33: The O & M manuals as well as Sustainability Plans should be an integral part of any SWM or PTAR project.

A "lessons learned" summary of SIGMA's experience in La Union and Livingston would be useful for future project designs and to distribute to municipal leaders thinking of undertaking similar infrastructure projects. Without these guides, plans and manuals being integrated into the process and used in an on-going fashion, there is little chance of the resulting public works projects being successful and self-sustaining over time.

SIGMA PROJECT SUPPORT

1. Project Management and Backstop. We found SIGMA to be a very well managed project, having provided us with very concise, clear and timely descriptions of their activities and results achieved to date. They have provided us with honest and accurate assessments of their project successes as well as their failures, and have been most responsive to our numerous informational requests and have made available all relevant documents and other materials to us. They have assisted the Brown Team with setting up interviews, scheduling site visits, and making other logistical arrangements that have greatly facilitated our ability to assess their performance in the very limited time we have had to conduct this assessment.

2. Combined Training and Dissemination Materials (Private Sector and Municipalities). SIGMA had organized 25 training seminars/workshops[14] and disseminated training materials to nearly 800 participants by the end of the last Federal fiscal year (Sept. 30, 2003) activities. They also participated in 17 other training events sponsored or organized by other organizations, such as the APM component of the PROARCA Project, the Peace Corps, regional and national municipal associations, USAID/DCA and PRODOMA financing initiatives, involving over 1,200 participants.[15]

The following non-exhaustive list of SIGMA training courses/workshop topics include:

- Solid Waste Management and Treatment of Domestic Wastewater Effluents,
- CP training in selected sectors, such as coffee, shrimp packing, dairy and tourism,
- Cleaner Production (CP) Methods and Environmental Management Systems (EMS),

[14] PROARCA/SIGMA Work Plan 2003—2004, p. 56, ARD, Oct. 24, 2003.
[15] Estatus de Actividades Municipales – PROARCA/SIGMA, date unknown, email sent by D. Salazar to R.Worden on Feb. 10, 2004.

- Life-cycle Analysis and Energy Efficiency practices for industries,

- Action Plan preparation, including community participatory processes, and

- Preparation of project profiles or proposals to lending institutions as well as financial evaluation methods for CP project profiles with bank loan analysts.

In terms of the quality and results or impact of the various training seminars/workshops, we analyzed the evaluations for more than a half-dozen courses realized immediately after the courses were given. Based upon this analysis of course evaluations collected by SIGMA, we found that 84 percent of the participants described the courses as "excellent" and slightly less than 12 percent described them as "good/acceptable." We also analyzed the results of a phone evaluation conducted by SIGMA six months following the training activities, in which they found that 94 percent of those interviewed indicated that they were utilizing the skills and knowledge they had developed in the courses, and that nearly the same percentage (93%) of municipal officials who had received training in one of the SIGMA courses was putting those concepts or skills acquired to use six months later. However, it is important to note that 40 percent of the total number of municipal officials who had attended the workshops had since left their jobs in the public sector, demonstrating a high turnover rate with obvious implications for designing future training events for SIGMA and other projects as well.

3. Communications Unit. The Communications Unit of SIGMA is an important resource for both SIGMA and PROARCA more generally, publishing quarterly bulletins for PROARCA and having taken over all modifications, updates and maintenance of the PROARCA website. The bulletins are particularly well-written and informative, and in the view of the brown Assessment Team, documents, guides, and training materials that the Communications Unit has produced are almost always superior in terms of both presentation and clarity of content to others' materials that we have reviewed. However, the SIGMA Communications Unit currently has responsibility for the entire PROARCA website, however, we found that the website has not adequately maintained and updated for the other PROARCA project components, namely, for the The Nature Conservancy (TNC), World Wildlife Fund (WWF), and Rainforest Alliance under IRs 1 and 2.

