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GREENCOM II / PANAMA CANAL INTEGRATED WATERSHED MANAGEMENT PROJECT FINAL REPORT

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ACRONYMS

AED	Academy for Educational Development
ACP	Autoridad del Canal de Panamá
ANAM	Autoridad Nacional del Ambiente
ANAPOR	Asociación Nacional de Porcinocultores
ANCON	Asociación Nacional para la Conservación de la Naturaleza
APROCA	Asociación de Agricultura Orgánica de la Cuenca
BDA	Banco de Desarrollo Agrícola
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CBO	Community Based Organization
CEASPA	Centro de Estudios Acción Social Panameño
CICA-AVIFAUNA	Centro Internacional para la Capacitación
CICH	Comisión Interinstitucional de la Cuenca Hidrográfica
CONAF	National Forest Corporation
CoNEP	Consejo Nacional de la Empresa Privada
CNP + L	National Center for Clean Production
CSU	Colorado State University
DINAPROCA	National Office for Protection of Environmental Quality
EE&C	Environmental Education & Communication
FAS	Fundación de Acción Social por Panamá
FIDECO	Fideicomiso Ecológico de Panamá
GEMAS	Grupo para la Educación y el Manejo Ambiental Sostenible
GOP	Government of Panama
GWU	George Washington University
IDB	Inter-American Development Bank
IDEAS	Local NGO
IMA	Institute of Agricultural Marketing
INAC	Instituto Nacional de Cultura
INFOCUENCA	Project newsletter
IPAT	Instituto Panameño de Turismo
IR	Intermediate Result
IUCN	International Union for the Conservation of Nature
IWM	Integrated Watershed Management
JAAR	Juntas Administradoras de Acueductos Rurales
LT-T and CQ	Los Hules – Tinajones and Camo Quebrado
MICI	Ministerio de Comercio e Industrias
MIDA	Ministerio de Desarrollo Agropecuario
MINSA	Ministerio de Salud
MIS	Management Information System
NCPC	National Clean Production Center
NGO	Non-governmental organization
NGS	National Geographic Society
PES	Payment for Environmental Service

PCW	Panama Canal Watershed
PA	Protected Area
PTJ	Technical Judicial Police
RUC	Registro Único de Contribuyentes
SAP	Sociedad Audubon de Panamá
SINAP	Sistema Nacional de Areas Protegidas
SO	Strategic Objective
SOW	Scope of Work
SNP	Soberanía National Park
STRI	Smithsonian Tropical Research Institute
TDI	Tourism Development International
TOR	Terms of Reference
USAID	U.S. Agency for International Development

INTRODUCTION

The Panama Canal Integrated Watershed Management Project was an outgrowth and continuation of work completed from 1998 to 2001 under the USAID-funded Environmental Education and Communication (GreenCOM) project. In 2001, through a buy-in (Task Order No.: LAG-I-801-01-0005-00) to the GreenCOM II IQC, administered by the Academy for Educational Development (AED), USAID/Panama extended the work started under the previous project. This new project's overall goal was to foster sound environmental management of the Panama Canal Watershed (PCW) through an effective Environmental Education and Communication (EE&C) program by: emphasizing wide participation through partnerships and alliance building; building technical and operational capacities of key local target groups (notably Government of Panama (GOP) institutions, local governments, civil society, and private sector companies) through mobilization and empowerment; transferring required knowledge and practical know-how; and promoting economically viable and environmentally sound activities in the PCW so that stakeholders become aware of its importance and take action to protect it. All activities contributed to the attainment of USAID/Panama's Strategic Objective: "Panama Sustainably Manages the Canal Watershed and Buffer Areas."

At the outset, this five-year, \$3,807,029 project consisted of five components: Overall PCW Management coordinated by the Inter-Institutional Commission on the Panama Canal Watershed (CICH); Local Government Capacity for Environmental Management; Partnerships for Improved Protected Area Management; Ecotourism with a Protected Area Focus; and Private Sector Policies and Practices for Sound Environmental Management.

Given the success of various EE&C interventions during the first two years of the project, the Task Order was modified in April 2003 to expand the scope of work (SOW), increase the ceiling amount by \$9,931,990, and extend the period of performance to September 30, 2006. The revised SOW went beyond its original EE&C focus, and centered on USAID/Panama's Strategic Objective (SO) framework for 2003 to 2006, which was designed to better integrate and coordinate the strategic delivery and management of its technical assistance and financial support to Panamanian institutions and stakeholders. This consolidation of USAID/Panama's SO activities was intended to produce more efficient and effective coordination of actions between stakeholders as well as facilitate integrated planning and clarify institutional roles and responsibilities. By uniting the various areas of technical assistance—policy, communication, technology transfer, and financing mechanisms—under a single contract, USAID/Panama would be able to create synergy to help Panamanian institutions and groups to "sustainably manage the Canal Watershed and buffer areas."

In March 2004, the Task Order was further modified to increase the project ceiling to \$14,652,109. During the following year (May 2005), the program SOW was again modified to reflect the identification of emerging program opportunities to achieve greater impact within the Mission's Strategic Objective. These changes coincided with USAID/Washington's approval of the Mission's Country Plan, as USAID/Panama became part of USAID's Regional Central America and Mexico Strategy. The new SO "Economic Freedom: An Open, Diversified and Expanding Economy" included the Intermediate Result (IR), "Improved Management and

Conservation of Critical Watersheds.” Consequently, the revised SOW was restructured to support activities under this IR.

Subsequently, the project re-focused its technical assistance to support local, sub-watershed planning and action that would reinforce earlier work at the macro-institutional level in the PCW to demonstrate tangible actions on the ground. To support overall management of the PCW, the project was required to work at the local, basin, and national level as well as use demonstration activities for “improved environmental management inside and outside target sub-watersheds, policy, legal, and regulatory reforms, strengthened local governance, planning, and land use regulation, monitoring and information systems, and sustainable ecotourism.”

In addition, this modification expanded activities in environmental governance and new activities in the Colon area, as an extension of the PCW buffer zone, and focused on existing opportunities for sustainable livelihoods through tourism activity in the region. Limited activities were also initiated in the Darien province, expanding the geographic focus beyond the PCW. Efforts were also required to build capacity of local stakeholders to establish and replicate best practice models for integrated watershed management and to facilitate and promote local initiatives while identifying areas to strengthen total capacity and to reinforce the existing policy framework. A central tenet of this work required promoting trust and fostering confidence among Panamanian counterparts to assume leadership roles in tackling the various challenges associated with maintaining or improving the environmental health and economic vitality of the PCW. Support to develop counterpart institutions and promote national-level coordination and institutional leadership was provided in parallel with assistance to local and municipal level entities responsible for resource management activities.

Also, the project was tasked with supporting the National Environmental Authority’s (ANAM) efforts to expand economic opportunities, especially related to environmentally sound revenue-generation for reinvestment in sustainable protected area management through pilot activities that served as models for application elsewhere throughout Panama’s system of protected areas.

Performance of program activities conducted under this Task Order was reviewed as part of an external evaluation of USAID/Panama’s program portfolio in 2005. The document was entitled “Evaluation of USAID’s Strategic Objective for the Panama Canal Watershed 2000-2005.”

Lastly, a final modification was issued in late 2006 to extend the period-of-performance to November 30, 2006 to allow for completion of selected on-going activities.

The following sections summarize project accomplishments in each of the final SOW component areas.

BACKGROUND

AED’s support for the Integrated Management of the Panama Canal Watershed corresponded to two intermediate results under USAID/Panama’s Strategic Objective No. 1.

IR.1 Integrated Watershed Management Demonstrated in Selected Sub-Watersheds

Intermediate Result 1 focused on local, sub-watershed planning and action that reinforced earlier works at the macro-institutional level in the PCW, and demonstrated tangible actions on the ground. Within this IR, several distinct approaches were jointly pursued at the local, basin and national scale to support overall improved management of the PCW, including demonstration activities for improved environmental management inside and outside target sub-watersheds, policy, legal, and regulatory reform, strengthened local governance, and monitoring and information systems.

Support was provided to public and private organizations with coordination through the CICH for the improved management of selected pilot sub-watersheds in the PCW. Activities in selected pilot sub-watersheds served as laboratories and testing grounds for improved integrated management practices for the entire PCW. Activities were identified through a participatory assessment process with local resident communities that identified key factors affecting the quality of water and soil in the watershed that impacted the economy and health of its inhabitants.

