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**Evaluation of
USAID/Peru
Strategic
Objective 4
Program and
Framework**

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ACRONYMS

ACC	Activity Coordinating Committee
AECI	Agencia Española de Cooperación Internacional
AED	Academy for Educational Development
AEI	Americas Environmental Initiative
AIDSEP	Asociación Interétnica de la Selva Peruana
AIL	Activity Implementation Letter
ANP	Area Natural Protegida
APGEP	Ambiente Participación y Gestión Privada
APECO	Asociación Peruana para la Conservación de la Naturaleza
BID	Banco Interamericano de Desarrollo
BIOFOR	Biodiversity and Protected Areas
BOLFOR	USAID/Bolivia Forest Project
CAR	Comisión Ambiental Regional (Regional Environmental Council)
CENERGIA	Centro de Conservación de la Energía y el Ambiente
CEPCOM	Clean Production/Industrial Pollution Prevention
CEPRI-Biabo	Comité Especial de Privatización del Biabo
CI	Conservation International
COFIDE	Corporación Financiera para el Desarrollo
CONAM	Consejo Nacional del Ambiente (National Environmental Council)
CONEF	Consolidation of the Environmental Framework
CONFIEP	Confederación Nacional de Instituciones Empresariales
COSUDE	Cooperación Suiza para el Desarrollo
CP	Clean Production
CPC	Clean Production Center
CTAR	Consejo Transitorio de Administración Regional
CY	Calendar Year
DAI	Development Alternatives, Inc.
DGANPFS	Dirección General de Areas Naturales Protegidas y Fauna Silvestre (INRENA)
DGF	Dirección General forestal (INRENA)
DIGESA	Dirección General de Salud Ambiental (MS) (Directorate General for Environmental Health)
DIREMA	Dirección de Medio Ambiente (MIPE)
EIA	Environmental Impact Assessment
EMAS	European Eco-Management and Audit Scheme
ESAN	Escuela de Administración de Negocios para Graduados
EH	Environmental Health
ENR	Environmental and Natural Resources
EPIQ	Environmental Policy and Institutional Strengthening Indefinite Quantity Contract
FAO	Food and Agriculture Organization
FY	Fiscal Year
GDP	Gross Domestic Product

GEF	Global Environmental Facility
GOP	Government of Peru
GTZ	Cooperación Alemana al Desarrollo
ICA	In-country Advisor
IDB	Inter-American Development Bank
IDEMA	Instituto de Defensa del Medio Ambiente
IIAP	Instituto de Investigaciones de la Amazonía Peruana
IICA	Instituto Inter-americano de Cooperación Agrícola
INADE	Instituto Nacional de Desarrollo
INIA	Instituto Nacional de Investigación Agraria
INRENA	Instituto Nacional de Recursos Naturales
IPES	Instituto de Promoción de la Economía Social
IQC	Indefinite Quantity Contract
IRG	International Resources Group
JHP	John Hopkins University
LAC	Bureau for Latin America and the Caribbean (AID/W)
MA	Ministerio de Agricultura
MBI	Market-Based Incentives
MEF	Ministerio de Economía y Finanzas
MEGA	Marco Estructural de Gestión Ambiental
MEM	Ministerio de Energía y Minas
MES	Mission Environmental Strategy
MIPE	Ministerio de Pesquería
MIS	Management Information System
MITINCI	Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales
MS	Ministerio de Salud
NGO	Nongovernmental Organization
NPRR	National Pollution Prevention Roundtable
OACA	Oficina de Asesoría y Consultoría Ambiental
PACD	Planned Activity Completion Date
PAMA	Programa de Adecuación y Manejo Ambiental
PMP	Performance Monitoring Plan
PNA	Protected Natural Areas
PNUD	Programa de las Naciones Unidas para el Desarrollo
PROFONANPE	Fondo Nacional para Areas Naturales Protegidas por el Estado
PRONAMACHS	Programa Nacional de Manejo de Cuencas Hidrográficas y Conservación de Suelos
PSCI	Private Sector Coordinating Institution
SENASA	Servicio Nacional de Sanidad Agraria
SENREM	Sustainable Environmental and Natural Resources Management
SINANPE	Sistema Nacional de Areas Naturales Protegidas por el Estado
SNA	Sociedad Nacional del Ambiente
SNI	Sociedad de Industrias
SNMPE	Sociedad Nacional de Minería Petróleo y Energía
SNP	Sociedad Nacional de Pesquería

SO	Strategic Objective
SOAG	Strategic Objective Agreement
SPDA	Sociedad Peruana de Derecho Ambiental
TA	Technical Assistance
TAP	Technical Assistance Provider
TMI	The Mountains Institute
TNC	The Nature Conservancy
UEP	Project Implementing Unit
UNALM	Universidad Nacional Agraria La Molina
UNDP	United National Development Program
USAID	U.S. Agency for International Development
WRI	World Resources Institute
WWF	World Wildlife Fund for Nature and Natural Resources

EXECUTIVE SUMMARY

BACKGROUND

This evaluation of USAID/Peru's Strategic Objective 4 (SO4), "Improved Environmental Management in Targeted Sectors," was conducted from April 3 through April 29, 2000, by a team of specialists from Development Alternatives, Inc. (DAI). The objectives of the evaluation were to:

- Evaluate progress in implementation of the Sustainable Environmental and Natural Resources Management (SENREM) and Biodiversity and Protected Areas (BIOFOR) activities authorized in FY1995 and FY1997;
- Evaluate overall SO-level progress and continued appropriateness of ongoing (SENREM and BIOFOR) and planned activities, including Environmental Health (EH), Clean Production/Industrial Pollution Prevention (CEPCOM) and Consolidation of the Environmental Framework (CONEF);
- Identify lessons learned;
- Update the Mission Environmental Strategy (MES); and
- Recommend appropriate changes in the ENR SO/Intermediate Result (IR) strategy framework for the program period FY2002 through FY2006.

The evaluation team reviewed program documentation, interviewed a number of public and private sector officials, and made field visits to SO4-supported activities. The findings, conclusions, and recommendations were presented orally to the USAID SO4 core team April 19 and 27, and draft reports were left with USAID/Peru as the team departed on April 29. The team leader and the economics and policy specialist returned to Peru on May 22 and, with the two local specialists on the team, held a workshop for Peruvian counterparts on May 31, briefed interested USAID/Peru staff on June 2, and finalized all required reports before departing June 6, 2000.

FINDINGS/CONCLUSIONS AND RECOMMENDATIONS BY ACTIVITY

SENREM

Findings/Conclusions

The assistance provided to the National Environmental Council (CONAM) under SENREM has been successful in helping establish CONAM's operations and in providing a significant

amount of the technical support it needed to begin creating a foundation for Peru's environmental and regulatory framework. In comparison to progress in other countries, USAID assistance has helped Peru achieve impressive advances in environmental policy, law, and regulations in a short time.

Although CONAM, the Ministry of Industry, Tourism, Integration and International Trade Negotiations (MITINCI), and the Ministry of Fisheries (MIPE) have received substantial USAID assistance under SENREM, other key Peruvian ministries, such as the ministries of Agriculture and Finance, have not been significantly involved in SENREM. Because of their lack of involvement, the Peruvian government's ability to develop and implement environmental laws, regulations, and policies has been hampered somewhat.

CONAM, with assistance from UNDP and SENREM, created Regional Environmental Councils (CARs), which provide a vehicle for focusing on environmental concerns at the regional level. This is a positive step toward decentralizing concern with environmental issues. More emphasis should be placed on application of policies at the local level to test their effectiveness and to provide guidance for modification at the national level.

The legal framework for managing industrial pollution is generally in place. However, CONAM and Government of Peru ministries have much work remaining to do on the policies, regulations, and authorities needed for effective enforcement of standards; promotion of real pollution prevention in industry; and creation of market demand for improved industrial environmental performance.

Under the private sector advocacy component of SENREM, considerable progress has been made toward achievement of IR4, "Strengthen the private sector's capacities for consensus building, problem solving, and environmental policy dialogue." The contractor and subcontractors have made good progress in complying with their terms of reference and have been strengthened by their participation in SENREM. Actions should be taken, however, to strengthen synergies within and between project sub-activities.

The recent establishment of the National Environmental Society (SNA) as an umbrella organization for environmental nongovernmental organizations (NGOs) and networks was an important first step. However, additional steps are necessary to define SNA's role, to provide safeguards against possible domination by an unrepresentative minority, to determine an operational agenda, and to build operational capacity, including financial resources, to carry it out.

The clean production (CP) activity has been successful in meeting indicators for reduction in pollution in targeted plants and in demonstrating that CP and pollution prevention are valid approaches to environmental improvement in Peruvian industry.

The process for soliciting, evaluating, and approving proposals for the technology demonstration projects was carried out effectively and has served as a model for similar programs, such as the Americas Fund and the BIOFOR pilot projects. Most of the proposals for the first competition were for "green" projects; the second competition was more

balanced. Although sustainability was emphasized in proposal preparation, some projects visited may need additional support to achieve financial sustainability. The cost of administering the demonstration projects is high because they are scattered throughout the country and there are more projects than originally planned.

Recommendations

Further USAID technical assistance to CONAM should focus on helping CONAM continue to address gaps in the policy/regulatory framework, identify best practices and examples of environmentally sustainable economic development, and help key personnel and opinion leaders in the Government of Peru, the university community, and the private sector understand these practices and establish a common vision.

SENREM should help CONAM create a facilitating framework for local management of the environment, recognizing that the CARs are coordinating organizations and that the greatest burden for real action on environmental enforcement and improvement will fall on local governments.

SENREM should help CONAM engage the financial sector, both public and private, in its programs. The financial sector has been largely left out of SENREM activities, yet it is crucial for ensuring adequate levels of public funding for addressing environmental concerns, increasing private sector advocacy for the environment, and financing any changes that are required to meet environmental standards. A special effort should be made to involve the top levels of the Ministry of Finance in special seminars and training programs to increase staff understanding of environmental issues and support for addressing them.

The Peruvian Society for Environmental Law (SPDA) should organize a management retreat of all the implementing subcontractors under the private sector advocacy component of SENREM to help guide the entire component in meeting its original goals, creating synergies between elements, and improving management capacities of the individual subcontractors.

Demonstration projects should be examined to seek opportunities for leveraging and synergies that are not being exploited. Some of the remaining funds should be used to hold a general meeting of the grantees to help them share experiences and identify opportunities for partnerships.

The evaluation team supports the SPDA initiative to have the demonstration project grantees make a public presentation about the results of their projects and to make it a major news event. Donor agencies in particular should be encouraged to attend so that they can consider whether and how to take advantage of the initiatives developed.

If USAID funds similar technology development programs, they should have a geographic focus to increase the potential for synergy and to reduce project supervision costs.

BIOFOR

Findings/Conclusions

BIOFOR activities related to policy improvement are national in scope, with the Instituto Nacional de Recursos Naturales (INRENA) as the primary partner institution. Site-specific activities focus on six geographic areas or regions that have protected natural areas (PNAs). Each region includes numerous ecosystems, many of which are threatened by unsustainable management practices that can lead to the loss of ecosystem structure and composition. Site-specific activities include limited direct assistance or small grants that contribute to developing "green" policy application instruments or to facilitating pilot actions that test specific "green" policy applications. Experience in improving policy applications at the local level can be fed back to guide policy improvements at the national level.

BIOFOR has formed technical advisory committees to meet regularly and define work plans in support of environmental management in their zones and to support BIOFOR in identification of organizations and institutions for inclusion in site-based training programs.

Participants from NGOs, local organizations, municipalities, interest groups, and public sector institutions are being trained to manage their organizations effectively and to join with other private and public institutions to prepare coherent proposals for grant-funded pilot projects. The site-based institutional training and intervention grants appear to be successful in preparing local NGOs and other institutions to develop proposals for projects with goals of biological diversity and forest conservation.

There have been no significant changes in the implementation arrangements as originally planned at the initiation of the BIOFOR activity in October 1998, with the Strategic Objective Agreement (SOAG) signed on August 25, 1999, and the BIOFOR activity implementation letter (AIL) signed on March 29, 2000. International Resources Group (IRG) has managed the implementation of the BIOFOR activity under the EPIQ IQC contract.

Signing of the SOAG and the BIOFOR AIL allows planned limited funding to be provided to INRENA for various activities to be coordinated with IRG and USAID/Peru. BIOFOR is to assist INRENA in developing policies, laws, and regulations regarding PNAs and national forests (production and protection categories) and in creating policies for forest concession management plans.

Although the AIL formalizing IRG/BIOFOR technical assistance to INRENA was not signed until March 2000, BIOFOR had been collaborating informally in policy assistance since activity implementation began.