The Communications Unit has also developed a multimedia CD with text, photographs, and video feed to promote PROARCA activities and achievements, and plans to distribute 700 copies.[16] The Unit also provides support for all SIGMA publications, case studies, technical guides, and training materials. And finally, even though it is not part of the Communication Unit per se, SIGMA has promoted the distribution of a CP "calendar" ("La Empresa Eficiente") originated by the UNEP and the Wupertal Institute to 42 different industrial sectors in the region. The calendars are meant to be "stand alone" tools, meaning that they are not supposed to be accompanied by any training or follow-on activities. According to a follow-up survey done by SIGMA, 31 or 74 percent of the firms receiving the calendar had taken some action based on the information contained in the calendars. However, on the basis of interviews with CPC staff in several countries and a review by the Cleaner Production

[16] PROARCA/SIGMA Semi-Annual Report: April–September 2003, ARD, p. 26.

Expert of the Assessment Team, the calendar was found to be overly technical and complicated for the target audience. It was suggested to re-edit the calendar for next year, a task ideally suited to the considerable skills and talent of the Communication Unit.

4. Performance Monitoring and Evaluation (PME). SIGMA has realized a number of activities using various different types of PME tools to track the progress of the PROARCA Project to date, and has applied these PME tools to monitor the effectiveness and impact of its training workshops and capacity-building activities in both the public (that is, municipal) and private sectors. In interpreting the results of data among the different impact surveys conducted thus far, it is important to note that the results of course evaluations realized right after each course was given were very positive. That is, 84 percent of respondents described the course they had just attended to be "excellent" while another 12 percent described the course as having been "good or acceptable." With respect to the evaluations realized six months later via a telephone survey, it was found the 94 percent of those interviewed in the private sector and 93 percent of those from the public (municipal) sector were still using concepts, tools and/or methods learned during the training workshop. In addition, the SIGMA Project has had to develop a PME instrument for the demonstration projects, given that they did not have set of baseline data against which to measure impact or results achieved, and had to rely solely on diagnostic reports elaborated by various consultants and entities at the beginning of the Project. Thus, one of the recommendations of the Assessment Team is for SIGMA to consider what PME measures or tools should accompany all future Project activities to serve as a decision-making tool throughout the rest of the current Project.

OBSERVATIONS, CONCLUSIONS, AND RECOMMENDATIONS

Potential synergies of linking SO5 (Increased Trade and Competitiveness) with IR6 (Improved Management in MBC) under the new CAM SO 2: creating more competitive firms and assisting them to access financing and green markets are complementary activities of the same process. CP dovetails perfectly with both CAM and CAFTA.

Recommendation 34: Focus on developing smooth working relationships between key regional banks and CPCs in region to help finance private sector adoption and incorporation of CP practices and techs in production processes. On the municipal side, work hard to help develop efficient "waste" markets via information-sharing and brokering activities.

Recommendation 35: In the face of dramatic reductions in funding and staffing levels in USAID/CAM region over the next couple of years, it is even more important and imperative than ever to "piggy-back" on existing regional CP institutional capacities (CPCs, universities and government institutions) working on the private sector side, and with international NGOs with proven track records working locally with munis. These are all much more cost-effective mechanisms than U.S. consulting companies.

Questions about "cost-impact" of SIGMA contract have been raised by some USAID Mission staff in the region. Other models, such as TAP model in Peru with a single U.S. hire working with local NGOs and government institutions with TA to bring in CP experts, may be more cost-effective. TAP-Peru worked on CP for six years and spent < $2 million.

The key constraint to achieving results is limited local institutional capabilities, thus the need is for capacity-building efforts (e.g., Community Action Plans and greater dissemination of technical Guides) through NGOs working at local level with municipalities—with all the spin-off benefits that go far beyond those on the private sector side (i.e., decentralization, democratization, anti-corruption, community empowerment (particularly for women), greatly reduced contamination disproportionately affecting most vulnerable members of society (i.e., the poor, young and old).