An evaluation and monitoring system was developed to identify lessons learned and best practices to involve local communities and government in addressing these problems. USAID/Panama and the Panama Canal Authority (ACP) also established a fund for Improved Management of the PCW through which projects presented by NGOs or CBOs were financed. Projects were approved after selection and evaluation by the fund's executive committee. AED provided technical assistance to the NGOs and CBOs.

IR.2 Environmentally Sound Economic Activities in Protected Areas Implemented

Sustainably managed protected areas (PAs) are critical to the success of an integrated management approach in the PCW. A comprehensive Protected Areas Management Strategy for the PCW was developed by ANAM with USAID/Panama assistance that proposed a wide range of components to ensure that PAs would be well managed over the long-term. USAID/Panama and ANAM agreed to address one of these components—economic opportunities—as the main focus of activity carried out under IR-2, Sub-Result 2. The focus was on environmentally sound revenue generation for reinvestment in sustainable protected areas management. Efforts in one pilot project PA and its buffer zone served as models for ANAM to implement similar activities elsewhere throughout the national protected area system as well as to improve coordination with and participation of the various stakeholders.

Ecotourism and payment schemes for environmental services were also explored as alternatives for generating income for PAs, which in turn, would be reinvested in biodiversity conservation. Similarly, ecotourism development opportunities in PAs were focused on creating economic opportunities for neighboring communities in order to reduce their pressure on the natural resources. In addition, AED provided assistance to ANAM for regulatory reforms that would allow them to award service and administration concessions to the private sector in the public use areas of protected areas such as Soberanía National Park (SNP).

The majority of activities implemented focused on SNP as a platform for eventual replication to other protected areas throughout the country. USAID/Panama and ANAM agreed to focus on the SNP as a preliminary pilot project and living laboratory for developing an array eco-tourism destinations, products, and services for visitors that met international standards. During 2004, AED conducted a detailed assessment and design process, assisted by Tourism Development International (TDI) and George Washington University (GWU), to outline priority initiatives to accomplish this. The current Government of Panama (GOP) administration enthusiastically supported the concept and budgeted funds to help initiate the pilot project. A series of recommended activities, identified and approved by USAID/Panama, were implemented under the expanded scope of work (SOW).

A cross-cutting task force for these two work areas developed participatory methodologies, policies, and regulations to ensure the sustainable application of lessons learned on improved watershed management and ecotourism, as well as their widespread dissemination and acceptance throughout the greater watershed. These policies and reforms regulated and provided positive incentives for the participation of all sectors involved in agricultural production, ecotourism, and natural resource conservation in the PCW.

PROJECT ACHIEVEMENTS

SUB-RESULT 1 Principles and Best Practices on Watershed Management Demonstrated in Selected Sub-watersheds

Consistent with the desires and interests of the GOP and USAID/Panama, AED worked closely with the ACP on the implementation of their NGO strategies and activities in the Gatuncillo peri-urban sub-watersheds, which drew upon the experiences and lessons learned in Los Hules, Tinajones, and Caño Quebrado rural sub-watersheds. Overall, AED implemented five tasks representing 33 different activities. The tasks ranged from high profile and far reaching incentive funds for sustainable integrated watershed management, to the design and purchase of vests for environmental inspectors of ANAM and SIA.

AED recognized that capacity building to manage the PCW in an integrated and sustainable fashion required that all key actors (including the GOP, the private sector, local government, civil society, and communities) actively participate in the identification of needs, formulation of policies, and validation of new technologies and community-based approaches to address priority problems. Throughout this process, a participatory approach to decision making, consensus building, and conflict prevention were fundamental elements in the implementation of sustainable system changes. AED worked with USAID/Panama to reinforce the participatory principles of *integrated watershed management* (IWM) by assisting the ACP, CICH, ANAM, and key local stakeholders to develop their capacity to sustainably manage their watersheds.

The long-term goal of activities carried out under Sub-Result 1 was to create an environment that enabled the private sector, government, and civil society to work together, and in so doing, generate alliances that resulted in more effective and sustainable interventions in the PCW. A central element to the strategy was the implementation of demonstration projects in selected sub-

watersheds. During 2004, the project financed and implemented a diverse and integrated set of NGO field interventions. Community watershed management committees eventually observed the benefits of their efforts to organize themselves and work collaboratively with the CICH.

AED supported the efforts needed to mobilize additional resources and complement other GOP programs being implemented in several areas, most notably agroforestry initiatives in the Trinidad sub-watershed and sanitation initiatives in the Chilibre sub-watershed. These efforts were combined with interventions outlined in the Gatuncillo, Los Hules, Tinajones, and Caño Quebrado Sub-watershed Action Plans. AED also provided funding for the establishment of the National Center for Clean Production (NCPC) to address contamination problems generated by industrial and livestock production facilities scattered throughout the PCW.

Implementation of an environmental justice pilot activity based on priority recommendations identified by the GOP from an assessment conducted by AED also provided a powerful new tool for improved integrated management of the PCW. AED identified opportunities to provide grant support for pilot activities in Colon for tourism and sanitation and in Darien for environmental activities such as sustainable cattle ranching.

Task 1.1 Incentive Fund and other Technical Assistance for Demonstration of Improved Management and Conservation of Critical Watersheds

This task represented the most visible and potentially far-reaching component of the IWM Project due in part to the significant grant funding made available to various local institutions and NGOs, strong collaboration between key partners, and the mandate to set up a permanent grant-making entity that would generate the trust and commitment of future funders. Each activity area, such as developing management tools, feasibility studies, or selection of grant activities, was conducted with representation from key partner agencies' technical staff, and used appropriate technical expertise as needed to ensure the most appropriate and responsive decisions were made along the way.

Pilot Projects

A central component to Task 1.1 was the implementation of pilot projects that emphasized the active participation of stakeholders in all task areas, from initial assessment processes, priority setting, design and scenario generation, to implementation and evaluation processes. A participatory process was used to develop a shared vision, prioritize specific environmental problems and solutions, establish goals and objectives to develop integrated plans that describe the specific roles and responsibilities of each institution, and design and implement specific pilot projects. CICH helped coordinate this effort and defined the mechanisms and indicators to monitor and evaluate the plans and projects.

Lessons learned were used to develop a model for institutional collaboration in the PCW. In addition, AED conducted a participatory assessment of strengths, weaknesses, challenges, and opportunities of local stakeholder groups and institutions to determine how best to mobilize and sustain their involvement in PCW management. Special consideration was also given to strengthening local governments, NGOs, and CBOs through training programs and field observation visits.

A core value for this activity was the creation of mechanisms which supported sustainable and integrated innovations in natural, agricultural, and livestock management. Sustainability, in this context, included qualities that reinforced and promoted financially sustainable and viable activities which flourished in local markets and provided livelihoods for those involved.

Furthermore, interventions had to be compatible with local social, cultural, institutional and political norms and sensitivities. Thus, all affected and active parties had to be comfortable with the impact of the activities that used natural and other resources in a sustainable fashion while maintaining the ecology, integrity, and productive capacity of the geographical areas directly affected.

The pilot project approach also emphasized capacity building through training, tool development, and system and relationship building to enhance the transition to local institutions at the end of the project. Panama's significant level of institutional capacity provided an ample base to build upon, as well as a strong network of institutions that could mentor their constituents at the local levels.

In deference to the increasing pressures upon programs to achieve sustainability, AED incorporated a greater emphasis on developing strong business and market-sensitive models for both the sub-watersheds and the protected area initiatives. The emphasis on public-private alliances and capacity-building focused on improving agro-industrial sector practices.

A prerequisite to receiving funding was that grantees were required to incorporate an education and communication component to their pilot projects. NGO grantees received technical assistance in designing and implementing these educational strategies and communication materials as needed. AED also assisted NGOs and other partner organizations in the development of proposals to implement local strategic environmental communication plans, identify channels for sharing information, and encourage and reinforce best practices.

Knowledge transfer and management were a central element to the implementation of pilot projects. Information generated from pilot projects was categorized and made accessible so that users could use and apply the information to support their program efforts. The CICH Information Center served as a central repository of reports, general information, and technical data produced by this project, as well as other sources of information about the PCW.

Panama is considered a progressive country in terms of gender equity, with strong traditions of women in leadership positions in the public and private sectors. In particular, local technical committees associated with the project had the full and active participation of women. This was in recognition of the vital role that they play at the sub-watershed level in environmental management and education. As a result, women were well represented in all stages of pilot project implementation and decision-making, thus assuring sustainability of all interventions.