Recommendations

Given current funding limitations, SO4 should consider reducing the six selected national conservation areas to no more than four, with emphasis on combining both “green” and “brown” aspects of the Mission environmental portfolio in a few geographical/ecological areas, as described in more detail in Chapter Four. If the SO4 management team decides to concentrate site-specific activities at fewer sites, an appropriate exit strategy should be developed to conclude existing commitments within the sites to be terminated.

IRG and INRENA should develop an interim policy improvement work plan through FY2001. Plans for policy improvement assistance beyond FY2001 and the respective work plans of IRG and INRENA should await USAID decisions on changes to be made in the SO4 strategy and program for FY2002-2006.

Environmental Health

Findings/Conclusions

The EH activity is designed and authorized, but implementation has not yet begun. This creates an opportunity to integrate the EH activity more closely with SENREM and the activities contemplated under CEPCOM.

Recommendations

To better integrate the EH activity with actions to be undertaken through CEPCOM, the Directorate General for Environmental Health of the Ministry of Health (DIGESA) and the Clean Production Center (CPC) should work together to focus on polluting businesses in peri-urban areas. A risk assessment study can identify the types of businesses that should be targeted, and surrounding communities will require training in how to work with the targeted companies to achieve the mutual goals of improved resource productivity and reduced pollution. To provide added incentives for CP, selected local governments can be trained in how to write local ordinances that require polluting companies to develop CP plans.

The EH activity should support DIGESA in an analysis of the economic costs of poor environmental health in all sectors of Peru, and the results should be packaged and marketed using a customer segmentation approach (e.g., business executives, policy makers, local government leaders). CONAM should use the results of the study to ensure that EH issues are addressed in environmental planning regulations, such as the environmental impact assessment (EIA) and Programa de Adecuación y Manejo Ambiental (PAMA) guidelines.

Another policy development opportunity is for the EH activity to include a policy study that looks at the local regulatory authorities of DIGESA and local governments and how these authorities can be used to protect environmental health using CP approaches.

Clean Industrial Production/Pollution Prevention

Findings/Conclusions

The base for this activity was established with the initial fishmeal pollution prevention demonstration project and subsequent clean production activities carried out under SENREM. In 1999, a team of U.S. consultants produced an activity design for CEPCOM. The activity has not started yet.

Promotion of clean production in a society requires a broader vision of policy and institutional development than that expressed in the design document. It requires that the financial sector, macroeconomic planners and managers, the educational system, and the general public work together to build demand for greener products. The CEPCOM design proposes to support MITINCI with policy and technical assistance on the supply side. Careful attention also should be given to building demand if CEPCOM is to fully realize its potential.

Recommendations

MITINCI has established a number of technology and business development centers in Peru. Some are sector-specific, while others have general business and technology expertise. Several universities have initiated programs on the environment, and some business schools are interested in developing executive education and regular degree classes on environmental management. At the same time, the business community is more aware and more interested in promoting environmentally sustainable economic development. CEPCOM should capitalize on these resources to become a center for training trainers in CP concepts, tools, and applications. The proposed CPC should create consortia of other organizations that can help targeted companies and facilitate use of their skills and resources to generate CP outcomes. Its work with individual firms should be limited to the initial stages of project implementation for demonstration purposes. The CPC should help integrate CP concepts into university and other industry education programs. To support this, a CP information clearinghouse could be established in a university with a good business library and solid reference collection management capabilities. It would use a "best practices" information collection strategy, recognizing that CP is happening around the world and the most relevant solutions for Peru often will come from other developing countries.

The CP advisor based at MITINCI should report to and work with the Vice Minister of Industry, as well as with the MITINCI environmental office. The goal should be to help MITINCI establish collaborative relationships with other ministries and to promote understanding among targeted ministries of the many concepts and dynamics needed to promote CP on a broad scale.

The proposed revolving fund for CP investments should be redesigned as a loan guarantee program that provides guarantees for loans made by commercial banks for investments in

which CP aspects are validated by the CPC. The loan guarantee program should have a training component that is targeted to business assistance organizations to train them in helping businesses with financial analysis of CP projects and preparation of loan proposals.

There is a continuing need for CP demonstration projects in Peruvian industry. Such projects should be carried out in partnership with MITINCI's technology development or business assistance centers, or with universities so that they learn how to do demonstration projects themselves.

Consolidation of the Environmental Framework

The evaluation team suggests that design and implementation of the proposed CONEF activity should be reconsidered. If USAID decides to pursue the revised strategic framework suggested by this evaluation, some of the resources programmed for CONEF could be used for a simple amendment of the SENREM and BIOFOR activities to meet urgent funding needs, with the balance of the CONEF funds redirected to development of a revised strategic framework (and supporting activities) for FY2002-FY2006. This would obviate the need to design two new activities (CONEF and the elements of a revised strategic framework) in a relatively short time.

NEW DIRECTIONS: A REVISED STRATEGIC FRAMEWORK

Rationale

The SENREM, BIOFOR, and EH activities under SO4 have made and are continuing to make substantial progress in achieving the objective of "Improved Environmental Management in Targeted Sectors." Many of the pieces are in place for an interactive system to address issues involved in achieving environmental sustainability in the economic and social development of Peru. Although some gaps exist, essential elements of a national environmental policy framework and national environmental public sector institutional framework are in place. With SO4 assistance, the NGO community has become a more effective participant in national environmental policy dialogue and in policy formulation and application. As information about environmental concerns and cost-effective technological responses has become more widely available within the business community, national business organizations are beginning to participate and contribute positively to environmental concerns. Similarly, the academic community has been expressing and demonstrating increased interest in actively participating in environmental information generation, interpretation, and transfer. Given this impressive base, what should USAID/Peru be doing in the environmental arena during the period FY2002-FY2006?

A critical weak link in an overall interactive system to address environmental issues is at the local government level. Centralization of decision making and control of public financial resources during the past decade have weakened already frail local governments. In turn, this

has stifled public and private sector initiatives at the local level. Because so much of environmental policy application takes place at local and site-specific levels, efforts to stimulate increased local awareness and active involvement in environmental management and regulation are necessary to achieve environmentally sustainable economic and social development.

The Mission's strategic focus on improved environmental management continues to be conceptually valid. However, program experience, an improved knowledge base, and significant national policy and institutional framework improvements provide the basis for considering a revised "second phase" strategy. Such a strategy would support strengthening a comprehensive, dynamic interactive system involving actors at all levels (national, regional, and local) in identifying and addressing environmental issues that impact on Peru's economic and social development. Within such a system, efforts should be made to foster complementarities and synergies between "brown" and "green" approaches to environmental management improvement. Complementarities and synergies could be fostered with other donor programs, between SO4 and other USAID/Peru SOs, among SO4 program activities, and among components and elements within each SO4 activity.

Revised Strategic Objective Statement

The evaluation team recommends that USAID/Peru consider revision of ENR Strategic Objective 4 for FY2002-2006 from the current SO, "Improved Environmental Management of Targeted Sectors," to a revised SO, "Improved Interactive System for Environmentally Sustainable Economic and Social Development."

Revised Intermediate Results

The proposed components of an improved interactive system to address environmental concerns are (1) continued strengthening of the national legal, regulatory, and policy framework; (2) establishment of an environmental policy/technology application and feedback process from the local to the national level and related institutional strengthening; and (3) increased environmental awareness and demand (see Figure 1).

National Policy/Regulatory Framework

The evaluation team recommends that USAID/Peru support continued short-term technical assistance to CONAM, INRENA, selected ministries, and the Congress to address high-priority gaps in the national policy/regulatory framework. As part of the design process for the revised strategic framework, USAID/Peru, in collaboration with partner institutions, should conduct an in-depth analysis to inventory, diagnose, and prioritize policy gaps based

Figure 1: Interactive System for Environmentally Sustainable Economic and Social Development

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on the populations affected and the magnitude of the environmental threats involved. The agenda developed through this process would be augmented and guided by the policy application and feedback process described below.

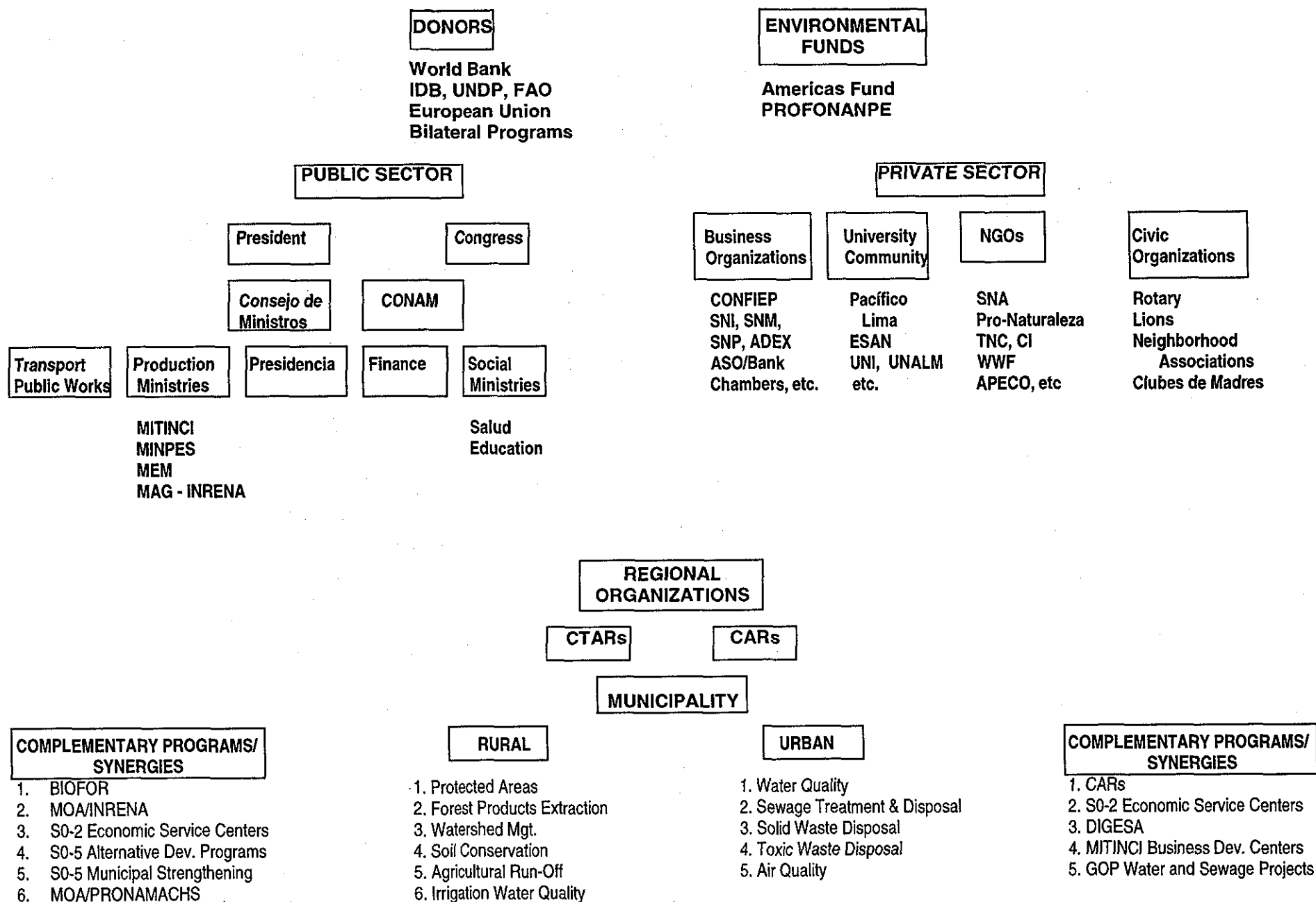
To assist in implementing this component, and the second component described below, USAID should consider contracting a U.S. consulting firm or university to provide a long-term resident environmental policy and institutional strengthening advisor who would provide assistance to the public sector organizations mentioned above and identify, recruit, and manage short-term technical assistance to those organizations. The resident policy and institutional strengthening advisor also would supervise locally recruited personnel working on the second component.

Policy/Technology Application and Feedback

Although much has been done under SENREM and BIOFOR to establish a national policy framework and to test innovative technologies, relatively little has been done to support application of those policies and technologies locally. The experience and knowledge gained through application of policies/technologies at the local level can be fed back to the national level to help identify bottlenecks and problem areas to be addressed through policy studies and improvements in the national policy framework. In order to assist in establishing such a policy/technology application and feedback process, the evaluation team recommends that USAID, in collaboration with proposed partner institutions, select four or five geographic areas to serve as focal points for carrying out a coordinated environmental management improvement program. Areas would be selected to provide maximum complementarity with other USAID SO programs (such as the economic corridors program under SO2 and the municipal strengthening and alternative development programs under SO5), MITINCI's technology and business development centers, and DIGESA's environmental health programs. Synergies between "green" and "brown" environmental protection and improvement programs also would be sought, principally through focusing on water availability and quality as an integrating mechanism.