Recommendation 36: Do not drop municipal sector activities after EOP of current contract. However, do not build any more infrastructure projects—too costly and time-consuming for staff. Why the lack of a municipal "take-off" so far?—in sharp contrast to private sector reaction to demo projects—is lack of public awareness about the problems, and then providing technical and organizational help to empower them to solve problems. USAID should provide the "software" and let other aid agencies build "hardware."

In most cases (such as slaughterhouses and landfills), "mancommunidades" are the most appropriate solution to the problems.[17] Differentiate type of TA and training within critical watersheds from TA offered to priority sectors outside geographic scope of those watersheds (sectors don't always align with 4 critical watersheds).

Recommendation 37: Consolidate gains won thus far by developing an effective strategy to disseminate technical materials, methodologies, and "lessons learned" to regional and national government agencies (INFOMs, CPCs, and Ministries of Environment and of Health) as well among bi-lateral USAID Missions, other donors, and development banks (IBRD and IDB) as part of an "Exit Strategy" (including implement. partners for this phase of project.)

Recommendation 38: Improve PME activities/tools of SIGMA with the objective of providing real-time info to decision-making processes to optimize project impacts.

[17] Guía de Gestión de Recursos Financieros para Proyectos de Servicios Municipales, p. 18, Jan. 2004.

CHAPTER FOUR
USAID/G-CAP PROARCA ACTIVITIES WITHIN THE NEW CAM STRATEGY

The new CAM Strategy was borne out of the recognition that U.S. foreign aid assistance in the region could no longer be provided efficiently through uncoordinated bilateral strategies. Thus, the CAM Strategy creates a common framework of priorities that reflect the three pillars of the Millennium Challenge Account, focusing on three SOs: SO-1) Ruling Justly, SO-2) Economic Freedom, and SO-3) Investing in People. Under this trade-led development model, special attention is given to job creation particularly in the rural sector based on the hypothesis that if growth occurs, poverty should decline over time. Thus, under CAM SO-2 (henceforth known as CAM 2), which is the most relevant of the three CAM SOs for environmental activities, the emphasis is placed on: assisting firms become more efficient and competitive, promoting more efficient functioning of trade, and facilitating greater access to external markets and greater access to key imports such as technology and capital in more open, diversified and expanding economies. The CAM Strategy "marks a major shift in how USAID development assistance is provided" (CAM Strategy, p. 2), and of particular interest to the PROARCA Assessment Team, a dramatic shift in how environmental activities will be designed and implemented in the future. The recommended changes to align PROARCA activities within the CAM Strategy rest not so much in the strategy, but rather in the choice of implementation activities and the selection and definition of "expected results."

Recommendations to Better Align PROARCA Activities with the CAM Strategy

1. With respect to **PROARCA IR 6.1** (Improved Protected Areas Management), the watershed protection efforts in the four critical watersheds of PROARCA are consistent with the scope of **CAM 2.4** ("Improved Management and Conservation of Critical Watersheds") by improving the management and conservation of critical watersheds as the organizing framework to integrate natural resource conservation with the development of sustainable economic opportunities, while also addressing global climate change and biodiversity conservation concerns. There are three aspects of current PROARCA / APM activities under SO 6.1 that are in close alignment to CAM 2.4: namely, their focus on "the natural resource base, community-based activities, and geographic focus on targeted watersheds." However, some activities outside these critical watersheds will need to be examined to better align them within the narrower (geographic focus) of CAM 2.4. In addition, the CAM Strategy, as well as those of the bilateral USAID Missions Strategies, measure success as achieving results (i.e., "improved management" as a visible result achieved on-the-ground and evident). Possible misalignment with PROARCA-APM is seen by the Assessment Team in the PMP indicators, and how they define results achieved as a measure of contributing to a process. Specific examples are given in the relevant sections of the main text. As a principle, good results are usually achieved through good process, but process in and of itself is simply not enough in an era when USAID is being scrutinized for a perceived lack of results.