NGOs implementing pilot project initiatives strengthened their presence in the sub-watershed through their field activities. As of June 2006, twenty two sub-grants were awarded under the Tasks 1.1, 1.2, and 2.9 as follows:

	GRANTS	BUDGET	DISBURSEMENTS	% EXECUTION
Complementary Fund	5	\$546,685	\$546,522	100
USAID-ACP	11	\$2,441,440	\$2,439,183	100
Ecotourism	6	\$668,940	\$662,435	99
Total	22	\$3,657,065	\$3,648,140	100

The above table illustrates the contributions made by local NGOs and level of funding made under this contract. By the end of September 2006, 100% of funds were expended. These activities also mobilized and leveraged other community and NGO resources for the project. The total of these contributions, most of which were in-kind (e.g., donated land for the construction of water tanks and sanitary facilities, labor, and voluntary participation in environmental education networks), are summarized in the table below.

	GRANTS	COST SHARE	EXPENDED	% EXECUTION
Complementary Fund	5	\$156,904	\$165,715	106
USAID-ACP	11	\$705,732	\$664,095	94
Ecotourism	6	\$365,765	\$342,192	94
Total	22	\$1,228,401	\$1,172,002	95

Counterpart contributions listed above do not reflect cost-share matches of pig farmers and industries provided on investment as part of their 50/50 contribution on selected activities.

The following were the key outputs and achievements from the pilot project activity:

- Constructed seven community waters systems;
- Strengthened 17 Local Waster Committees for better aqueduct management;
- Completed sanitation modules benefiting 150 families and seven schools;
- Established a network of 30 sustainable agriculture promoters servicing 90 family plots;
- Applied best practices on 15 farms implementing sustainable cattle ranching practices and an additional 80 farms replicating selected practices;
- Applied soil conservation best practices on 16 pineapple farms;
- Established a program to promote the appropriate use of pesticides and 8 farms are in the process of EUREGAP certification;
- Established a Clean Production Center; and
- Improved Community Managed Water and Sanitation Coverage in LH-T and CQ sub-watershed.

One of the highest priorities for communities in Los Hules-Tinajones and Caño Quebrado (LH-T and CQ) sub-watershed that participated in the socio-environmental participatory assessments was availability of community and home potable water and basic sanitation. These priorities

were supported by sectoral studies conducted by AED. The problem, however, was not simply the construction of water and basic sanitation systems, but rather, how to organize communities to develop the capacity to work together to manage such systems. The project placed emphasis on organizing and training community members on each aspect and phase of construction, operation, administration, and management of water and sanitation systems. As a result, 27 out of 29 communities in the LH-T and CQ sub-watershed and all schools in the area now have improved water and sanitation systems fully managed by the communities. The Ministry of Health (MINSA) was an active partner in the construction of new systems, and in providing assistance to the Water Administration Board of Cerro Cama (JAAR) and Community Health Committees on how to operate and maintain them.

In mid-2006, a sand filtration treatment plant, located in the community of Cerro Cama, was inaugurated. The sand filtration method is a simple, continuous, efficient, and reliable water treatment technique. The cost of the plant is within the means of rural communities and/or the country, specifically in regards to operation and maintenance. The plant was constructed within the framework of the Complementary Cleanup Project for Communities Situated in the Los Hules–Tinajones Rivers sub-watersheds, sponsored by the USAID/ACP Fund, and executed by the Group for Sustainable Environmental Management and Education (GEMAS).

The Ministry of Agricultural Development (MIDA) presented the Association of Organic Producers of the Canal Watershed, an organization of small producers promoted and supported by the project, with their legal standing or operating license. Obtaining this legal status permitted this organization to enter into commercial agreements with the Institute of Agricultural Marketing (IMA) and continue to receive technical support in organic agriculture from the Technical Mission of Taiwan.

In late 2006, AED presented “The Ten Lessons Learned for the Integrated Management of the Sub-watersheds of the Los Hules – Tinajones and Caño Quebrado Rivers,” to the public. The document synthesizes experience gained through work in these sub-watersheds.

Principal achievements included: new policies, monitoring capabilities, projects with environmentally-friendly best practices, and the organization for integrated watershed management. However, continuation of this effort required institutional support and a consultative council for integrated watershed management to ensure that they serve as a genuine management example to be replicated throughout the PCW.

A conference to recognize the official closing of the pilot projects was held in September 2006 and attended by dignitaries, decision-makers, community representatives, and local players. The event included a presentation of lessons learned, the viewing of a video containing testimonials of pilot project accomplishment, and the signing of a new letter of intent between USAID/Panama and the ACP. A draft electronic version of the document synthesizing the lessons learned was distributed, in addition to documents produced during the life-of-project.

National Clean Production Center (NCPC)

The project provided a range of technical assistance and advisory services to Panamanian institutions on a range of clean production technologies and processes. More specifically, project staff:

- Completed demonstration projects at the KARPASA and LA PALMA cattle ranches;
- Organized and offered a second awareness workshop “Presentation of Guides and Demonstration Cases for the Avian and Porcine Sectors” on June 19 and 22, 2006;
- Assisted the NCPC secure its RUC and recognition as a NGO in order for its contributors to be exempt from income tax;
- Assisted the NCPC in delivering courses, creating project profiles for contributors, and offering services directly to the business sector; and
- Designed eight investment plans that were executed together with beneficiaries.

NATURA’s Management Information System

AED supported the development of a Management Information System (MIS) for NATURA that integrated technical, financial and administrative information of the different programs it implements. This new MIS supported improved decision making processes. According to the MIS specifications, known as SIIAP, it is a digital tool accessible via the Internet. NATURA staff received training in its use in order to:

- Harmonize and facilitate information coordination and exchange between project management, administration, and finance departments;
- Simplify the supervision, control, and support systems for NATURA’s executive body to detect possible problems and identify timely corrective measures to reduce the cost of supervision;
- Provide information during the project implementation phase to determine the level of success and progress of objectives, including activity sustainability;
- Strengthen the administrative management of NATURA in directing, planning, and following-up on decision making through the use of timely and precise information;
- Support fund raising processes with data and impact reports; and
- Evaluate project proposals, and monitor them for efficiency, effectiveness, and impact.

Public-Private Alliances have Positive Impacts

To facilitate the sustainability of the NGO efforts initiated under the pilot project process, alliances were promoted between project-supported NGOs and key public sector institutions. The following list summarizes the results that were achieved through each of the alliances fostered by the project:

CONEP – ANAM

- Established the National Center for Clean Production (CNP+L);
- Provided technical assistance in the application of cleaner production methods to 180 businesses;
- Hosted 12 sensitization seminars on clean production;
- Hosted 36 training courses, attended by 800 participants;

- Trained 229 consultants and auditors;
- Supported 14 demonstration projects on clean production; and
- Published eight cleaner production guides.

These results demonstrate the sector's acceptance of the clean production strategy, as well as the resulting improvement of environmental management by businesses and quality of life for the general population.

CNP+L – ANAPOR

- Signed 9 investment plans for implementation of cleaner production systems co-financed by USAID and the hog farmers;
- Presented a proposal for environmental, productive, and economic performance indicators; and
- Presented two PAMAs and two Clean Production Plans.

IDEAS – Asociación de Agricultura Organica de la Cuenca (APROCCA) – MIDA

Thirty-five organic agriculture promoters were trained on how to disseminate their experiences and technical know-how to their peers through a farmer-to-farmer approach. Also, new alliances with the IMA and the Taiwan Technical Mission were established to support commercialization of agricultural goods.

FUDIS – ANAGAN – AGACC – MIDA

Cooperation between these key actors was strengthened through the implementation and dissemination of best practices for cattle ranching. Furthermore, the opening of a new funding mechanism by the BDA has fostered the replication of practices demonstrated by the pilot projects.

FAS – MINSA – JAAR – GEMAS

JAAR, with public support from MINSA and technical assistance provided by FAS and GEMAS, assured the administration and operational responsibilities of all aqueducts. Community Health Committees disseminated experiences and guided local communities on environmental health issues.

Consejo Consultivo LH-T and CQ – NATURA – CICH

A new project to provide \$50,000 for the operating costs of the *Consejo Consultivo* for the next two years was brokered with NATURA and CICH.

Communication Strategy

Throughout the period of pilot project implementation, AED updated information sheets, brochures, program presentations leaflets, INFOCUENCA (the project newsletter), and the project web site. In late 2006, a major INFOCUENCA edition highlighted the pilot project implemented with USAID funds. INFOCUENCA was distributed to a readership base of over 1,000 individuals and institutions with an interest in management of the Panama Canal Watershed.