Under such a program, Peruvian environmental coordinators for each geographic area would be contracted by the U.S. consulting firm or university responsible for implementing the first component. The regional environmental coordinators would work with the local government in each geographic area to strengthen local government and private sector capacity for environmental management and regulation. They also would serve as catalysts to work with public and private sector organizations, including those supported by SO4 and other USAID SOs, to facilitate environmentally sound and sustainable economic and social development program implementation. (See Figure 2 for activities, complementary programs, and synergies at the local level.)

Figure 2: Institutional Map—Interactive System For Environmentally Sustainable Economic and Social Development



Increased Environmental Awareness and Demand

The evaluation team encountered considerable and growing interest in environmental issues among the business and university communities, in addition to the expected continuing high level of interest among environmental NGOs. This interest should be nurtured and expanded by exposing public and private sector leaders to the wide array of possibilities and opportunities that exist for improving environmental quality. The team recommends that USAID consider contracting a U.S. consulting firm and/or university to organize and manage a consortium of local universities that could provide expanded environmental training for public sector, business (including financial institutions), and NGO leaders. One objective of this consortium would be to encourage the inclusion of environmental courses and course components in university curricula.

A companion effort should be carried out to increase public awareness through environmental information programs in schools, mass media, and civic groups. Serious consideration should be given to a buy-in with the centrally funded follow-on to the GreenCom project for this effort.

Design Considerations

The Mission's new strategic plan for FY2002-FY2006 is scheduled for submission to the Bureau of Latin America and the Caribbean by the end of October 2000. The evaluation team recommends that the SO4 team devote its energies to preparation of the new strategy and conceptualization of activities in support of the revised strategic framework in 2000. Activity design would be carried out during 2001 in order to start implementation of activities under the revised framework in 2002. The funds currently programmed for CONEF could be used for a simple amendment to the SENREM and BIOFOR activities to meet urgent funding needs, with the balance redirected to elaboration of supporting activities related to the new strategic framework.

The evaluation team also recommends that a new comprehensive institutional analysis be undertaken to ensure targeting and maximum utilization of short-term technical assistance and training resources that build on progress made to date. The MES did not include a specific institutional analysis, and the analyses provided for the SENREM and BIOFOR designs need to be expanded and updated. Furthermore, these analyses did not address the dynamics of interaction among institutions nor did they analyze the institutional roles and capabilities at the local level—for example, municipal and special geographic authorities, such as the Consejos Transitorios de Administración Regional and CARs.

The proposed institutional analysis also can help identify institutional resources and needs to assist in prioritizing critical information inputs. Likewise, an environmental information inventory and diagnostic is necessary to utilize fully existing information and to prioritize new information generation and interpretation.

CHAPTER ONE INTRODUCTION

BACKGROUND

In March 1995, USAID/Peru completed a Mission Environmental Strategy (MES) that identified seven major environmental and natural resources (ENR) problem areas in Peru: unsustainable agricultural practices; deforestation; the threat of biodiversity loss; environmental destruction from targeted industrial sectors; deteriorating urban environments; degradation of water and coastal resources; and an inadequate legal, policy, regulatory, and normative framework. Analysis of the seven problem areas led to identification of 28 constraints. These constraints were analyzed by applying three filters: (1) problem severity; (2) Mission comparative advantage; and (3) targets of opportunity and potential impact. Through this process, three priority composite issues were identified: (1) legal, policy, regulatory, and normative framework; (2) urban industrial contamination, including urban sanitation and protection; and 3) rational use of protected areas, and species-diverse and fragile ecosystems.

The MES led to approval by USAID/Peru of ENR Strategic Objective 4 (SO4) "Improved Environmental Management in Targeted Sectors" and to the design and authorization in September 1995 of the \$12.8-million Sustainable Environmental and Natural Resources Management (SENREM) Activity.

The MES also served as the basis for the ENR chapter of USAID/Peru's "Country Development Strategy for Peru: FY1997-2001," which was approved in April 1996. The following major activities are under way or planned for carrying out that strategy:

- SENREM activity, authorized in FY1995 and initiated in FY1996, to strengthen the ENR policy and regulatory framework, promote private sector participation, and test and validate improved environmental practices/technologies.
- Biodiversity and Protected Areas (BIOFOR) Activity, authorized in FY1997 and initiated in FY1998, to strengthen the management and implementation capacity of government and private sector institutions working in protected areas and fragile ecosystems and to carry out related policy initiatives.
- Environmental Health (EH) Activity, authorized in FY1999, but not yet operational, to support development of improved EH-related policies and policy implementation, and to strengthen institutional effectiveness, while addressing key peri-urban environmental health problems on a pilot basis.

- Components/sub-activities planned for implementation under SENREM are:
 - Clean Production/Industrial Pollution Prevention (CEPCOM) sub-activity, initially scheduled for authorization in FY1999, but not yet approved, to expand work already initiated in clean industrial production/pollution prevention under SENREM.
 - Consolidation of the Environmental Framework (CONEF) sub-activity, scheduled for design and authorization in FY2000, to expand work already initiated in strengthening the national environmental framework and to provide assistance in new priority areas not targeted in the original MES and not included in the currently approved SO4 activities.

A Strategic Objective Agreement (SOAG), to consolidate all USAID/Peru SO4 activities under a single bilateral agreement, was signed on August 25, 1999. In accordance with the terms of the SOAG, Peru's National Environmental Council (CONAM) will continue as the main governmental implementing agency for SENREM, and the National Institute for Natural Resources (INRENA) as the principal Government of Peru partner for BIOFOR. The Directorate General for Environmental Health (DIGESA) of the Ministry of Health will be the Peruvian implementing agency for the EH activity.

The SOAG, which covers the implementation period from CY1996 through FY2003, specifies the following funding:

Activity	Funding
SENREM (including CEPCOM and CONEF)	\$16,407,000
BIOFOR	4,851,000
EH	4,274,000
SO monitoring, evaluation, and audits	3,753,000
Total SOAG DA Funding	\$29,385,000

In April 2000, USAID/Peru contracted Development Alternatives, Inc. (DAI) to conduct an overall evaluation of the ENR SO program and framework. The purposes of the evaluation are to:

- Evaluate progress in implementation of the SENREM and BIOFOR activities, including recommendations for improving effectiveness and impact;
- Evaluate overall SO-level progress and continued appropriateness of ongoing and planned activities, including recommendations for improving effectiveness and impact;
- Identify lessons learned from experiences to date and determine the implications of these lessons learned for the SO4/Intermediate Result (IR) strategy framework;
- Update the MES and anticipate future conditions and trends in the medium term to September 30, 2006, as these may affect the responsiveness of USAID/Peru's strategy and activities; and

- Recommend appropriate changes in the SO4 strategic framework for the program period FY2002-FY2006.

The evaluation of the SO4 program was conducted between April 3 and April 29, 2000 by a DAI team composed of John O'Donnell, Team Leader and ENR Management, Policy Implementation and Institutional Strengthening Specialist; Fred Mann, ENR Economics and Policy Specialist; Burton Hamner, Urban/Industrial Environmental Management and Protection ("Brown") Specialist; Howard Clark, Natural Resources Management, Conservation and Protection ("Green") Specialist; James Connor, ENR Information, Education, Communications, and Evaluation Specialist; Carlos Llerena, Biodiversity and Forestry Sustainable Management Specialist; and Jaime Garcia, Urban/Industrial Environmental Management and Policy Specialist.

Upon arrival in country, the DAI team met with the USAID/Peru SO4 core team to review and clarify the terms of reference for the evaluation. The SO4 core team recommended organizations that should be visited and officials that should be interviewed. The next two and a half weeks were spent interviewing public and private sector officials (see Annex B for a schedule of interviews and field visits and Annex C for a list of persons interviewed) and reviewing relevant program documentation (see Annex D for a list of documents consulted). Field visits were made to Arequipa, San Mateo, Cañete, Pisco, and Paracas, where team members met with local officials and visited sites where innovative environmental technologies were being tested. Presentations of team findings, conclusions, and recommendations were made to the SO4 core team, the USAID Mission Director, other interested USAID personnel, and SO4 Peruvian counterparts.

This overall SO4 program evaluation report is divided into seven sections:

1. An introduction that provides information on the background of the evaluation and the political/economic and institutional settings;
2. A brief program description;
3. The team's findings, conclusions, and recommendations on the SENREM, BIOFOR, EH, CEPACOM, and CONEF elements;
4. The team's recommendations for a revised program strategy for the FY2002-FY2006 time frame and some thoughts on development of the revised framework;
5. A discussion of major issues;
6. A discussion of other concerns listed in the terms of reference; and
7. A summary of lessons learned.

PROGRAM SETTING

Political/Economic Setting

As this report is being completed, Peru is experiencing post-election conflicts and uncertainties following a contested presidential run-off race between incumbent Alberto Fujimori and Alejandro Toledo, in which the latter withdrew. After 10 years as president, Fujimori has consolidated power in the central government, while regional and municipal governments have been weakened. The political instability of the late 1980s and early 1990s had abated with the destruction of the Sendero Luminoso and Tupac Amaru organizations, and with the elimination of hyperinflation. Relations with Ecuador have improved since the 1995 conflict and the signing of a peace agreement in late 1998.

The "dualistic" economy of Peru consists of a relatively modern sector concentrated on the coastal plain and an agriculture-based subsistence sector in the more isolated interior, which is characterized by poor transport and communications. The country's economy remains highly dependent on the extraction of natural resources, with the most important being minerals, fishmeal, oil and gas, and semi-processed agricultural products such as coffee, cotton, and sugar.

Since 1991, the Government of Peru has emphasized privatization of state assets and downsizing of the public sector, limiting its role to normative and regulatory functions. A third key policy has been to promote foreign investment by passing laws that have made Peru one of the most welcoming foreign investment climates in Latin America. As a result, Peru's gross domestic product (GDP) grew at a robust average of 7 percent annually from 1993 to 1997.

The El Niño phenomenon in 1998 resulted in abrupt declines in fish exports, disrupted agriculture, and damaged infrastructure as real economic growth dropped to 0.3 percent. Prices for minerals, fishmeal, and coffee also dropped in 1998, contributing further to the country's poor overall economic performance. With financial turmoil in Asia, Russia, and elsewhere, foreign investment declined. Real GDP is expected to grow in 2000 as the country recovers from El Niño and the global financial situation stabilizes.

Despite Peru's success in achieving political stabilization and economic growth, the country faces a number of challenges that may impede future sustainable growth. An important challenge is arresting environmental degradation and developing the institutional capacity to ensure that environmental issues are addressed adequately.

Institutional Setting

The principal institutions involved in environmental and natural resources management are:

- The Consejo Nacional del Ambiente (CONAM), which is responsible for environmental policy formulation and coordination;

- The Instituto Nacional de Recursos Naturales (INRENA), a semi-autonomous institution under the Ministerio de Agricultura (MOA), the lead public agency responsible for management and conservation of Peru's renewable natural resources;
- The Ministerio de Pesquería (MIPE), responsible for environmental matters related to marine resources;
- The Ministerio de Energía and Minas (MEM), responsible for environmental matters related to mines and energy, including oil, gas, and hydropower;
- The Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales (MITINCI), responsible for reducing industrial pollution;
- The Dirección General de Salud Ambiental (DIGESA) in the Ministerio de Salud, responsible for human health;
- The Instituto Nacional de Investigaciones Agraria (INIA), an autonomous agricultural research and extension institution under the MOA;
- The Programa Nacional de Manejo de Cuencas y Conservación de Suelos (PRONAMACHS), a watershed protection and soil conservation program under the MOA; and
- The Instituto de Investigaciones de la Amazonía Peruana (IIAP), an autonomous institution involved in Amazon basin natural resources research and conservation.

CONAM was created in 1994 as an autonomous body dependent on the President of the Council of Ministers. The council's mandate is to develop and promote environmental policies. It is primarily a coordinating and consultative body. Specific functions include policy formulation, coordination, and consultation; establishment of criteria for environmental impact assessment (EIA) formulation; conflict resolution; and authority to request application of administrative, civil, or penal actions when existing policies, norms, or directives are broken.

INRENA was established in 1992, combining public agencies responsible for management and conservation of Peru's renewable natural resources. INRENA is responsible for: (1) managing the country's public forests; (2) overseeing Peru's 49 parks and reserves; (3) overseeing legal wildlife exports, controlling illegal trade in flora and fauna, and overseeing profit-oriented captive breeding enterprises; (4) promoting sustainable management of the country's soil and water; and (5) assessing the environmental impact of economic activities in Peru's rural areas.

In the early 1990s, the Peruvian government established environmental units in several line ministries, based on their economic importance and the potential for adverse environmental impacts associated with activities in their areas of responsibility. The Dirección de Medio

Ambiente (DIREMA) was established in MIPE, the Dirección General de Asuntos Ambientales in MEM, and the Dirección General de Medio Ambiente in MITINCI.