2. Under **PROARCA IR 6.2** ("Expanded Environmentally Sound Products and Services"), the activities currently underway to introduce "new technologies and market linkages, particularly those that engage the private sector in promoting regionally environmentally sound products and services through emerging "green" market mechanisms and the opportunities created by certification schemes to increase returns to sound environmental management" are completely consistent with **CAM 2.2** ("More Competitive, Market-oriented Private Enterprises"). There are also clear links to other on-going activities under the new SO-5: ("Increased Central American Competitiveness in Global Markets"), particularly IR 5.1 ("More Open Trade and Investment Policies") as well as with SO-9: ("Increased Diversification of the Rural Economy") and both of its IRs: quality coffee exports, and "other" or non-traditional rural exports, such as certified timber products and low-impact tourism. These connections are already being seen and forged informally at the staff level, particularly between the TEA and Environment offices; they should be formalized and promoted by upper management in order to achieve their full synergistic potential.

3. **PROARCA IR 6.3** ("Harmonized Environmental Regulations") fits easily within the scope of **CAM 2.1** ("Laws, Policies, and Regulations that Promote Trade and Investment"). However, while the PROARCA Assessment Team is fully aware of the urgency and importance of this activity in light of the emphasis being place on trade-led economic growth, but questions the implementation vehicle (that is, CCAD within SICA) to accomplish this goal in a timely and efficient manner. In recent months, CCAD has functionally collapsed as an effective regional coordinating organization. It is the hope of the Assessment Team that under new leadership (i.e., Marco Gonzales as Secretario General of CCAD), and a renewed emphasis on developing a consistent and harmonized environmental policy platform (in contrast to its recent focus on securing funding for project implementation activities), that CCAD can regain its important regional role and effectively serve its intended function. However, we recommend that the Mission provide limited targeted assistance to CCAD in order to facilitate those internal reforms and focus on harmonizing environmental standards and enforcement protocols in conformance with international standards and norms in support of the proposed new Customs Union to facilitate regional trade, and avoid skewing foreign capital investment decisions in inappropriate and divisive ways among the members countries of the region.

4. The activities carried out under **PROARCA/SIGMA** and **SO 6.4** ("Increased Use of Less Polluting Technologies"), like PROARCA 6.2 ("Green" markets), are also completely consistent with **CAM 2.2**. In fact, both of these components of PROARCA (i.e., 6.2 and 6.4) should be combined and implemented jointly under CAM 2.2 to achieve greater implementation coordination and lessen management unit intensity or "burden" on greatly reduced OE funds in USAID. It should be noted that PROARCA/SIGMA is divided into two parts: one working with the private sector to implement more efficient and environmentally friendlier cleaner production or CP practices and technologies in targeted economic sectors, and another "unit" working to strengthen local capacities among municipalities, non-governmental and community-based organizations (NGOs and CBOs).

We are well aware that the municipal side of the SIGMA project is under considerable scrutiny by regional managers faced with hard choices when compared to the impressive results that have been achieved to date on the private sector side of SIGMA. While the Assessment Team agrees that no more demonstration landfills or wastewater treatment plants should be built, it is our strong opinion this rubric of "cooperative activities"; Analyzing what portion of those activities should be pursued regionally or bi-laterally by USAID, before they have been selected is beyond the scope of this assessment. However, describing the types of assistance PROARCA can and should provide is possible

The Agreement commits all parties to "effectively" enforce their own domestic environmental laws, and not to "weaken or reduce" environmental laws in order to attract foreign trade and investment. The inadequacy or lack of *harmonized environmental laws and regulations* compromises their effective application. This issue is addressed by PROARCA under its PROLEGIS component. In the context of extra-regional markets, it will be increasingly important to have regionally or internationally recognized *certification systems* in place with objective, standardized protocols and transparent validation mechanisms in response to international demand. PROARCA, under IR 2 is successfully working in this area

Some sectors, particularly the, agricultural sector and small and medium-sized manufacturers will be hardest hit by increased trade and foreign investment to modernize productive capacity. Mexico lost 1.3 million jobs in the agricultural sector since NAFTA The smallholders supported in certification by PROARCA are expected to be affected as well. Continued support by PROARCA is therefore recommended.