Task 1.2 Integrated Watershed Management Activities within the PCW

Sustainable Cattle Ranching Practices Disseminated

Various agroforestry and silvopastoral management practices, such as improved pasture, living fences, and timber and fruit trees in pastures were introduced on five pilot farms. Conditioning of cattle ponds also was completed as well as installation of drinking troughs and water distribution by pipelines to select pastures. Additionally, proposed management plans were set for implementation on these farms. The project also supported the dissemination of a document outlining best practices in the region.

Colombia Sustainable Livestock Familiarization Trip

AED designed and led a group of Panamanian livestock sector participants consisting of three (BDA) technicians, two MIDA officials, two ANAM technicians, and two small cattle producers that were in the process of introducing sustainable livestock best practices on their farms, to Colombia in March 2006. The purpose of the visit was to observe sustainable livestock practices used in the Cauca and Quindío Valleys and use the lessons learned to: promote sustainable livestock production back in Panama; strengthen inter-institutional coordination among key Panamanian actors; and increase the long-term viability and replication of sustainable livestock production practices throughout the PCW.

The trip allowed Panamanian participants to observe first hand, sustainable livestock practices on farms that ranged from 1 to 270 hectares, most notably, integrated farm management practices that minimized the use of “off farm” inputs (especially pesticides), through the utilization of on-farm produced inputs. Participants came away with new ways to enhance land use and productivity through the adoption of agrosilvopastoral systems and the incorporation of farm by-products for animal feed supplements and soil improvement purposes. In addition, they examined new, more intensive space planning methods as well as ways to experiment with tree and plant varieties to meet local soil conditions.

Technicians and Producers Training on the PCW in Best Practices in Sustainable Cattle Ranching and Payment for Environmental Services

A group of 23 decision makers and technicians representing institutions such as ACP, CICH, ANAM, MIDA, BDA, IDIAP and the Watershed Steering Committee (*Consejo Consultivo*), participated in an observation trip to Costa Rica to experience first hand the operation of a payment for environmental services (PES) mechanism. The experience was designed to contribute to the development of a Panamanian model to promote the implementation of best management practices in the PCW.

The main elements of the system which were addressed by local authorities and participants included:

- Mechanism operational procedures and monitoring system;
- Identification of key players for designing and operating the mechanism;
- Incorporation of a payment for environmental services scheme into a watershed management plan to promote best practices; and

- Open new investment alternatives for rural development through the development of a line of credit with the public financing banks to bring new resources to local communities.

Sustainable Cattle Ranching TV and Radio Campaign

In late 2006, the project designed and funded the production of an integrated TV and radio campaign to promote sustainable cattle ranching. These television and radio spots were geared to support project interventions.

For example, in collaboration with BDA and MIDA, farms in the Coclesito and Gatuncillo sectors were selected for application of the credit policy in the PCW, of which two will serve as pilot farms where the BDA will display the experiences of the new method of credit application for production and conservation purposes. In addition, 50 producers and technicians from the Gatuncillo and central provinces sub-watersheds attended a field day in La Peana, Santiago de Veraguas.

The sustainable cattle ranching project implemented by FUDIS was extended to cover the Gatuncillo sub-watershed using the same approach that proved successful in Los Hules – Tinajones. As a result of this effort, ten new ranches are replicating best practices.

Darien Ranching Project

Ten management plans were developed and implemented for select satellite farms as part of the Darien Cattle Ranching Project. The management plans provided a diagnosis of farm impacts on the environment and a proposal to introduce new technologies and practices that could be applied by producers over the short term, as well as changes in farm management practices that would have a positive environmental impact. The owners of these ten satellite farms helped conduct field days and training sessions on their farms for their neighbor farmers interested in replicating sustainable livestock practices. A principal technology introduced was the construction of on-farm water catchment ponds and rustic water distribution systems for cattle. This allowed for intensive management of cattle and pastures and less environmental impact. It should also allow farmers to raise more cattle on less land and allow appropriate, high slope, parts of their farm to regenerate into natural forest.

Task 1.3 Legal, Regulatory and Policy Reforms and Administration of Justice for Improved Environmental Management

Training for BDA and MIDA Technicians in Planning for Sustainable Livestock Production

Three field days were conducted on farms receiving BDA credit in Santiago de Veraguas and Los Santos Azuero. Thirty participants ranging from BDA credit recipients, BDA and MIDA technicians to the PROMEGA Institute of the University of Panama attended. A familiarization trip to Colombia for 11 participants in sustainable livestock production complemented this activity. Support was also provided to the BDA for the implementation of a new sustainable livestock credit in the PCW.

Support to MIDA on Accessing Resources for Technology Diffusion

Project staff drafted a document on environmental practices to improve livestock activities in the watershed. The document was presented to CICH and MIDA for approval and financing for subsequent implementation. Support was also provided to MIDA to assist it in securing resources for the new Sustainable Cattle Farming Project. The document, entitled, “Silvopastoral and Sustainable Cattle-Farming with Small Producers, through Technologic Diffusion Farms in the Canal Watershed” was completed and presented for review by the Secretariat of the CICH, MIDA, and BDA. The CICH amended the document as the original design might require modification due to the re-apportionment of the area of influence following the repeal of Law 44 of 1988, which defined the limits of the watershed.

Modifications to the Forestry Law

A consultation workshop consisting of 30 ANAM officials, representatives from other GOP institutions, forestry and wood industry specialists, and NGO leaders, was conducted to define the conceptual framework for updating of forestry legislation. Five working groups were formed to provide in-depth analysis of strategic areas of access to resources, land tenure, institutional roles, incentives, and non-wood products. A conceptual framework document was also produced.

Following two internal expert workshops at ANAM during June 2006 and various work sessions with the Forestry Department, a proposal for a follow-on project to update existing legislation was completed. The document was delivered to ANAM’s Forestry Department where it is being reviewed for consideration for future submission. A comparative analysis format was used by participants to facilitate proposed changes with current laws, regulations, and statutes.

Payment for Environmental Services (PES)

The geographic area of a pilot PES scheme was developed for the higher elevations of Gatún, Boquerón sub-watershed and San Juan de Pequení rivers in the Special Use Zone of Chagres National Park. According the Chagres National Park Management Plan, sustainable agricultural, agro-forestry, and livestock activities are permitted and consistent with park objectives. Current production practices are classified as intensive, and the best practices for converting this to sustainable production were identified according to the soil capacity in the zone.

A combination of data gathering from secondary information sources and site visits to farms in the Chagres National Park (Boquerón) sector and buffer zones was conducted on proposed productive activities at the farm level, including projections of income flows associated costs.

In response to a request by the CICH, the project also conducted a design study of a PES activity for the LH-T and CQ sub-watersheds, field visits to these watersheds, and interviews with producers. The information, proposals, and initiatives contained in the management plan for the LH-T and CQ sub-watersheds were reviewed as part of coordination sessions with CICH as a means to obtain support for the creation of cartographic material.

Soil Conservation Policy Initiative

A proposal for developing a soil conservation policy for the PCW was prepared based on the results of work sessions and meetings with representatives of multiple GOP institutions, including CICH and MIDA. The paper outlined the principles, objectives, legal and institutional

frameworks, strategies, and specific instruments that national authorities would assume (under the coordination of the CICH) better utilize and sustainably manage soil resources.

Design of Geo-referenced Maps in Support of the Management Plans for the Silvopastoral Project Farms of the LH-T and CQ Sub-watersheds

Digital maps were completed, based on icon satellite images, for each of the 15 pilot farms that received technical assistance as part of the Silvopastoral Project of the LH-T and CQ sub-watersheds. The maps included a real image photo of each farm with current land uses as well as proposed future uses. Surface areas were also calculated to facilitate monitoring land use changes over time. In addition, the project supported the development of complementary products such as a digital land elevation map that highlights sloped areas within each productive unit. These maps are an important methodological contribution for monitoring the incorporation of best practices.

In response to a request by the CICH, the terms of reference for initiating the design of a PES proposal in the LH-T and CQ sub-watersheds was developed to support and form part of implementation initiatives of the sub-watershed management plans. Work was carried out jointly with the ANAM, ACP, and CICH in the harmonization of the PES initiatives identified for the PCW.

Study of Teak Plantations

The project made a presentation of the study titled, “Economic and Environmental Perspectives on Teak Plantations under Sustainable Management in Panama.” This study was carried out with the technical support of CATIE. This activity served as the framework for a conference led by one of the study’s authors, as well as a panel on Panama’s forest sector and plantations. ANARAP, ANAM and MICI participated in the panel.