MIPE was the first ministry to establish measures to comply with the Código de Medio Ambiente (passed in 1990), beginning with the establishment of a special permanent commission in 1993. This was followed by the establishment of DIREMA in 1994. DIREMA was created as a technical and administrative unit responsible for contracting, reviewing and approving EIAs and Programas de Adecuación y Manejo Ambiental (PAMAs) for economic activities under the responsibility of the ministry, such as extraction and processing of fish and aquaculture. The establishment of DIREMA was followed by the creation of a registry of institutions capable of preparing EIAs and PAMAs in 1994, establishment of maximum permissible standards and norms for effluent in 1994/95, and publishing of environmental regulations in 1999. Similar milestones have been achieved in other line ministries, particularly MEM and, to a lesser degree, MITINCI.

In addition to the public sector entities described above, there are a number of private sector organizations concerned with the environment. In the business community, the Confederation of Private Business Institutions (Confederación Nacional de Instituciones Empresariales del Perú [CONFIEP]) has an environmental committee, as do the national societies for Industry (SNI), Mining (SNM), and Fisheries (SNP). In the nongovernmental organization (NGO) community, there are a considerable number of international, national, regional, and local environmental organizations, many of them grouped into national and regional networks. These organizations recently joined forces to create the National Environmental Society (Sociedad Nacional del Ambiente [SNA]). The university community is becoming increasingly interested in environmental concerns and is developing instructional capacity and course materials related to the environment (see Figure 2 in the Executive Summary).

CHAPTER TWO

BRIEF PROGRAM DESCRIPTION

Implementation of the SENREM activity began in CY1996. The SOAG, signed in August 1999, extended the SENREM planned activity completion date (PACD) to September 30, 2003. Most ongoing and approved activity components will be completed by December 31, 2001, with the remaining two years devoted to completing implementation of the new CEPCOM and proposed CONEF sub-activities.

SENREM's principal components are:

- **The Legal, Regulatory, and Policy Framework Component (Component A)**, designed to assist in the improvement of Peru's environmental laws and policies and to strengthen the capacity of CONAM, related Peruvian ministries, and other public sector environmental organizations to identify and solve environmental problems. This component consists of three elements: technical assistance to CONAM and Peruvian ministries, public sector environmental training, and environmental information.
- **The Private Sector Advocacy Component (Component B)**, designed to strengthen the private sector's capacity for consensus building, problem solving, and environmental policy dialogue. It consists of six elements: (1) policy research studies; (2) creation of an umbrella organization of environmental networks and NGOs; (3) industry seminars; (4) publication of an annual independent state of the environment report; (5) municipal and community environmental monitoring; and (6) a clean production (CP)/pollution prevention program.
- **The Pilot Demonstration Projects Component (Component C)**, designed to test and validate innovative environmental technologies and practices by private sector organizations. The aim is to replicate these technologies and practices on a larger scale, with financing from the Government of Peru, the private sector, or other donors.

The primary public sector implementing institution for SENREM is CONAM, with direct responsibility for Component A and for the CP element of Component B. USAID/Peru contracted a private sector coordinating institution, Peru's Environmental Law Society (SPDA), to manage implementation the other elements of Component B as well as Component C. In addition, USAID contracted a technical assistance provider (TAP), Abt Associates, which is providing services under Component A.

The newly designed CEPCOM sub-activity will expand the CP work initiated by SENREM (under Component B.6). A thorough assessment of conditions and options has been developed that will serve as the technical basis for funding by USAID. CEPCOM includes the following elements:

- Creation and operation of a Clean Production Center (CPC) for industry, managed by a consortium formed by a private sector industry association and a local university;
- Continuation of technical assistance to MITINCI and MYPE to strengthen environmental management capabilities and to develop new or improved environmental legislation, regulations, standards, and management instruments;
- Continuation of technical assistance to the fishmeal industry to reduce pollution and wastes and to improve competitiveness; and
- Establishment of a revolving fund for environmental audits and small demonstration interventions.

The CONEF sub-activity is proposed to complete tasks required to obviate significant high priority gaps in environmental legislation, policies and regulations, and capacities of environmental agencies in Peru. One possible area of increased assistance relates to environmental awareness and education. CONEF also can address other priority areas not covered under USAID's current strategy, which may be identified through program evaluations and/or in reformulation of USAID's planned general development strategy through FY2006.

Implementation of the BIOFOR activity was initiated in October 1998, and the PACD is September 30, 2003. BIOFOR has been implemented through an IQC task order contract with International Resources Group (IRG) and is designed to:

- Address policy issues that constrain environmentally sound and sustainable management of Peru's biological diversity and fragile ecosystems, particularly tropical forests, through technical assistance to appropriate government agencies and NGOs;
- Assist INRENA in developing its capability to provide leadership in relevant policy improvement and implementation, and to provide leadership in the management of Peru's biologically diverse areas, fragile ecosystems, and natural forests;
- Train local public and private institutions (NGOs, community-based organizations, universities, and others) in strategic and financial management to facilitate improved site-based conservation and sustainable management of biologically diverse areas and program ecosystems; and
- Provide grants to selected private sector organizations that develop training and pilot actions in innovative management of biologically diverse areas and fragile ecosystems.

The EH activity was approved in July 1999 with a PACD of September 30, 2003, and is about to begin implementation. Two major activity results are planned:

- Improved environmental health services in targeted (peri-urban) communities; and
- Policies adopted that facilitate improved urban health conditions.

DIGESA will be the primary public sector implementing institution. Technical assistance services will be provided by a USAID central project, while pilot demonstration interventions will be implemented through grants awarded to private sector institutions.

CHAPTER THREE

FINDINGS/CONCLUSIONS AND RECOMMENDATIONS BY ACTIVITY

SENREM

Legal/Regulatory/Policy Framework

Findings/Conclusions

The assistance provided to CONAM under SENREM has been successful in helping establish CONAM's operations and in providing a significant amount of the technical assistance required to develop important elements of Peru's environmental policy and regulatory framework. In comparison to progress in other countries, USAID assistance has helped Peru achieve impressive advances in environmental policy, law, and regulations in a short time.

Although CONAM, MITINCI, and MIPE have been significantly strengthened by USAID assistance under SENREM, other key ministries such as the MOA and the Ministry of Finance (MEF) have not been involved. Their lack of involvement has limited the ability of the government to develop and implement environmental laws, regulations, and policies. For example, greater awareness and understanding of environmental issues at the top levels of the MEF could lead to increased budgetary allocations for environmental programs. Increased participation of the MOA could lead to improved policies for reducing pollution caused by fertilizer and pesticide runoff and problems related to competing requirements for water use.

CONAM, with assistance from SENREM, has created Regional Environmental Councils (CARs) as a vehicle for focusing on environmental concerns at the regional level. However, more needs to be done at the local level, where environmental policy must be translated into actions to improve environmental management.

The legal and regulatory framework for managing industrial pollution is generally in place. However, CONAM—along with the relevant ministries—needs to develop the policies and authorities necessary to enforce standards, promote pollution prevention in industry, and create market demand for improving industrial environmental performance.

Although some national experts have participated in TAP activities (e.g., a Peruvian firm is one of the main subcontractors under the Abt contract, and Peruvian experts were contracted for specific activities), the TAP scope of work called primarily for U.S. experts, even though significant local talent relevant to CONAM activities is available.

Because there is little awareness in Peru of best practices around the world, it is difficult to stimulate the private sector to become interested in environmental issues. CONAM could use

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information on best practices to show the private sector why it is in its best interests to reduce pollution and improve environmental quality.

Recommendations

Further USAID technical assistance to CONAM should focus on helping CONAM continue to address gaps in the policy/regulatory framework, identify best practices and examples of environmentally sustainable economic development, and help top leadership in the Peruvian government, the university community, and the private sector understand these practices and establish a common vision.

The SENREM project implementation unit (UEP) should develop a roster of Peruvian experts relevant to USAID-supported products for CONAM and the ministries that are currently under development or planned, and develop a strategy for applying this talent to work with CONAM on finishing these products.

SENREM should help CONAM create a facilitating framework for local government management of the environment, recognizing that the CARs are only coordinating organizations and that the greatest burden for real action on environmental enforcement and improvement will fall on the shoulders of local governments.

SENREM should help CONAM engage the financial sector in its programs. The financial sector is crucial for ensuring adequate levels of public funding for addressing environmental concerns, increasing both public and private sector support for the environment, and financing changes required to meet environmental standards.

Additional short-term technical assistance should specifically include in the terms of reference that a key role of U.S. experts is to "train the trainers" and that they should find and engage local experts to build local capacity.

Private Sector Advocacy

Findings/Conclusions

Performance under this component has resulted in considerable progress being made toward achievement of IR4: "Strengthen the private sector's capacities for consensus building, problem solving, and environmental policy dialogue." Participating organizations have made good progress in complying with their terms of reference and have been strengthened by their involvement in SENREM. More needs to be done to realize synergies within and between the different elements of this component.

SPDA has completed one policy study on oil projects in protected natural areas and is stalled on the second that focuses on individual transferable quotas for the fishing industry because

of "changes in the political situation." The first study was well received, and 1,000 copies were distributed. SPDA reports that the regulations currently under development for the Protected Areas Law include many of the provisions and recommendations of the completed policy study.

The establishment of the SNA as an umbrella organization for environmental NGOs was an important first step. However, much remains to be done to define its role, to provide safeguards against possible domination by an unrepresentative minority, and to determine an operational agenda, as well as to build the operational capacity, including the financial resources, necessary to carry it out.

The draft *State of the Environment Report* prepared by CUANTO focuses on the theme of water and includes articles prepared by experts; these were edited into more readable form by journalists. The report is directed at people interested in environmental issues. It is quite long and needs more work to make it useful to readers. The terms of reference call for inclusion of statistical information, but CUANTO reports the sparse data on water in Peru prevents statistical analysis because of a lack of time series, quality control, and data design for decision making.

The funding for Oficina de Asesoría y Consultoría Ambiental (OACA) industry seminars has not been used to leverage resources of established training institutions or to build capacity in other training facilities to ensure some sustainability once the OACA contract ends.

OACA has not coordinated with DIGESA on the design of community environmental monitoring kits, although DIGESA has relevant experience. There is no clear business plan for making and selling the kits. The success of this activity depends on the quality and affordability of the kits; affordability remains the weakest area in terms of achieving sustainable results.

The CP activity has been successful in meeting indicators for reduction in pollution in targeted plants and in demonstrating that CP and pollution prevention are valid approaches to environmental improvement in Peruvian industry. In some cases, a Peruvian consultant accompanied the foreign consultants, but in other cases only expatriates did the evaluations, missing an opportunity for building local capacity to do CP assessments.

Recommendations

SPDA should organize a management retreat of all the implementing subcontractors to help guide the entire component in meeting its original goals, creating synergies between elements, and improving management capacities of individual subcontractors.

SPDA/CEPES, SNA, and USAID should meet to develop a common understanding of their respective roles and relationships.

The OACA industry seminars should be held in partnership with other local organizations that specialize in training industrial managers, in particular business schools such as Escuela de Administración de Negocios para Graduados and Universidad El Pacífico, as well as sector technology development organizations such as the technology development centers being established by MITINCI. The current cost per seminar is too high and should be reduced through partnering with other institutions to allow for an increased number of seminars. The seminars should be designed with a "train the trainer" philosophy.

USAID, SPDA, and CUANTO need to rethink the state of the environment report. The three organizations should revisit the precise nature of the target audience for the report and how to involve members of that target audience in the report's design and development. Target audience members, the SPDA consultative committee, USAID, and CONAM should continue to be fully involved as the new report is developed.

OACA should work with DIGESA in design of its community environmental monitoring kits with the goal that they be manufactured locally. If important components need to be imported, it may make the kits much more expensive and harder to maintain and use.

CP factory assessments should be used as an opportunity to train local consultants and industry managers in doing CP assessments.

Demonstration Projects

Findings/Conclusions

The process followed for soliciting, evaluating, and approving proposals was carried out effectively and served as a model for similar programs, such as the Americas Fund and the BIOFOR pilot projects. Three hundred ninety-four and 252 proposals were submitted for the first and second rounds, respectively. Most of the proposals approved for the first round were for "green" projects; the second round was more balanced, with more than half of the proposals approved for "brown" projects. Some of the projects are just starting and may need additional support to achieve financial sustainability, such as the organic fertilizer project in Cañete. The cost of administering the demonstration projects is high because they are scattered throughout the country and there are more projects than were originally planned. More needs to be done to identify and promote synergies between the projects.

Recommendations

The projects should be examined to see whether there are opportunities for leveraging and synergies not now being exploited. Some of the remaining funds should be used to hold a general meeting of the grantees to help them share experiences and to find opportunities for future partnerships.