Finally PROARCA has supported the development of a regional network of Clean Production Centers (CPC) that provide technical assistance and training services to promote efficiency and cleaner production that will make industries more competitive under CAFTA.

Child and Reproductive Health

It is difficult to understand why nowhere in PROARCA is any attempt made to address the issue of population growth—certainly the most fundamental threat to the environment of Central America. If population continues to expand at current rates in and near the protected areas, all investments aimed at conserving them will be in vain, including PROARCA. Here is an opportunity for synergism by linking with the CAM SO3: "Investing in People: Healthier, Better Educated People," especially its Intermediate Result 3: "Improved integrated management of child and reproductive health," as long as increased health is accompanied by increased birth control.

Another opportunity for synergism concerns education. Ideally, rural schools in environmentally sensitive areas should be the very best, so that graduates will have prospects of making a living through agriculture or other activities that place pressure on these areas.

Advances could be made by concentrating part of CAM SO3, Intermediate Result 2: "Increased and improved basic education opportunities" here.

Recommendation 39: USAID should focus part of its child, reproductive health and birth control efforts as well as its basic education efforts in and near the protected areas that PROARCA deals with. This would probably be one of the most effective ways to assure the future of these environmentally critical areas.

Gender Issues

Throughout the assessment, we found that attention has been paid to gender issues. The reports on workshop and meeting attendance are gender segregated and show a high percentage of females attending. Some examples of female activities are presented hereunder:

1. In the Municipalities of the "*Mancommunidad*" (that is, small association of neighboring communities) of MAMBOCAURE where the principal objective of this project is to improve the solid and liquid waste management of the community, a high level of participation by **women** in the community was assured in accordance with the TOR for this project.

2. In Estelí, Nicaragua, we met a women's cooperative of 20 working mothers who are given organic wastes (e.g., fruit skins, vegetable peelings, leaves, grass, etc.) of the town's central market and trash collection system. With this input, they make certified organic compost on a piece of land donated by the municipality using worms (*abono de lombrice*s) and natural aerobic decomposition processes.[18]

3. An initial gender assessment done in 2002 as part of G-CAP's amended Central America Programs Strategy revealed that "gender relations were determined not to affect the achievement of sustainable results; however, the results from the proposed activities would (beneficially) affect the status of women. In the specific case of SIGMA's work of introducing CP process changes in coffee *beneficios*, it was found that the mechanization of coffee sorting and grading would decrease rural women's employment, but such were already occurring and were inevitable in today's competitive global coffee market. The manual sorting and grading of coffee beans is not competitive or sustainable in the long run, and furthermore, is extremely tedious, repetitive, and often carried out in poor working conditions with inadequate lighting and ventilation, causing respiratory problems, repetitive movement injuries, and vision health issues for women working there. As the coffee processing industry is modernized with the introduction of CP technologies and process changes, these jobs will slowly disappear, and will be replaced by jobs in the coffee harvesting and nontraditional agricultural crops being promoted under rural diversification, both of which do not pose the same health risks and exploitative potential as does manual coffee grading.

[18] Personal visit and interview in Estelí, Nicaragua, on Jan. 28, 2004, A. Pocasangre and R.C. Worden.

In the Nicaraguan Moskitia, PROARCA finances AMICA, a women's association engaged in ecotourism. We found the association well organized and active in promoting tourism, providing lodging and logistical services. However, due to a local tabu, women are prohibited from entering the Cayos Miskitos area, arguably the most promising area for ecotourism in the region. It is difficult to see how to match respect for local traditions and the desire for development in this case.

Recommendation 40: Gender-related considerations should be main-streamed into the second phase of PROARCA program.