Task 1.4 Local Governance, Planning, and Land Use Regulation

Establishment of the *Consejo Consultivo* and Approval of the Action Plan

As planned, the *Instancia Local* was officially vested by CICH for the LH-T and CQ sub-watersheds. The Operating Regulation of the *Consejo Consultivo* was reviewed and approved by its 22 members and the CICH. An agreement was reached with the Community Board of the Amador Corregimiento to construct an office for the *Consejo Consultivo*, located in Cerro Cama. In similar fashion, agreements were reached with the Community Boards of Mendoza and Herrera to remodel their offices so that they could be used on a rotating basis for meetings.

The Executive Secretary of the *Consejo Consultivo* was contracted to coordinate all logistics and operational aspects of the body, which will continue functioning after the USAID/AED project is finished. The participatory process used to prepare the Management Plan identified critical areas and priority actions for natural resource protection over the next five years. All members were trained in various participation and watershed management themes. A Conceptual Framework for Watershed Management document was finalized and was scheduled to be published.

Over time, the *Consejo Consultivo* completed the following tasks:

- Signed the Articles of Constitution;
- Approved the operative regulations of the Consultative Council;
- Completed a draft of the Management Plan and Action Plan for the Los Hules-Tinajones sub-watersheds and submitted them for final review;
- Developed a sub-committee, led by the Environmental Foundation for Community Development (FADEC), to continuously monitor water quality of the Tinajones River. All of the hog, poultry, and cattle farming operations upriver from the uptake chamber of the Cerro Cama Aqueduct were visited by a total of 27 people divided into different working groups;
- Constructed and equipped the consultative council offices;
- Signed agreements with Community Boards of the districts of Amador, Mendoza, and Herrera for maintenance of the council office and donated furnishings for common use of the community board locales;
- Designed and presented a report to the Cerro Cama Community on water quality of the three sub-watershed rivers. The report was prepared by a joint committee comprised of members of the *Consejo Consultivo* and the Local Technical Group. This report was prepared using the quarterly water-quality monitoring data gathered by Dr. Roberto Ibañez;
- Delivered the final draft Terms of References (ToRs) for the *Consejo Consultivo* Strengthening Project to the Natura Foundation. The ToRs were jointly developed by a committee of the *Consejo Consultivo* and reviewed by the CICH; and
- Presented the credit policy and window of the Agricultural Development Bank (BDA), to *Consejo Consultivo* member organizations for the LH-T and CQ sub-watersheds.

Task 1.5 Environmental Monitoring and Information Systems

Water Quality Monitoring in Los Hules-Tinajones and Cano-Quebrado Sub-watersheds

In support of efforts to monitor environmental quality in Panama, the project monitored water quality of the LH-T and CQ sub-watersheds. In the last set of measurements taken, the Water Quality Index (WQI) for the Los Hules-Tinajones and Caño Quebrado rivers was 78, 76, and 74, respectively. These values indicate good water quality. Overall, the monitoring of water quality performed in these rivers showed fluctuations in the WQI. During 2005, the lowest WQI values were obtained; however, water quality improved in 2006.

Technical Assistance Provided to CICH and Member Institutions

Project staff provided technical assistance to implement the environmental monitoring system in LH-T and CQ sub-watersheds as a pilot initiative. A set of indicators was defined and data was collected from official sources. CICH's Secretariat assumed this role while AED provided assistance whenever needed. AED sampled water quality of the three rivers on a quarterly basis and results were published on the project web site.

Task 1.6 Environmental Governance Pilot Activity

For the first time, the project was able to assemble Panamanian environmental justice officials in a single location to discuss the gaps and weaknesses of environmental laws as written and currently practiced. Environmental justice officials that received training and assistance under this activity were divided into three main groups:

- Public officials from ANAM and other GOP agencies;
- Judicial sector authorities; and
- Local government authorities, primarily *corregidores*

The training helped define roles and responsibilities of the different justice system officials and to raise the level of importance of functional and effective environmental legislation in the overall justice system. To this end, the trainings used case studies to help improve the quality of environmental justice documentation, processing, and casework. The training also helped to highlight the many problems still facing the effective application of environmental legislation in Panama. Environmental judicial standards are established in most cases without effective consultation with appropriate expert involvement as designated by the law. There is also no regard given within the system to the necessary financial and human resources necessary to effectively execute the law. Effective implementation is also hindered by duplication of functions, and environmental law intrinsically goes against some judicial paradigms.

Overall 35 judges, 35 district attorneys, 75 *corregidores*, and 75 ANAM officials took the course. This effort was just the start in a process that should result in better and more effective application of environmental law nationwide. Participants came to the conclusion that more analysis and studies are required in the areas of how to present evidence and institutional coordination. There is also a need to train the environmental justice officials that did not receive the training, as well as ecological and judicial technical police.

A Toolbox for Environmental Justice

Information and recommendations from the environmental justice courses were compiled into a “toolbox” on environmental justice. The toolbox allows ANAM and other organizations (such as the Judicial School, Public Defender’s Office and Citizens’ Alliance for Justice, among others) to provide courses to public officials and the general public.

The toolbox included:

- A five-module course on administrative environmental law, complete with accompanying Power Point presentations, a copy of the principle environmental norms in force, and a complete index of all the support material presented (*e.g.*, jurisprudence and consultations with the Attorney General as well as applicable environmental legislation);
- An introductory course on environmental justice and environmental legislation in Panama for local authorities;
- An introductory course on environmental justice and environmental legislation for judges and district attorneys;

- Course material on environmental law: penal responsibility; and
- Course material on environmental law: civil responsibility.

The documentation and compilation of this vast collection of information on environmental laws and duties of public officials in Panama now enables legal practitioners to easily replicate course content and reproduce instructional materials for future educational, informational, and capacity building initiatives.

Regulations for ANAM Environmental Supervision

AED project staff, with the direct participation of the National Office for Protection of Environmental Quality (DINAPROCA), helped to draft a regulation on environmental supervision, control, and inspection for ANAM. The regulation is an important legal instrument for monitoring compliance with environmental legislation and management. In addition, a conceptual framework and operative manual was prepared. Both documents were made accessible to the general public as both ANAM and AED uploaded them on their respective websites.

Through this process, considerable public feedback was received, especially on the need to place greatest emphasis on the selection, contracting, payment, and billing of environmental inspectors. To this end, the ANAM, together with project staff and a consultant, worked closely with the Ministry of Economy and Finances to evaluate alternatives. A meeting also was held to determine whether the plan chosen by ANAM would be developed into a regulatory proposal and included in the operative manual.

Both the conceptual framework and draft regulations covering supervision, control and financial oversight were accepted by ANAM. Work was completed on the regulations operations manual, which was reviewed jointly with ANAM and a final version was submitted for final acceptance. A coordination meeting with ANAM and the Technical Judicial Police (PTJ) was held to harmonize inspection procedures related to environmental issues. The PTJ submitted a dossier with the operative manual that it is using so that it can be adapted for use by ANAM. In turn, a registration manual for environmental inspectors was developed, that has been adapted to the system for certification of persons that is being implemented by the Office of Protection of Environmental Quality on the basis of the requirements of ISO 17024:2003 (general requirements for certification bodies). This international norm establishes the requirements to ensure that certifying bodies operate in a consistent, comparable, and reliable manner.

Informational Material on Environmental Justice

Informational material on environmental justice was reproduced for wide distribution. Items included: a poster with the constitutional guarantee of the right to a healthy environment; a pocket book covering Panamanian environmental law and the Law of Crimes against the Environment; and an instructional pamphlet for the general public on environmental denunciation

A draft copy of a pamphlet for local law enforcement officials supporting a healthy environment and a pocket-sized book on Panamanian environmental law were designed along with material from the Introductory Course on Environmental Law and Environmental Justice for Local Law

Enforcement Officials. These were to serve as a replacement for the educational pamphlet on Law Crimes against the Environment. However, it was eventually decided that the latter would not be produced since 10,000 copies of the law were being printed and a national commission was formed to review and codify the new penal codes and process, which includes reforms to the current Article on Crimes against the Environment. Since the topic was under public consultation, the pamphlet was not published as it would immediately become outdated.

Vests for ANAM and SIA Environmental Inspectors

Project staff helped in the design, production, and distribution of vests for environmental inspectors of ANAM and SIA as a way to demonstrate to the general public their important role in protecting the environment and helping to thwart environmental abuses.

SUB-RESULT 2 Sound Environmental Management Models Developed in Selected Protected Areas

The comprehensive Protected Areas Management Strategy for the PCW implemented by AED was developed with ANAM and emphasized the development of economic opportunities through environmentally-sound revenue generation for reinvestment in sustainable protected areas management. Efforts were focused in Soberanía National Park (SNP) and its buffer zone as a model for ANAM to implement elsewhere in other protected areas. The model emphasized improved coordination with, and participation of, the various stakeholders involved in or affected by protected area management.