The evaluation team supports the SPDA initiative for grantees to make a group public presentation about results of their projects and to make this a major news event. Donor agencies in particular should be encouraged to attend so they can consider whether and how to take advantage of the initiatives developed.

If USAID funds similar programs in the future, they should have a geographic focus to increase the potential for synergy and reduce project supervision costs.

BIOFOR

Findings/Conclusions

BIOFOR activities related to policy improvement are national in scope. INRENA is the primary partner institution. Site-specific activities focus on six geographic areas or regions that encompass protected natural areas (PNAs). Each region includes numerous ecosystems, many of which are threatened by unsustainable environmental management practices that can lead to loss of ecosystem structure and composition.

BIOFOR has formed technical advisory committees (TACs) to meet regularly and define work plans in support of environmental management in their zones and to support BIOFOR in identification of organizations and institutions for inclusion in site-based training programs.

Selected NGOs are being trained to manage their organizations more effectively and to join with other private or public institutions to prepare coherent proposals for grant-funded pilot projects. The site-based institutional training and intervention grants appear to be successful in preparing local NGOs and other institutions to develop proposals for projects with goals of sustainable management of renewable biological resources.

There have been no significant changes in the implementation arrangements as originally planned at the initiation of the BIOFOR activity in October 1998. During FY1999, BIOFOR (and all other SO4 activities) were brought under a SOAG. Subsequently, BIOFOR's primary host country partner institution relationships were formalized through an activity implementation letter (AIL) under the terms of the SOAG.

BIOFOR is to assist INRENA in developing policies, laws, and regulations regarding PNAs and national forests (production and protection categories), and policies for forest concession management plans. BIOFOR has assisted INRENA in developing several policy areas.

IRG has done an excellent job of managing BIOFOR, both technically and financially, with completed and planned activities generally remaining within the original illustrative financial plan. Quarterly and annual reports and other required documentation have been completed and presented on time. Excellent rapport has been established between BIOFOR and participating public and private institutions.

The tasks and actions intended to lead to BIOFOR Expected Result 2 have little apparent relation to improved or sustainable management of tropical forests for timber production, the forest product with by far the greatest economic value. Most of the NGO proposals are not for management of forests for timber and are not long enough in duration to test the actual sustainability of any management plans for timber extraction.

Delimitation of boundaries of Tingo María National Park is a high priority concern, especially since SO5 is quite active in the Tingo María area and there appears to be significant encroachment into the park for agricultural purposes.

Recommendations

Given current funding limitations, SO4 should consider reducing the six selected national conservation areas to no more than four, with emphasis on combining both "green" and "brown" aspects of the Mission environmental portfolio in a few geographical/ecological areas, as described in more detail in Chapter Four. If the SO4 management team decides to concentrate site-specific activities at fewer sites, an appropriate exit strategy should be developed to conclude existing commitments within the sites to be terminated.

We suggest that TACs be included in, or serve as technical advisors to, the permanent Comites de Gestión that INRENA is promoting in every PNA. This could contribute to continuation of the TACs after termination of USAID/BIOFOR support.

We suggest that IRG and INRENA develop an interim policy improvement work plan through FY2001. Plans for policy improvement assistance beyond FY2001 should await USAID decisions on changes to be made in the SO4 strategy and program for FY2002-2006.

Expected Result 2 should be rephrased (or be removed from the BIOFOR activity and the Mission environmental portfolio) to clarify that it is not focused on sustainable timber production. A substitute expected result could be based on pilot activities leading to conservation of renewable natural resources in forests and other ecosystems. The evaluation team is aware that the USAID/BIOFOR Activity Manager disagrees with this recommendation and the findings upon which it is based.

Because of the relative scarcity of SO4 funds, USAID should consider SO4 assistance for delimitation of boundaries of the Tingo María National Park through financial support from SO5.

EH

The EH activity is designed and authorized, but implementation has not yet begun. This creates an opportunity to integrate the EH activity more closely with SENREM and the activities contemplated under CEPCOM.

Recommendations

Improved environmental health services in targeted communities. To better integrate the EH activity with actions to be undertaken through CEPCOM, DIGESA and the CPC could work together to focus on polluting businesses in peri-urban zones. A risk assessment study would identify the types of businesses that should be targeted.

CP training could be provided to all DIGESA field inspectors so that they can advise polluting firms how to reduce pollution while retaining jobs and profits. Surrounding communities could be trained in how to work with the targeted companies to achieve mutual goals of improved resource productivity and reduced pollution. Students from local universities could be trained in CP implementation and could carry out their course projects with companies that need CP assistance.

Financing for CP improvements could be obtained through the CP loan guarantee program. To provide added incentives for CP, selected local governments could be trained in how to write local ordinances that require polluting companies to develop CP plans.

Policies to improve urban environmental health conditions. Other than participating in the development of water and air quality standards, DIGESA has had little policy-level interaction with CONAM. There is little articulation of the benefits for environmental health that could result from environmental policies and regulations promoted by CONAM. The EH activity could support DIGESA in an analysis of the economic costs of poor environmental health in all sectors of Peru. The results should be packaged and marketed using a customer segmentation approach (e.g., business executives, policy makers, local government leaders). CONAM should use the results of the study to ensure that EH issues are addressed in environmental planning regulations, such as EIA and PAMA guidelines.

DIGESA, CONAM, and CEPCOM could collaborate on developing policies to discourage the importation and use of problem chemicals, and promote development of alternative chemical production in Peru.

Another policy development opportunity is for the EH activity to include a policy study that looks at the local regulatory authorities of DIGESA and local governments and how these authorities might use CP or other approaches to protect environmental health.

CEPCOM

The base for this activity was established under the fishmeal pollution prevention demonstration project and subsequent CP activities carried out under SENREM. In 1999, a team of U.S. consultants produced an activity design for CEPCOM. The activity has not started yet.

Promotion of CP in a society requires a broader vision of policy and institutional development than is expressed in the design document. It requires participation by the

financial sector, macroeconomic planners and managers, the education system, and the general public to build demand for greener products. It requires recognition that creating demand is more important than creating supply. The proposed CEPCOM design will support MITINCI with policy and technical assistance on the supply side. If CEPCOM is to fully realize its potential, careful attention also should be given to building demand.

Recommendations

Clean Production Center. MITINCI has established a number of technology and business development centers in Peru. Some are sector-specific, while others have general business and technology expertise. Several universities have initiated programs on the environment, and some business schools are interested in developing executive education and regular degree classes on environmental management. At the same time, the business community is more aware and more interested in promoting environmentally sustainable economic development. CEPCOM should capitalize on these resources to become a center in training trainers in CP concepts, tools, and applications. The proposed CPC should not work by itself with individual firms, except perhaps for special pilot demonstration purposes. Instead, it should create consortia of other organizations that can help targeted companies and facilitate use of their skills and resources to create CP outcomes. The CPC should help integrate CP concepts into university and other industry education programs. To support this, a CP information clearinghouse could be established in a university with a good business library and solid reference collection management capabilities. It could use a "best practices" information collection strategy, recognizing that CP is happening around the world, and that relevant solutions for Peru often will come from other developing countries.

Clean Production Advisor. The CP advisor based at MITINCI preferably would report to and work through the Vice Minister of Industry as well as with the MITINCI environmental office. The goal would be to help MITINCI establish collaborative relationships with other ministries and foster understanding among targeted ministries of the many concepts and dynamics needed to promote CP on a broad scale.

Short-term technical assistance could be directed to appropriate targets that may be outside MITINCI's purview—for example, to help MEF develop guidelines for market incentives for cleaner products and materials, or to help local governments create local CP assistance programs in partnership with local universities.

The CP advisor would be the national contact for key CP organizations around the world, such as the U.S. National Pollution Prevention Roundtable.

Revolving Fund. There is no significant shortage of capital available for qualified industries in Peru so long as they can provide required security guarantees. Interest rates are not exorbitant, and bankers are looking for good projects. Peru has a successful microenterprise banking facility, MiBanco, so there is a full range of banking services for every size of company. Thus, there is no apparent need for USAID to provide direct financing for CP

investments. However, mechanisms are needed to encourage banks to lend money to smaller firms that may not be able to provide adequate loan security.

The proposed revolving fund for CP investments should be redesigned as a program that guarantees loans made by commercial banks in cases where CP aspects are validated by the CPC. The loan guarantee program should have a training component that is targeted to existing business assistance organizations to train them in helping businesses with financial analysis of CP projects and preparation of loan proposals.

Demonstration Projects. There is a continuing need for CP demonstration projects in Peruvian industry. The projects should be carried out in partnership with MITINCI's technology development or business assistance centers or by universities so that they learn how to do demonstration projects themselves.

The CPC preferably would identify technologies that make CP feasible in several industries. These might include solvent distillation, water filtration, citrus-based solvents, and process controls. CPC should work with appropriate organizations to conduct feasibility analyses to determine if the technologies are appropriate for Peru. This work could include proposing joint ventures with U.S. suppliers and conducting market studies.

Implementing Mechanism. CEPCOM is to be implemented through a consortium that includes a business organization representing both industries and professional business associations, a local university with strong business development and education capacity, and a U.S. organization that can make available the many CP resources and skills available in the United States.

CONEF

The evaluation team suggests that design and implementation of the proposed CONEF activity be reconsidered. If USAID decides to pursue the revised strategic framework suggested by this evaluation, some of the resources programmed for CONEF could be used for a simple amendment of the SENREM and BIOFOR activities to meet urgent funding needs, with the balance of the CONEF funds redirected to begin funding of activities under the revised strategic framework for FY2002-FY2006. This would obviate the need to design two new activities (CONEF and the elements of a revised strategic framework) in a relatively short time.

CHAPTER FOUR

NEW DIRECTIONS: A REVISED SECOND PHASE STRATEGIC FRAMEWORK

RATIONALE

The SENREM, BIOFOR, and EH activities under SO4 have made and are continuing to make substantial progress in establishing conditions necessary for achieving "Improved Environmental Management of Targeted Sectors." A basic legal, regulatory, and policy framework is in place. Important institutions have improved technical capacities. Innovative technologies are being developed and tested. There is increasing awareness of and interest in environmental concerns.

Given this progress, what should USAID/Peru do next in the environmental arena? After reviewing the accomplishments to date and the problems still affecting the environment, the evaluation team concludes that the comprehensive strategic focus on improved management of the environment as formulated in the 1995 MES was and continues to be conceptually valid. However, some gaps are apparent in the system. This suggests a need to revise the existing strategic framework.

The SO4 program has contributed key inputs that have effectively catalyzed national and other donor inputs to put in place essential elements of a national environmental policy and institutional framework. This nascent framework has the potential to develop into an effective system for addressing and resolving priority environmental policy issues in a comprehensive and equitable manner. To be sure, the national framework is not yet fully operational and policy gaps do exist. It is a dynamic framework that must continue to evolve and grow stronger.

All actors at all levels in the economic and social systems of Peru contribute to the dynamics of environmental change. Unless a critical mass of stakeholders and intermediate and ultimate beneficiaries at all socioeconomic levels become sensitive to environmental concerns, participate in formulating solutions, and accept and demand application of approved policies, potential contributions to the national environmental policy and institutional framework now in place will not be realized. In other words, substantial progress has been achieved in putting supply-side structures and capacities in place. For these structures and capacities to mature and be utilized effectively, demand-related elements in the form of awareness and internalization of environmental policies by and for customers (affected populations and involved stakeholders) must occur.

Many of the pieces are in place for an overall interactive system to address issues involved in achieving environmental sustainability in Peru's economic and social development. Although some gaps exist, the national environmental policy framework and the national environmental public sector institutional framework are in place. With SO4 assistance, the NGO community is now in a position to become a more effective participant in national

environmental policy dialogue, formulation, and application. As information about environmental concerns and cost-effective technological responses have become more widely available within the business community, national business organizations are beginning to participate and contribute positively to addressing environmental concerns. The academic community has been demonstrating increasing interest in actively participating in environmental information generation, interpretation, and transfer.

A critical weak link in the overall interactive system to address environmental issues is at the local government level. Continuing centralization of decision making and control of public financial resources have further weakened already frail local governments, which in turn have stifled local initiatives by the public and private sectors. Because so much of environmental policy application takes place at local and site-specific levels, efforts to stimulate increased local government awareness and active involvement in environmental management and regulation are essential if environmentally sustainable economic and social development is to be achieved.

The Mission's strategic focus on improved management continues to be conceptually valid. However, program experience, an improved knowledge base, and significant national policy and institutional framework improvements provide the basis for considering a revised "second phase" strategy to strengthen an interactive system that involves actors at all levels (national, regional, and local) in identifying and addressing environmental issues that impact on Peru's economic and social development. Within such a system, efforts should be made to foster complementarities and synergies between "brown" and "green" approaches to environmental management improvement. Complementarities and synergies also could be fostered with other donor programs, between SO4 and the other USAID/Peru SOs, among SO4 program activities, and among components and elements within each SO4 activity.