Development of ecotourism products, services, and destinations in SNP was the main thrust to help generate income to conserve biodiversity. Specific activities were identified and developed to ensure that local communities in the park buffer zone would also benefit from increased ecotourism opportunities. A fundamental part of the strategy was assistance provided by AED to ANAM for the requisite regulatory reforms that allowed them to award service and administration concessions to the private sector in the public use areas of the park to develop ecotourism products, services, and sites that meet internationally-recognized standards.

Lessons learned during this pilot project formed the foundation for replication in other protected areas in Panama, most notably, at San Lorenzo National Park. AED also worked with GOP institutions such as ANAM, IPAT, INAC, and MICI which have the responsibility to protect Panama's heritage and promote tourism.

The nine tasks carried out by AED under this Sub Result resulted in a markedly improved ecotourism offering in SNP. The following are the highlights:

1. Placed signage on the Camino de Cruces and Plantation Road. Interpretation signage was also placed at Cruces, the site where Sir Francis Drake attacked the Spanish on Camino de Cruces, and at the mule footing points on the Camino de Cruces.
2. Identified the Saltillo River gold mine with its intact, 100 year old steam engine and California Hendry stamp mill as a new attraction and a rustic trail put in place.

3. Contracted a new nature interpretation trail, *The Spirt of the Forest*, near the park headquarters with state-of-the-art nature interpretation using local artists.
4. Trained members of indigenous villages of Ella Puru and San Antonio and provided basic infrastructure essential to increase the quality of their tourist offering and capacity to receive more tourists.
5. Established the legal regulatory framework to allow such investment to take place. ANAM personnel visited similar co-investment schemes in Chile and learned that it takes time to fully merge public/private sector interests into realistic and effective win-win investments.
6. Constructed the Rainforest Discovery Center Canopy Tower in the buffer zone near the entrance to Pipeline Road. This tower is expected to increase the flow of bird watchers to the internationally renowned Pipeline Road.
7. Trained ANAM personnel in the management of sustainable tourism in protected areas.
8. Organized several local tour operators into a business cluster called the Ecological Route between Two Oceans.
9. Produced important bird watching interpretation materials by Audubon Panama to enhance the bird watching experience in Soberania National Park.

Task 2.1 Enabling Regulations and Standards for Sustainable Tourism in Protected Areas

An update of the Soberanía National Park Management Plan was completed and included a business plan for managing private sector investment within the park through service concessions. In particular, the zoning of the park was updated and validated to handle increased visitor flow. An ambitious effort was undertaken to carry out participatory consultations with local communities surrounding the park and other stakeholder groups.

Task 2.2 Institutional Strengthening of GOP Institutions in Sustainable Tourism Management

Training was provided to ANAM personnel, an IPAT employee, and a representative of the NGO CEASPA on the management of sustainable tourism in PAs. The training was conducted in several modules that were turned over to ANAM for use in future training courses.

Task 2.3 Management Systems in Place in Protected Areas and Services

Regulations for Concessions within Protected Areas Revised

The project provided ANAM with the services of a sustainable tourism expert to develop a proposal for concessions plans and options appropriate for Soberanía, thereby helping to broaden the institution's capacity to value, understand, and manage private concessions and services within protected areas.

Map Featuring Recommendations on Sustainable Ecotourism Opportunities in SNP

A map illustrating recommendations for potential tourism use of different areas of the park was prepared for USAID/Panama and ANAM. In addition, architectural services were obtained to produce the technical specifications and preliminary designs for various tourism installations for the park, at the request of the ANAM.

San Lorenzo Visitors Center

A final design and technical specifications for the Visitors Center of the San Lorenzo Park were completed. Delineation of the park's boundaries is still needed before an environmental impact study can proceed.

In addition, environmentally-friendly solutions were considered for water supply, waste water treatment, and illumination. Project drafts, construction specifications, and a budget were submitted to INAC in mid-July together with the environmental impact assessment and survey.

Task 2.4 New and Improved Administrative and Financial Systems in Protected Areas

At the request of ANAM, no activities were executed for this task.

Task 2.5 Sustainable Tourism Cluster Consolidation

AED worked closely with the IDB-funded *Compite* Project to launch the Ecological Route Between Two Oceans Cluster. A map was launched with the official support of ANAM, IPAT and INAC. Work was also started with the Albatross Foundation for the production of a video on the cluster route and to promote a video on Ella Puru developed by Albatros. Work also has started with IPAT on the development of specific tourist circuits and tourism packages. A video featuring the "*Ruta Ecológica entre Dos Oceanos*" was presented to the public.

In addition, a presentation of the proposal for tourism circuits along the route to support the Cluster as a promotional strategy was made. The presentation included recommendations, observations, and general contributions. The route represents a new product within the National Program for Tourism Routes being developed by the Panamanian Tourism Institute. In preparation, a general survey was conducted on the diverse market niches in the U.S. with an interest in this route, which resulted in the identification of new ecotourism circuits; proposals were also prepared for improving the quality of existing circuits. The goal of the study was to identify and organize existing sites and tourism facilities along the route and make them more attractive and competitively priced offerings for tour operators and cruise-ship circuits. It is hoped that the methodology followed here will be used by IPAT to carry out similar processes for the country's other tourism routes, within the framework of their National Program for Tourism Routes. A final report was completed in mid-2006.

Promotional Video on the Ecological Route between Two Oceans Cluster

This new video presents the natural, cultural, and historical values and attractions of this ecotourism route, from Old Panama City to the Atlantic Coast. It takes the viewer on a trip

through time, through natural landscapes near the capital such as the Metropolitan Natural Park and Soberanía National Park, or through remote forests laden with history, by means of spectacular aerial views of the Chagres, Portobelo, and San Lorenzo National Parks. The video includes interviews with experts from EcoCircuits, Experience Panama Tours, Margo Tours, and International Tourist and Vacations. These interviews complement the information in this new audiovisual product which was presented by members of the cluster to tourism wholesalers and travel agencies in San Diego, Los Angeles and San Francisco, with the goal of promoting Panama and the Ecological Route between Two Oceans.

Sustainable Tourism Development Project

A proposal was received from Solimar International, a tourism destination management company, on specific actions to help the cluster expand membership and create a new destination promotion electronic portal. The proposal focused on how to attract more tourists.

The project's aim was to implement a business model that connects protected areas with tourists. With the completion of Phase 1, a local tour operator was selected and basic information packages were drafted. In Phase 2, Solimar developed a service contract, drafted an operational manual, and established business linkages with hotels and services providers.

The final report on the proposal for tourism circuits for the Ecologic Route between Two Oceans, to support the Cluster as a promotional strategy, was submitted and approved. The report was distributed to the Cluster, IPAT, and USAID/Panama. The Ecological Route between Two Oceans cluster is supported through its promotion and events in the U.S. and Panama.

The Authentic Panama marketing project, also executed by Solimar, produced promotional materials for distribution to hotels in Panama City. A web page has also been completed and the information is now available through this media.

Task 2.6 Tourism Related Facilities in Pilot Activity

The project placed interpretative signage along the Camino de Cruces and Plantation Road. Interpretation signage was also installed at various other locations, including: Cruces, the site where Sir Francis Drake attacked the Spanish on Camino de Cruces; and at the mule footing points on the Camino de Cruces. Project staff also identified the Saltillo River gold mine with its intact, 100 year old steam engine and California Hendry stamp mill. It now represents a new tourism attraction easily accessible from the capital.

A new nature interpretation trail, *The Spirit of the Forest*, was constructed near the SNP park headquarters with state-of-the-art nature interpretation kiosks using the talents of local artists. The indigenous villages of Ella Puru and San Antonio also received training and funding to construct rustic infrastructure essential to increase the quality of their tourist offering and capacity to receive more tourists. One of the trail's attractions and a complement to the route is the exposition of thirteen paintings depicting the abundance of nature surrounding the trail and which is intrinsic to the park itself. These works were created as part of the interpretation process used in developing the new trail. In addition, the Rainforest Discovery Center Canopy

Tower was constructed in the buffer zone near the entrance to Pipeline Road. This tower is expected to increase the flow of bird watchers among a series of strategically located viewing sites along this major thoroughfare.

A grant with CICA-AVIFAUNA was modified to include funds for the installation of a rustic dock at Venta Cruz. INAC and ANAM gave permission for the dock and the final permits from the ACP and environmental approvals are in process.