REVISED STRATEGIC OBJECTIVE STATEMENT

The evaluation team recommends that USAID/Peru consider revision of SO4 for FY2002-FY2006 from the current SO, "Improved Environmental Management in Targeted Sectors," to a revised second phase SO, "Improved Interactive System for Environmentally Sustainable Economic and Social Development."

REVISED INTERMEDIATE RESULTS

The proposed components of an improved interactive system to address environmental concerns are (1) continued strengthening of the national legal, regulatory, and policy framework; (2) establishment of a policy/technology application and feedback process from the local to the national level, and related institutional strengthening; and (3) increased environmental awareness and demand (see Figure 1 in the Executive Summary).

National Policy/Regulatory Framework

The evaluation team recommends that USAID/Peru support continued short-term technical assistance to CONAM, INRENA, selected ministries, and the Congress to address gaps in the national policy/regulatory framework. As part of the design process for the revised strategic framework, USAID/Peru, in collaboration with partner institutions, should conduct an in-depth analysis to inventory, diagnose, and prioritize policy gaps based on the populations affected and the magnitude of the environmental threats involved. The agenda developed through this process should be augmented and guided by the policy application and feedback process described below.

To assist in implementing this component, and the second component described below, USAID should consider contracting a U.S. consulting firm or university to provide a long-term, resident environmental policy and institutional strengthening advisor who would provide assistance to the public sector organizations mentioned above and identify, recruit, and manage short-term technical assistance to those organizations. The resident policy and institutional strengthening advisor also would supervise locally recruited personnel working on the second component.

Policy/Technology Application and Feedback

Although much has been done under SENREM and BIOFOR to establish a national policy framework and to test innovative technologies, relatively little has been done to support application of those policies and technologies locally. The experience and knowledge gained through application of policies/technologies at the local level can be fed back to the national level to help identify bottlenecks and problem areas to be addressed through policy studies and improvements in the national policy framework. To assist in establishing such a policy/technology application and feedback process, USAID, in collaboration with its proposed partner institutions, should select four or five geographical areas to serve as focal points for carrying out a coordinated environmental management improvement program. The areas would be selected to provide maximum complementarity with other USAID SO programs (such as the economic corridors program under SO2 and the municipal strengthening and alternative development programs under SO5), MITINCI's Technology and Business Development Centers, and DIGESA's EH programs. Synergies between "green" and "brown" environmental protection and improvement programs also could be sought, principally through focusing on water availability and quality as an integrating mechanism.

Under such a program, Peruvian environmental coordinators for each geographic area would be contracted by the U.S. consulting firm or university responsible for implementing the first component. The regional environmental coordinators would be responsible for working with local government in each geographic area to strengthen local government and private sector capacity for environmental management and regulation. They also would serve as catalysts to work with public and private sector organizations, including those supported by SO4 and

other USAID SOs, to facilitate environmentally sound and sustainable economic and social program implementation (see Figure 2 in the Executive Summary).

Although the selection of specific geographic areas would be made after establishment of suitable criteria and a careful study during the strategy design process, some possible areas include:

- **Pucallpa**, where the SO4 environmental coordinator could work with (1) the SO2 economic service center, INRENA, and the municipality of Pucallpa on environmentally sound forest products extraction and forest protection and management; (2) the municipality of Pucallpa and DIGESA on water and air quality improvement, sewage treatment and disposal, and solid waste disposal; and (3) the CEPCOM Clean Production Center, the Municipality of Pucallpa, and the MITINCI business development centers to promote responsible industrial waste treatment and disposal.
- **Pisco/Paracas**, where the SO4 environmental coordinator could work with (1) the BIOFOR advisory committee and local groups to promote environmentally responsible management of the areas around and within the Paracas National Park; (2) the CEPCOM Clean Production Center, the Municipality of Pisco, and local fishmeal factories to promote the use of new, cleaner technologies; and (3) the Municipality of Pisco and DIGESA on sewage treatment and disposal, solid waste disposal, and water quality improvement.
- **Huánuco/Tingo María**, where the SO4 environmental coordinator could work with (1) the SO2 economic service center, the CEPCOM CPC, and MITINCI business development centers to promote the use of clean production technologies for new businesses; (2) the SO5 alternative development program to ensure that activities are carried out in an environmentally sound and sustainable manner; (3) BIOFOR and the Tingo María National Protected Area on improved management of protected areas and forest resources; and (4) DIGESA and the Municipalities of Huánuco and Tingo María on addressing local environmental management and regulation issues.

In selecting geographic areas for SO4 program focus, it would be useful for USAID to include areas from all three major ecological zones of Peru: coastal, sierra, and selva. The problems and opportunities are different in each area, and experiences gained would help to guide policy analysis and formulation at the national level.

Increased Environmental Awareness and Demand

The evaluation team detected growing levels of interest in environmental issues among the business and university communities, as well as the usual high level of interest among environmental NGOs. USAID should expand and nurture these interests by exposing public and private sector opinion leaders to the wide array of possibilities that exist for improving environmental quality. The team recommends that USAID consider contracting a U.S. consulting firm and/or university to organize and manage a consortium with local universities

that could provide expanded environmental training for public sector, business (including financial), and NGO leaders. An objective of such a consortium would be to encourage the inclusion of environmental courses and course components in the curricula of local universities.

A companion effort should be carried out to increase the public's awareness through environmental information programs in schools, mass media, and civic groups. Serious consideration should be given to a buy-in with the successor to the centrally funded GreenCom project for this activity. GreenCom has had considerable relevant experience in several countries. The GreenCom successor also should be considered for partnering with a U.S. university to assist in carrying out local university training for public and private sector leaders. Thus, management of both elements would be handled under a single contracting arrangement.

DESIGN CONSIDERATIONS

The mission's new strategic plan for FY2002-FY2006 is scheduled for submission to the Bureau for Latin America and the Caribbean by the end of October 2000. In order to be prepared for the new strategy implementation period, the evaluation team recommends that the SO4 team prepare the new strategy and revised strategic framework during 2000 and prepare the supporting activities for the revised strategic framework during 2001. Thus, implementation could begin under the revised framework in 2002. Some of the funds currently programmed for CONEF could be used for simple amendments to SENREM and BIOFOR to meet urgent funding needs, with the balance redirected to new activities under the revised strategic framework.

In designing activities in support of the revised strategic framework, an in-depth analysis is needed to inventory, diagnose, and prioritize policy gaps. In addition, a new comprehensive environmental system-wide institutional analysis is required to ensure appropriate targeting and maximum utilization of short-term technical assistance and training resources that build on progress made since 1995. The original MES did not include a specific institutional analysis, and the analyses provided for SENREM and BIOFOR designs need to be expanded and updated. Furthermore, these analyses did not address the dynamics of interaction among institutions, nor did they analyze institutional roles and capabilities at the local level—for example, municipal and special geographic authorities such as the Consejos Transitorias de Administración Regional and CARs.

The information necessary to build demand for fixing environment problems is insufficient, unreliable, or poorly targeted. Peru has, or has access to, the resources needed to change this situation. These resources, however, are disarticulated and widely dispersed. The vehicles and linkages needed to energize information generation, adaptation, and dissemination/ systematically and effectively are missing.

The proposed institutional analysis also can help identify institutional resources and needs to assist in prioritizing critical information inputs. Likewise, an environmental information

inventory and diagnostic is necessary to utilize fully existing information and to prioritize new information generation and interpretation.

CHAPTER FIVE ISSUES

COMMAND/CONTROL VERSUS VOLUNTARY COMPLIANCE VERSUS MARKET-BASED INCENTIVES

The U.S. model of industrial pollution regulation is commonly called “command and control” because the public sector sets the standards for emissions, then specifically commands or directs the process of compliance within industry and, in many cases, tells companies what technologies it must use for pollution control. The underlying assumption to this approach is that industry is not capable of responsible management of wastes and pollution. Thus, nothing must be left to discretion, and noncompliance must be strongly penalized. Fear is the driver.

Another approach to industrial pollution regulation is known as “voluntary compliance.” The public sector sets the standards for emissions and encourages industry to meet them any way it can, with a preference given to clean production methods. The underlying assumption is that industry is capable of responsible environmental management and will do it if there are clear goals that must be attained. Ethics is the driver.

Market-based incentives (MBIs) are economic tools designed to compensate industry for costs of achieving or exceeding compliance minimums. Firms with good records are given preference in government supplier contracting, awards to enhance market recognition, reduced inspection schedules, etc. MBIs also include public performance ratings, which induce firms to comply as a means to improve their public image. The underlying assumption is that industry makes cost-benefit calculations regarding compliance. Greed is the driver.

Some countries use combinations of all three approaches. The Scandinavian and Dutch approach generally involves emissions targets with negotiated compliance schedules and technical support, plus rewards for good performance (i.e., MBIs). Industry is not given a choice whether to comply, but it can negotiate how and when. It should be noted that the success of this system depends on good-faith negotiating and transparency by all parties. Thus, it requires a strong ethical and democratic environment and plenty of information.

There are obvious pros and cons for each approach. There appears to be widespread consensus that a combination of command-and-control and MBI approaches has the strongest potential for promoting compliance. The message is that noncompliance with standards is bad, and there could be unpleasant consequences for noncompliance, although there may be little capacity in government to apply sanctions to all offenders. This message also is crucial to gain support for MBIs, because even “nice” companies will stop complying if their direct competitors do not comply and derive a cost advantage because of it. Only very strong MBIs can overcome a direct cost advantage between competitors. Thus, command authority is needed to give government the power to “level the compliance playing field” among competitors.

Command authority also is needed to drive innovation. Research has shown that, in the long run, strict industrial emissions standards and pollution liabilities have driven companies to develop more efficient and environmentally friendly products and processes. Some argue that the economic benefits from such innovation have exceeded the costs of compliance, although companies feel the pain of compliance expenses long before they see the gains of efficiency through innovation. But there does seem to be consensus that innovation can and likely will be slower if government does not have the threat of compliance sanctions to get industry focused on improvement.

If a central government is weak or does not have the capacity to enforce compliance, a command-and-control framework can enable local governments to take action. Without a central compliance standards framework, local governments often do not know what they have the right or ability to demand from industry.

In developing countries like Peru, the Scandinavian/Dutch "combination" model of negotiated compliance schedules and MBIs seems to be appropriate, especially for application at the local level. At this level, the ethical and democratic framework needed has the best chance of success because information is much more transparent; everyone can see the local firms and know who is working in good faith to meet the standards. And local MBIs, such as preferred government contracting, competitive awards, and local tax breaks, have more obvious results.

In the combination model, the central government sets the emission levels for firms and communities based on health and environmental needs, not on their ability to comply. It establishes schedules of allowed sanctions, creates rights for local governments and individuals to sue polluters who do not comply, and sets up an appeals process strong enough to ensure that a violator can in fact be held accountable. It also provides technical and management guidelines, and, preferably, technical assistance to help firms achieve compliance through better management and process technology. The right to sue can explicitly recommend mediation and development of negotiated compliance schedules as the first resort, and harsh penalties as only the last resort. Failure to comply with a negotiated schedule should be explicitly covered by sanctions, so affected parties take the negotiations seriously. With this structure, local governments or citizen groups can bring polluters to the negotiating table and, ideally, get them to comply via business improvement and assistance within a schedule that is acceptable to all.

The central government also needs to define levels of performance so that MBIs can reward firms that comply voluntarily. A performance rating system like those used in the Philippines and Indonesia provides relatively simple criteria to distinguish firms. But who will determine the level of performance? Central governments cannot make such determinations without a massive inspection and information management system. Thus, the burden falls on local governments to rate the performance of firms and make the information public, thereby permitting the marketplace to work.

The World Bank recently published a review, *Greening Industry*, that summarizes innovative approaches for industrial pollution regulation around the world. The examples clearly show

that combinations of command, incentives, and community/local government action are achieving the best results in developing countries. There also are examples of the command and MBI approaches working alone. But there are no examples of the voluntary compliance approach working alone. This should come as no surprise. If compliance costs firms money, then noncompliance creates a competitive cost advantage if other factors remain equal. Thus, the laws of economics dictate that even well-intentioned firms cannot follow a voluntary compliance approach and survive.

Since there is no logical reason that voluntary compliance alone can work, perhaps it should be relegated to the archives and replaced with the more feasible concept of negotiated compliance. That full compliance is the expected outcome should never be in doubt; what is negotiated are the ways, means, and schedule for getting there. If central governments do not have the staff to deal with every company, every effort should be made to create a legal and policy framework that empowers and educates local governments and groups to use negotiated compliance with polluting firms to meet national goals.

STANDARDS/ENFORCEMENT/MONITORING

The infrastructure of environmental regulation depends on a “three-legged stool” of standards, monitoring, and enforcement. Like the stool, without all three legs in place, the other legs are ineffectual. This is widely recognized. The challenge is what to do when the legs are not equally strong.