Rustic improvements of the Camino de Cruces trail and signage were completed in preparation for the Travesía Soberana event next April 2, 2007. ANAM provided funds from FIDECO and has received limited funds from STRI.

In 2006, the number of visitors to SNP increased by more than 50%. Among the main achievements represented by the Spirit of the Forest Trail is the strategic alliance created between ANAM and Ganexa, representatives from the private sector, and the Panamanian Graphic Arts Association, which contributed more than \$10,000 in the form of works of art, construction of frames, and assistance in the design of interpretative kiosks. As a result of this effort, ANAM has expressed interest in duplicating this type of alliance at other locations within the SINAP as a means to promote environmental culture and stewardship.

During this process, public servants from five protected areas, ANAM's central office, EcoGamboa, IPAT, SAP, and local communities, learned to design trails and acquired knowledge necessary for carrying out environmental interpretation. It should be pointed out that the project provided both employment and economic stimulation for the communities neighboring the SNP and for other Panamanian economic agents. For three months, a crew of between 5 and 15 men from the communities of Union Veraguense and Chilibre were employed to construct the trail, including the construction of the park rangers' shelter. Indigenous people from Ella Puru were paid to carve the forked props, and several carpenters were hired. This has improved relations between these communities and the SNP through working as a team towards a common goal: the construction of a trail so that present and future families might learn about and appreciate the park's natural assets. The Spirit of the Forest Trail already comprises part of the Mesoamerican Trails initiative, together with two other trails in El Salvador located in El Imposible Park.

Task 2.7 Public-Private Partnerships Developed in, or around, Soberania National Park

AED supported ANAM in several initiatives to stimulate private sector interest in Soberania National Park.

GWU/TDI Soberanía National Park Framework Initiative

During 2004, AED conducted a detailed assessment and design, assisted by its partners Tourism Development International and George Washington University, to outline priority park eco-tourism development initiatives.

AVIFAUNA

A grant of \$187,249 was awarded to AVIFAUNA for the construction of basic, low-impact infrastructure to enhance visitor experiences in SNP and its buffer zone. The project enabled the NGO to:

- Build a Visitor Center, Observation Tower, and a trail;
- Provide environmental education and awareness to communities' surrounding the park; and
- Improve visitor sites along Pipeline Road (*Camino del Oleoducto*).

ANAM's *Acto Publico* Issued

The purpose of the *Acto Publico* was to promote private sector investment in construction of tourism facilities to enhance educational, awareness-building, and recreational opportunities for tourists at selected locations within the park. Specifically, the *Acto Publico* called for the construction of a visitor's center with two new trails associated, the construction of two income-generating eco-tourism attractions, and the rehabilitation and maintenance of parts of Plantation Road, Camino de Cruces, and Venta Cruz. AED provided world-wide publicity for the *Acto Publico* through a number of e-commerce portals.

In March 2006, the *Acto Publico* was finalized. Unfortunately, no proposals were submitted by private investors. In a public meeting for those entities that originally purchased a copy of the document, it was learned that the primary reason why interested parties did not formally submit a proposal was the insufficient amount of time given to construct the facilities and the amount of money that had to be provided by the concessionaire. ANAM has continued to state its desire for a Visitors Center for Soberanía, and is considering different alternatives, such as issuing a second *Acto Publico* or direct contracting with the approval of the Ministry of Economy and Finances in accord with legal provisions of the *Ley de Contrataciones Públicas*.

Task 2.8 Catalytic Initiatives Promote Sustainable Tourism in Protected Areas

National Geographic Society

The USAID/Panama Mission signed an agreement with the National Geographic Society (NGS), marking the first time that the Agency and the society have collaborated anywhere. In this instance, NGS will be working to promote Panama as an ecotourism destination through the production of a National Geographic Travelers Guide and Adventure Map that features the PCW.

More specifically, the goal of the activity is to position and brand Panama as an attractive and interesting tourist destination for the 6 million worldwide audience and users of NGS traveler products. The NGS guide is likely to be purchased by an affluent and sophisticated traveler that, in turn, would spend more money to the benefit of local communities than purchasers of other travel guides.

With close to one-third of the country protected through its national park system, three distinct indigenous cultures, historical appeal of the 500 year old Panama Canal heritage corridor, and existence of more bird species than any other country in Central America, Panama has

significant potential as a nature and culture-oriented tourism destination. AED facilitated the relationship between USAID/Panama and the GOP to promote and develop new environmental management models in selected protected areas. The NGS partnership is expected to increase tourism to Panama's protected areas and sustain the public and GOP appreciation of the importance and fragility of these areas and their eco-systems to assure sufficient resource commitments and sustainable management practices.

The most significant constraint to Panama in realizing this potential is a lack of effective marketing and branding in the U.S. and Europe. Costa Rica has proven that image does play an important role in attracting foreign tourists. The world tourism industry has a permanent thirst for new destinations, if they can be organized to provide high quality and unique travel experiences to an increasingly demanding international tourism clientele.

The NGS is selective in its choice of what countries and tourist destinations it will emphasize to its readership base. No more than twenty National Geographic Traveler guides have been published and only guides in this hemisphere have been produced for Mexico, Cuba, Costa Rica, and the Caribbean. NGS prides itself on serving the 21st-century traveler, providing an "insider" perspective, emphasizing travel essentials, providing expert insight, storytelling from the world's finest writers, presenting pictures from the top photographers, and inspiring readers to get up and go. The final products are anticipated for release by NGS in early 2007.

Travesía Soberanía

In April 2006, a one-day event was organized for the general public to walk the 9.5 kilometers of the Camino de Cruces in Soberanía National Park. To prepare for the event, USAID/Panama and ANAM funded a clean-up and put kilometer markings on the trail. A MOU was signed between ANAM and the ANCON Foundation for the opening of a private account to receive funding from the private sector for the maintenance and upkeep of the Camino de Cruces and Plantation Road. TV Max and Cerebro SA were the official sponsors of the event. Interest in the event was much larger than anticipated and people had to be turned away because of logistical constraints; more than 250 people completed the hike.

Local organizations participated, forming groups for the hike. Among these were the Audubon Society of Panama, Ancon Expeditions of Panama, the Panama Triathlon Union, and Let's Camp. The event raised \$5,000 through the sale of participation tickets. Tour operators also participated in the crossing and are now including the hike along the Camino de Cruces trail among their tours. Another benefit was the active participation by members from neighboring communities of the park, such as Gamboa, Chilibre, Agua Buena and the indigenous communities of Ella Puru and San Antonio, as guides. Many participants stated that they would participate in the event next year. The goal is that the money coming into the park would be used to help conserve its treasures and preserve the Camino.

The event could have the potential to become an annual fundraising event for the park. There is room to strengthen alliances with the private sector and neighboring communities to become catalysts for other events and to reinforce environmental, cultural, and sporting awareness. Each participant contributed \$20 towards a special fund which will go to cover the costs of maintaining the Camino de Cruces, Venta de Cruces and Camino de Plantación trails. The fund

will be managed by a non-profit organization, ANCON, in order to facilitate administration and ensure not only transparency, but also that the funds obtained will be used exclusively for the upkeep and investment in the afore-mentioned trails.

As a result of support provided by C & Y, TV MAX, Channel 9 (an adventure and sports channel belonging to the holdings of *Televisora Nacional, S.A.*), has decided to adopt the SNP as its commercial social responsibility objective for 2006 and 2007. Equally as important, the event generated significant television exposure for the SNP at no cost. The *Travesía Soberanía* spot was aired 89 times and the informative note “*Así fue Cruce Soberaina*” was presented 50 times. Guides for each group of hikers were community members from Gamboa, Ella Puru, San Antonio, Chilibre and Agua Buena, all communities which abut the park.

Mesoamericana Congress on Protected Areas

With AED assistance, ANAM organized the Second Mesoamerican Congress on Protected Areas in April 2006. AED was responsible for organizing a symposium as part of the Congress on Ecotourism in Protected Areas with 20 different presentations by Panamanian and International experts. AED coordinated the efforts of various sponsors for the Ecotourism in Protected Areas symposium, including ANAM, IUCN, Conservation International, the Mesoamerican Biologic Corridor, and INBio. Twenty speakers from Mesoamerica, Chile, and the U.S. presented, and more than 200 people attended the symposium. Despite the fact that there were eight concurrent symposiums during the Congress, the project-sponsored symposium attracted one-quarter of the total Congress attendance. A lively discussion was stimulated as to how tourism in protected areas is progressing in the region, how it is being planned, what benefits are being obtained, and how they are being distributed, how impacts are being managed, and the roles of the government, communities, and private sector.

During the Congress, ANAM and CONAF of Colombia agreed to sign a collaboration agreement on a variety of issues, such as public use and sustainable tourism. Personal ties were established between ANAM’s Office of Protected Areas and Mr. Carlos Marios Tamayo, advisor for Colombia’s Protected Areas, and Mr. Kee Stapel, Aviatur’s Concessions Manager, who also exchanged business cards with Mr. Luis Enrique Morales, a potential concessionaire of the SNP. Some of the Symposium’s conclusions are that service concession mechanisms have been successfully applied in Colombia and Chile because it was a government decision (at the level of the Presidency) and that tourism service concessions in these countries are the result of having a positive impact in contributing to self-management of protected areas, and improved quality of life for neighboring communities through increased revenues from local tourism.

A recommendation emerged for the National Administration of Protected Areas and Wildlife to analyze the modalities being developed by these countries and decide which of these it wants to apply in Panama or which adaptations of these methods it wants to carry out. Once identified, the General Administration must obtain the political support of the president of Panama and the entire cabinet (especially the MEF), design and develop a coherent strategy for tourism service concessions throughout the country in close coordination with the IPAT, and, within this framework, include the efforts that ANAM/USAID are developing in Soberania National Park.

Chile Protected Area Ecotourism Concession Familiarization Trip

ANAM's Secretary General, the Director of Protected Areas, the Director of the SNP project, and the Park Director along with the Executive Director of Eisemann Foundation, traveled to the Araucanía and the Lake region of Chile to observe first hand the Chilean experience with tourism and recreation concessions in its national parks under the administration of the National Forest Corporation (CONAF). The program included visits to: Malalcahuello National Reserve and its Corralco Mountain Center; Conguillio National Park; Puyehue National Park (Anticuar section) and the Cabanas de Aguas Calientes concession; and Vicente Perez Rosales National Park and the Esqui del Volcan Osorno concession and the Petrohue sector of the park. At each site, participants talked with shop concessionaires, CONAF officials, private sector representatives, and personnel from Chile's Tourism Secretariat. The group obtained lessons learned from Chile's 10-years of experience with strategic alliances between the government and the private sector along with the involvement of local communities. Like the case in Panama, Chile's first experience with formally inviting private investment in protected areas produced no results.

Colorado State University (CSU) Nature Trail Design and Interpretation Course

In January 2006, AED contracted with CSU for two in-country workshops. The first workshop focused on the design, construction, and maintenance of nature trails, and the second workshop focused on interpretation methodologies and techniques with an emphasis on trails. Approximately 25 participants attended each course, representing ANAM park guards, other employees, as well as Gamboa community members.

Using group work-study techniques, course participants designed and constructed a new 1.5 km nature trail near the Soberania National Park headquarters. During the second interpretation workshop, participants identified and developed ten interpretation topics to be utilized on the new trail.

The course generated enthusiasm and ownership over the new trail. ANAM organized a coordination committee to oversee the process of completing the trail and its interpretation. An action plan was developed, a GPS map completed, and ANAM personnel worked with community members to complete all necessary steps needed to construct the trail, including clearing brush, drainage, and compacting soil along the trail.

For the interpretation of the trail, a group of artists from the Fine Arts University were hired to develop the artistic content of themes in oil paintings. The artists heightened their interpretation skills by walking the trail. Finally, a name was chosen for the trail – The Spirit of the Forest. This is the first trail to officially form part of the new Mesoamerican Trail network being promoted by the Mesoamerican Ecotourism Alliance. It is expected that the new trail will improve the ecotourism offering of and help to increase private sector investment in SNP.

Task 2.9 Incentive Fund Facilitates Development of Sustainable Tourism Activities in Protected Areas of the PCW and Buffer Areas

CEASPA Achiote Ecotourism Project

Support was provided to the community of El Achiote in the buffer zone of the San Lorenzo Protected Area to develop ecotourism facilities such as a restaurant, trail, observatory, and Los Rapaces' tourism information office. The project was implemented by CEASPA using a participatory process, where local members were involved in each stage of the project. A Web site and promotional material to attract tourist and connect attractions with tour operators was developed. The number of visitors to the centre El Tucan and the community has increased by 25% according to recent surveys.

CICA-Avifauna project at the two indigenous communities within PNS buffer zone. - The project implemented by CICA-AVIFAUNA at Ella Puru and San Antonio communities was successfully completed. The project enhanced the quality of services and attractions that both communities offer to visitors. Bathroom facilities and a water system were built for both communities, a nature trail interconnecting both communities was constructed, English classes were conducted, and training was provided to improve the quality of handicrafts sold to visitors. Finally, two docks were built to facilitate access to the communities on the Chagres River.

Audubon Society Project to Strengthen Bird Watching Tourism in Panama

The project supported the development of bird watching tourism at select sites throughout the PCW. Birdwatchers represent an important market niche for Panama as they typically tend to spend more money while in-country than other kinds of tourists.

The following products, support, and trainings were completed under the sub-grant to the Audubon Society:

- A map in English entitled, "*Panama Canal Birding Trail*";
- A list of the birds of Panama with their names in English, Spanish and Latin;
- A pocket list of the birds of Panama with their names in English;
- An agreement with the Smithsonian Tropical Research Institute;
- The e-Bird web page;
- Dissemination of informational materials to groups of bird watchers from Elderhostel Birding;
- Support to the *Panama La Verde* ("*Green Panama*") cluster;
- Training on how to observe birds for students and community guides;
- Training in ringing and telemetry of beach birds;
- Promotional videos on birds;
- A book in English entitled, "*Where to Find Birds in Panama*";
- A marketing strategy for the sale of products;
- An agreement between the University of Panama and the Audubon Society of Panama; and
- Draft cooperation agreement between the IPAT and the Audubon Society of Panama.

CONCLUSIONS

The Panama Canal Integrated Watershed Management Project has served as a model initiative for both USAID/Panama as well as the Agency as a whole. Perhaps its greatest contribution has been its pioneering and holistic approach in addressing a highly complex set of social, environmental, economic, and governance challenges under a single, unified initiative.

With the 1999 turnover of the canal to Panamanian control, the Government of Panama inherited and engineering organization (then the PCC) that moved ships and water and never concerned itself with people outside the old Canal Zone. The legislative framework for handling the new mandate of dealing with the entire watershed was a shift from command and control to one of conversion of land use from livestock (principal land use) to forest cover. This type of broad scale land use change has seldom been successful anywhere. However, this project, with the support of USAID/Panama, accompanied various Panamanian governmental institutions (most notably the CICH and the ACP), the local private sector, as well as NGOs and civil society, through the process of organizing local communities, raising public awareness, addressing their felt needs, and creating a robust portfolio of projects that had practical and meaningful outcomes for the individuals and stakeholders involved. The project also helped change the incentive structure so that livestock producers are now changing from extensive to sustainable production in significant numbers. Finally, the project helped lay the foundation for future activities in PES. In addition, Soberanía National Park is quite different today than it was when the project began.

The project's effectiveness can be attributed in large part to the fact that it worked both at a scale and intensity required to achieve the desired impact: that is, it worked simultaneously at the national, municipal, and local levels to produce sustainable solutions to difficult problems. And in all instances, Panamanians were at the heart and center of all aspects of the design, implementation, and monitoring and evaluation phases of the project, thus ensuring local ownership and pride in accomplishments as well as sustainability of various interventions and replication of lessons learned. To date, many of the experiences of this project have been integrated into other USAID projects in the region, most notably in Honduras, El Salvador, and now a regional program to improve management and conservation of critical watershed in Central America and Mexico.

Among the key lessons learned are the following:

- Integrated watershed management is a complex and somewhat abstract concept for lay audiences to comprehend. To make it meaningful and relevant, the issue and benefits must be boiled down or addressed in a manner appropriate to each of the key target audiences that will be impacted by the project.
- This project demonstrated that its effectiveness was in many ways the result of improved communication and transparency between and among stakeholder groups, not only vertically (from national to municipal to local levels of government) but horizontally (across government agencies as well as civil society). It also recognized that when one sector or stakeholder benefits from an intervention, the entire watershed benefits.
- Participation and local involvement is fundamental for success. Local stakeholders must be full and active participants in problem identification and the development and delivery

of solutions, and not just passive bystanders or spectators. Future development projects must embrace the notion that if they are to become sustainable once donor funding has ended, then local stakeholders must be integrally involved over the project's life. Perhaps more importantly, project planners must recognize that if local ownership and trust are to be achieved in future integrated watershed management projects, then they must move beyond the role of technical assistance providers and become facilitators, enablers, and colleagues.