In most developing countries, standards are strong, and monitoring and enforcement are weak. The weakness comes from different sources. Monitoring, especially quantitative measurement of emissions, requires a large investment in information infrastructure but does not require a strong adjudication system. Thus, it is handicapped by funds, rather than by a weak adjudication system. Enforcement depends first on good monitoring data to prove that a violation has actually occurred. This may not require any information technology investment. For example, it is usually obvious when a firm is discharging large quantities of untreated waste into a river or belching black smoke into the sky. However, it does require a strong adjudication system and very clear laws. In some developing countries where the adjudication system is strong, enforcement is nonetheless still hampered because the laws themselves are vague and lawyers can tie up the adjudication system in arguments about what the government really meant.

Thus, the issues involve responding to the respective weaknesses that make the three-legged stool unstable. Monitoring is the first challenge. That challenge depends on the structure of the standards. If the standards specify exact limits for emissions, for example, then monitoring must detect noncompliance accurately enough to satisfy the administrative or judicial judge. As mentioned above, this is an area where poor statutory language has impeded court decisions as lawyers fight about how the samples were collected, handled, and measured. Increasingly, governments recognize this is a trap that is almost unavoidable, and they are designing different kinds of standards. One of the more common approaches is a

standard for facility environmental planning or management systems. The European Eco-Management and Audit Scheme (EMAS) is one such approach; it sets a standard for facility environmental management systems that must be implemented, assuming that a properly designed management system will result in compliance. The ISO 14001 Environmental Management System standard is used by some governments as a standard for environmental performance that relieves other regulatory burdens. For example, the state of Pennsylvania gives firms certified ISO 14001 a relaxed inspection schedule and a presumption of good faith in settlement of compliance violations (which usually results in decreased cash fines).

There are other ways to measure facility environmental performance, typically based on measures of management behaviors, that do not require counting every milligram of waste and that are more easily implemented and adjudicated. In summary, the monitoring challenge is to match the type of standards to the capacity of the monitoring system that is available. Multiple standards are quite feasible and reasonable; quantitative standards for emissions will always be needed to define public and environmental thresholds for hazards. But these do not need to be—and perhaps should not be—the primary basis for enforcement, if other alternatives are available.

Developing countries should seriously consider “behavior-based” standards such as the EMAS and the Facility Pollution Prevention Planning laws being used in Europe and the United States. These standards say that firms must prove they are actively managing environmental problems using a competent and logical system. It is quite easy to monitor if they are doing it; firms can be required to submit their written plans, which can then be reviewed using a checklist for content. Moreover, on-site visits can be made to talk with executives and random employees to discuss the management plans. The U.S. National Pollution Prevention Roundtable (see www.p2.org) is the top source for expertise and referrals on this topic.

Another standard is the “color-coding” system used in Indonesia and the Philippines. This system rates facility performance using five levels: no effort to comply (black); trying but not there yet (brown); in compliance (green); in compliance and doing extra (blue); blue for three years (gold). The point of this system is that the determination of status is done on a “big picture” basis; there is no need for argument about milligrams of regulated chemicals in a particular discharge. Once the rating is applied to a facility, it is used for public education (which can improve the firm’s public image). It also can be used for targeting technical assistance (for example, supplying needed expertise to get a pollution control device working properly). Monitoring is relatively simple since the criteria are broad. Under this system, local governments also can be monitors.

Thus, if monitoring capacity is weak, it is reasonable to design standards for which compliance *can* be monitored. This is not to discount quantitative standards that protect health and the environment. These are always needed to establish the hazard threshold for pollution. But there can be other standards that can be monitored without the need for expensive laboratory equipment and the consequent legal framework and capacity needed to adjudicate upon test results.

The third leg of the stool is enforcement. Enforcement is complex because the environmental agency often does not have the capacity to handle it. For example, in Peru, the Department of Health has the field staff who can actually shut down a business for threatening public health. Local governments that issue business operating permits also have unusual capacity to enforce standards. In the Philippines, firms must obtain a mayor's permit to do business in a town or city. The mayors know the power they have and have occasionally used it to enforce changes on recalcitrant firms. Thus, there may be indigenous enforcement capacity in institutions not obviously related to environmental protection.

In the United States, the theory of enforcement is that it must be swift and painful so that others will learn from this example. However, one consequence of swift enforcement is that polluting firms reduce their emissions the fastest way possible, through end-of-pipe controls. This uses up capital and increases operating costs, thus making it more difficult for firms to invest in clean production to reduce emissions. An alternative to swift enforcement is negotiated compliance, in which firms are given clear deadlines to come into compliance but the time allowed is enough for them to make process and product changes that either achieve compliance or dramatically reduce the cost of end-of-pipe controls that remain necessary at the final stages of effort. This approach suffers from the fact that the firm continues to pollute while it is making its clean production efforts, so it is not appropriate in situations where pollution is creating a significant threat to health and environmental quality. However, in the majority of cases, polluting firms have been polluting for some time, and the threat level has not escalated dramatically. Public risks from another year or two of discharges may be tolerated in return for emissions reduction through clean production that preserves jobs and results in more reliable long-term emissions control. Monitoring in this case must be sufficient to hold the firm to a steady progress schedule so the "grace period" is not used simply as an excuse to avoid any action.

If local governments are educated in environmental requirements and if the legal framework allows them to act, they can be the primary source of enforcement. They can use a variety of means to pressure firms into compliance, such as public exposure, negotiated schedules, direct orders, and local fees on discharges. Local governments will tend to prefer solutions that do not cost local people their jobs, so the negotiated compliance approach is often appropriate. However, because local governments usually do not have much expertise or capacity for technical assistance in clean production, polluting firms will tend to use end-of-pipe controls, which defeat the purpose of negotiated compliance. Thus, an enforcement regime that relies on local governments must include capacity building for clean production technical assistance. This can be focused in local universities or training institutions. Experience in several countries shows that university students can do a good job of guiding firms to clean production, and they usually work for free if their project is part of a formal university class.

A final note about enforcement is needed regarding the role of the "scary example." The U.S. approach is to use strong and painful enforcement as an example that will encourage others to comply. This is appropriate in every country. Even if the preference in the regulatory system is for negotiated solutions ("win-win"), it is still important for a few examples to exist of dramatic action against problem firms. The key to making this useful is to pick the targets

for enforcement carefully and then arrange a competent media publicity campaign to ensure that the lessons are not lost on the population and other polluting firms. Polluters will take negotiations much more seriously if they all know of the example of the firm that was closed down and the executives that were fined or jailed for noncompliance. It is not necessary to have many examples of this, but it is necessary that the examples are promoted strategically and that the examples really worked.

CONFLICT RESOLUTION/MEDIATION

The MES correctly identified a weak judicial system as one of the crosscutting problem areas constraining environmental management improvement. However, it is generally recognized that strengthening the effectiveness, efficiency, and objectivity of the judicial system is a massive long-term undertaking, much broader in scope than is dealing with environmental issues. Nevertheless, there is considerable opportunity and potential for initiating extra-judicial mechanisms for resolving environmental conflicts and/or for mediating actual and potential conflicts related to environmental matters.

Experience in developed and industrialized countries has demonstrated that for many environmental conflicts, litigation is a costly and time-consuming means of resolution, and that the results often do not provide the environmental protections envisioned. In addition, litigating environmental conflicts is closely related to the command and control approach to environmental protection. Recent advances in applying incentives, education, and a good business approach to improved environmental management in many countries, including the United States, has led to development, refinement, and increasing utilization of extra-judicial mechanisms for resolving environmental endangerment problems when they arise and, even more so, in anticipation of potential conflicts or problems.

Extra-judicial environmental conflict resolution mechanisms include voluntary and mandatory arbitration, formal administrative conflict resolution systems, or mediation systems established by public and/or private authority. A number of opportunities arise to permit extra-judicial conflict resolution mechanisms to be introduced. Operating permits for industries may include mediation or arbitration clauses. Land deeds, leases, and concessions may include similar requirements. Local governments may require such clauses in agreements with enterprises to operate within their jurisdictions. Appropriate publicity and education also can enhance voluntary submission to these extra-judicial mechanisms.

Systems of extra-judicial conflict resolution require formal policies that permit and make binding resolutions achieved under the system. Likewise, stakeholders must be educated to the benefits of this option. Finally, mediators and/or arbitrators must be trained and certified.

In the policy reform arena, a review of the existing relevant policy framework and development of improvements that facilitate these extra-judicial mechanisms could contribute significantly to accessibility, affordability, and timeliness of resolution of environmental conflicts, both actual and potential. Similarly, training of

mediators/arbitrators, and development and application of certification procedures, could have a high payoff in the short to medium term.

ENVIRONMENTAL MANAGEMENT IMPROVEMENT TOOLS: SUPPLY AND DEMAND

Although most people do not relate supply and demand concepts to environmental matters, these concepts are just as applicable to improving environmental management as they are to more traditional economics and marketing matters. At issue in terms of development assistance is which interventions can achieve the greatest multiplier effect, both in terms of leveraging greater public sector and NGO investments in environmental management improvement institutions, personnel, and activities, and in terms of voluntary changes in business and industrial practices that favor improved environmental management.

On the supply side, there must be in place a "minimum critical mass" of appropriate policies and sufficiently competent institutions to "supply" a minimally adequate environmental policy framework for application to stakeholder activities and to make sufficiently clear the "rules of the game" by which potential polluters and others who are actually or potentially affecting the environment are expected by society to conform.

On the demand side, there must be a sufficient level of awareness among the general public, along with those specifically affected by actual or potential environmental damage (and by those who directly or indirectly represent them), to understand the dangers posed to their well-being and that of their surroundings, and to know how to seek help. Similarly, the demand side includes stakeholders who are damaging or could damage the environment. These need to be aware of actual or potential damage and to be aware of specific technologies or practices that could be applied to alleviate the problem (or at least be aware of where they can go for help and for information to permit them to make profitable or low cost changes in their operations to minimize environmental damage). Similarly, all public sector personnel (from ministers to officials in the smallest municipalities) who come in contact with environmental stakeholders (both those who damage and those affected by such actions) need to be aware of the consequences of environmental damage and the opportunities for minimizing that damage. Moreover, public sector personnel need to know where help is available for dealing with environmental concerns.

Without a reasonable balance between the supply of environmental management improvement tools on the one hand and the demand for environmental management improvement on the other, cost-effectiveness and timely progress are compromised. The evaluation team concludes that existing conditions in Peru are such that the demand side of the environmental equation is lagging the supply side to a degree that compromises the effectiveness of impressive supply side advances. Thus, the team suggests that USAID explore opportunities to invest relatively greater amounts in the demand side, in the information, communication, and education (ICE) system. Further, as discussed below, interventions on the demand side would include greater emphasis on policy application and feedback from the local level.

POLICY ESTABLISHMENT AND POLICY APPLICATION

Since 1995, USAID and other donors have provided considerable assistance in improving the national environmental management policy framework and delivery system. Although some assistance, especially on the "green" front, has been focused at the local level, there appears to be little capability or even know-how at the local level on how to apply the policies that have been established at the national level. Furthermore, appropriate policy mechanisms for local action and application are in short supply.

Similarly, whether or not a particular policy has the intended result is determined when that policy is applied locally. Thus, information from local applications needs to be communicated up to the policy formulation and establishment level if meaningful policy improvements are to be made. In other words, mechanisms must be in place for policy application and feedback if the environmental management policy improvement system is to remain dynamic and adjust to application needs.

Policy is applied at the local level—that is, in a localized situation, such as a particular industry that is polluting or a particular fragile ecosystem that is being threatened. Thus, local government authorities are at the vanguard of policy applications, and local populations (communities and neighborhoods) are the affected parties. Although an adequate national policy framework may be in place, environmental management improvement will not occur unless the mechanisms and knowledge exist at the local level to "make it happen." The evaluation team concludes that if the potential of the improved national policy framework and delivery system is to be realized in the medium to long term, more emphasis needs to be placed as soon as possible on mobilizing local governments and local interest groups to take action in applying those improved policies.

Donors could assist a number of activities to facilitate local policy application and results feedback. USAID could assist by reorienting the focus of some existing activities and by orienting new or revised activities to support "demonstration municipalities." The EH activity is designed to permit this to occur. Similarly, the policy research agenda under SENREM could be oriented toward developing appropriate model ordinances and application manuals for local governments. Models could be developed for different categories of local governments. Demonstration projects might be reoriented to permit demonstration municipalities to be assisted where synergies could be achieved not only among "green" and "brown" interventions, but also between SOs and/or with initiatives supported by other donors and NGOs.

CHAPTER SIX OTHER CONCERNS

RELATIONSHIP TO OTHER USAID/PERU STRATEGIC OBJECTIVES

The evaluation team interviewed the SO team leaders for SOs 1, 2, 3, and 5, and found some interesting possibilities for collaboration, particularly with SO2 and possibly SO5. The economic corridors activity of SO2 looks especially promising. Under this activity, economic service centers are being established in 10 economic corridors to support business development. The regional environmental coordinator proposed in Chapter Four could work with personnel in the economic service centers to help new businesses develop their products and services in an environmentally sound and sustainable manner. For example, in Pucallpa, where the primary area of business development will relate to forest products extraction and processing, the SO4 environmental coordinator could work with these businesses to help them keep environmental damage to a minimum and to engage in appropriate forest management and conservation practices. In the case of other types of industries in other areas, the regional coordinator could request the assistance of the CEPCOM Clean Production Center in facilitating access to clean production technologies and practices that minimize pollution and mitigate damage to the environment.

SO5 is working with an association of 78 municipalities in San Martin department, providing them with a \$10 million grant in 1998 and training municipal officials in planning, finance, and management. Additional support is contemplated for other associations of municipalities in departments where SO5 is working. A SO4 environmental coordinator could work with the association of municipalities to assist them in assuming a more active role in environmental management and regulation.

SO3 saw sharing responsibility for water monitoring and testing as a possible area of collaboration with SO4's EH activity. SO1 thought that environmental advocacy groups could benefit from exposure to and perhaps training from SO1-supported human rights advocacy groups. Another possible area of collaboration is in strengthening the capacity of municipal governments.

RELATIONSHIP TO OTHER DONOR ENR ASSISTANCE

The Inter-American Development Bank (IDB) provided a technical assistance grant to CONAM, primarily to assist in the preparation of the structural framework for environmental management (Marco Estructural de Gestión Ambiental [MEGA]), which complemented the work in CONAM funded under SEMREN. IDB also funded a technical assistance grant for preparation of an Economic and Ecological Zoning Plan for the Madre de Dios watershed and supported a technical assistance project for the Use and Protection of Biodiversity in Andean Countries with the Andean Community, which complements work done by BIOFOR. Canada and the Global Environment Fund (GEF) of the World Bank have

provided funding for PROFONANPE, which supports the work of INRENA in parks and protected areas and complements the work being done by BIOFOR. The German GTZ program is funding two activities with INRENA, one on Sustainable Use of the Biological Diversity of the Paracas National Reserve and another to Fortify the National System of Protected Areas, both of which directly complement BIOFOR. (See Annex E, "Environmental Funds and Other Donor Programs.")

To better coordinate donor projects related to BIOFOR, IRG has helped bring together the Dutch, Finns, Germans, Spanish, Fund of the Americas, World Bank, and FAO in a forum to discuss strategies and complementarities of BIOFOR and the various donor programs. The World Bank representative would like to see more donor coordination on the environment, but efforts to bring this about have not been successful.

RELATIONSHIP TO CENTRALLY FUNDED PROJECTS

Since 1995, SO4 has received considerable collaboration and support from USAID/W-based environmental specialists and from centrally funded programs and services.

In 1994-95, Gilbert Jackson, an LAC/RSD-E environmental specialist, participated in preparation of the MES. Since 1995, the Americas Environmental Initiative has committed \$1.71 million in support of the USAID/Peru environmental strategic objective. Of this total, \$1.11 million were obligated as budget resources in SENREM, \$450,000 were expended directly through the central LAC EP3 project for technical assistance in pollution prevention for the fishmeal industry in Pisco/Paracas (see Annex F for more details), and \$150,000 were expended directly through the central EH project for technical assistance to the micro-empresa peri-urban solid waste management (SWM) pilot demonstration project. Of the \$1.11 million obligated to SENREM, \$700,000 were budgeted for local costs (of which \$385,000 were granted to the NGO Alternativa for implementing SWM). Most centrally funded activities related to SENREM were implemented during 1995 to 1998. LAC/RSD-E has been providing active backstopping support throughout the implementation period both through periodic site visits and through e-mail and other consultations.

Although no central funds were committed directly to the BIOFOR activity budget, approximately \$360,000 of Parks in Peril Program funds were granted to ProNaturaleza (the local NGO of The Nature Conservancy, the Parks in Peril cooperator) for implementing activities in the Paracas Natural Reserve, one of the six PNAs selected for support under BIOFOR. To ensure complementarity and synergies, ProNaturaleza and BIOFOR developed and agreed to joint work plans for their activities in Paracas. In addition, the Mission used a buy-in to the EPIQ IQC to carry out the BIOFOR design analysis; BIOFOR implementation is being carried out primarily through a task order with IRG under the EPIQ IQC. Central office backstopping support has been important to ensure timeliness in accessing these services.

The design of the SO4 EH activity benefited from technical support by G/PHN/HN, both directly and through the central EH project, on a cost-shared basis. In addition, expatriate

technical assistance is to be provided to the EH activity through a task order under the current central EH project. Central office backstopping facilitated timely access to the Integrated Water and Coastal Resources Management IQC to field this SO4 evaluation team.

Centrally sourced technical support has been of good quality, and services have been provided on a timely basis. Quality and timely technical and backstopping support and services from USAID/W will continue to be important inputs for the SO4 program as implementation of ongoing activities continues, and especially as the Mission moves into SO revision and activity design and implementation for FY2002-FY2006.

MANAGEMENT INFORMATION SYSTEMS

As a standard requirement for USAID assistance activities, each of the three SO4 activities (SENREM, BIOFOR, and EH) calls for a performance monitoring plan (PMP). In the case of SENREM, the original project paper specifically required the development, installation, and operation of a management information system (MIS) to automate the data requirements of the PMP. Under the contract, the TAP was responsible for developing and installing the MIS, and CONAM was to operate it with support from the project implementation unit (UEP). Considerable detail was included in the SENREM project paper defining specific tasks related to creation and application of the MIS. Activity design papers for BIOFOR and EH did not specifically call for an MIS as a part of the PMP. However, the IRG IQC contract included a specific task for establishing an MIS.

The MIS for BIOFOR was developed and installed within months of initiation of BIOFOR implementation. It is being used to provide data to the IRG information reporting system in compliance with routine monitoring needs for USAID. However, in the case of SENREM, at least two false starts resulted in delays in MIS development until 1999. The MIS now has been installed in CONAM. However, it appears still not to be used to generate data for the information reporting system of CONAM/UEP to USAID for routine monitoring. The question arises: Given that considerable resources already have been invested to date to develop and install the SENREM MIS, should additional effort be expended to apply it to generate the information needed for routine monitoring reports to USAID?

CONAM/UEP apparently have been complying at least minimally with USAID performance monitoring reporting requirements up to now. With only two years remaining for SENREM performance reporting, it is not likely to be cost-effective to insist on changing the ongoing information generation and manipulation system for the as-yet unproven MIS. CONAM/UEP should decide on this, after a thorough review with USAID of possible risks and potential benefits that might result from its adoption.

The problem encountered with making the SENREM MIS operational is indicative of a larger problem related to the general requirements of USAID SO and activity performance monitoring and information management for USAID performance reporting purposes. Performance monitoring has always been a challenge and a burden for USAID program/activity managers and implementers. With USAID re-engineering and the

consequent application of standardized systems of defining and measuring SO and activity progress, what was intended to simplify performance reporting by permitting automation of data manipulation has instead complicated the process. Many missions began to incorporate into all activities in their portfolio a requirement to develop and install an MIS. This usually becomes the responsibility of the primary partner institution or the technical assistance provider. Thus, each interprets and constructs the MIS in its own way.

The MIS requirement is further confused by the type and form of information needed to comply with the USAID SO, IR, indicators, and targets system of performance monitoring. These generally have little in common with what is considered to be a "management information system"—that is, a system that provides "real-time" information to program planning and operations managers to help anticipate problems and solutions in forward planning and implementation on a continuing basis. Thus, any MIS developed and applied to respond to USAID monitoring and reporting requirements does not necessarily (and to our knowledge, seldom does) provide information that helps implementation managers of partner institutions and technical assistance providers make real-time operational decisions. Instead, implementation managers of partner institutions and technical assistance providers usually see the MIS as a problem and a burden that diverts scarce time and resources from their primary mission, activity implementation. Thus, until and unless USAID can and does develop a "standard" MIS program format for all USAID activities, it is preferable to simply require PMPs that develop data generation and manipulation mechanisms as appropriate to each case.

GENDER AND DISADVANTAGED GROUPS

Particular emphasis is placed on the most vulnerable groups as ultimate customers of SO4. Most vulnerable groups are specified as including indigenous peoples, women and children, and other poor populations living in fragile ecosystems or peri-urban communities. Design papers for SENREM, BIOFOR, and EH all include discussions of gender and disadvantaged population concerns and the ways in which these concerns will be addressed.

The EH activity notes that women head between 30 and 50 percent of households in peri-urban areas and that a high percentage of peri-urban populations are children who have a high incidence of diarrhea and respiratory infections from ambient pollution. Thus, these populations become the primary focus and ultimate beneficiaries of the EH activity.

The BIOFOR design identifies women and indigenous peoples as populations that should receive special consideration. These concerns are carried expressly into activity implementation. For example, there is an indicator of women being actively engaged as central actors in activities supported in local ecosystems, including development of management plans, ecological-economic zoning, forest certification, and all other activities where appropriate. As a target value, evidence exists that women's roles have increased in at least half of BIOFOR-assisted field activities. Similarly, in 1999, BIOFOR sponsored a social and cultural impact assessment to provide recommendations and proposals to achieve sustainable management of production forests in the Biabo by incorporating local indigenous

communities and settlers into the process, thereby minimizing negative impacts on these populations. The Comité Especial de Privatización del Biabo officially approved the assessment and recommendations.

The original SENREM design document specified that design and implementation of all activities will consider women's special needs and gender roles. Strategies to address gender issues were to be adopted and implemented at both the institutional and project levels. Training plans and workshops were to expressly incorporate tools to identify and address gender issues. Policy improvement activities were to incorporate gender considerations, as were information development and dissemination, specifically analytical and thematic aspects of the state of the environment report. Likewise, demonstration projects were to take into account gender considerations in both design and implementation.

From the documentation reviewed, it is not clear that the gender considerations specified in SENREM design have been incorporated into implementation. We found few indicators or targets focused on gender issues. Exceptions were participants in workshops and seminars related to strengthening the private sector capacity for consensus-building problem solving and policy dialogue, and the database for populations affected by demonstration projects.

In conclusion, it appears that gender and disadvantaged population considerations have been appropriately recognized in all SO4 activity designs. In the case of BIOFOR, implementation and reporting have responded to design parameters; in the case of SENREM, however, the responsiveness of implementation and reporting to design expectations is not so clear.

We suggest that the SO4 team request that SENREM partner institutions review their activities from the perspective of incorporating gender and disadvantaged populations considerations, and indicate actions they propose to improve incorporation of these considerations into their work plans and implementation processes. Similarly, they should propose ways in which they will improve their reporting systems to more effectively report advances in actively incorporating women and disadvantaged populations into the activity at the institutional and the beneficiary levels, as appropriate.

COUNTERPART CONTRIBUTIONS AND SUSTAINABILITY

The SOAG dated August 25, 1999, calls for a Peruvian government counterpart contribution of \$2.473 million distributed as follows: SENREM (\$2 million), BIOFOR (\$34,000), and Environmental Health (\$439,000).

The SENREM counterpart contribution is further broken down to \$1.25 million for Component A, \$491,000 for Component B, and \$259,000 unallocated. The amounts for Component A and Component B are taken from the original SENREM project paper. CONAM reports that Government of Peru counterpart disbursements (in cash and in kind) totaled \$800,000 in 1998. The figures on CONAM counterpart disbursements for 1999 are being reviewed. CONAM plans to meet the total counterpart requirements by the end of project in 2001.

There is no requirement for a counterpart contribution from SPDA and its subcontractors. Under element B.1, Policy Research, publications are being distributed free of charge and, thus, generate no revenue. Under element B.2, Permanent Ecological Forum, the sustainability of this operation will depend upon the economic viability of SNA. Element B.3, Industry Seminars, also generates no counterpart because the seminars are offered free of charge. Element B.4, Independent State of the Environment Report, does not call for a counterpart contribution from CUANTO but does include a requirement that CUANTO charge for the state of the environment report, beginning with the second issue. Element B.5, Municipal and Community Environmental Monitoring, requires no counterpart contribution. The entire counterpart contribution under Component B will be made by CONAM for element B.6, Clean Production Program.

Consideration should be given to charging for publications produced under element B.1 and for training conducted under element B.3 to contribute to sustainability of these activities once SENREM funding terminates.

SUSTAINABLE DEVELOPMENT IMPACTS

Sustainability can be assessed in terms of prospects for financial viability, as well as in terms of degree of "internalization" of the activity strategy and approach by institutional partners in activity implementation. It also can be a function of the degree to which the implied concepts of the strategy become a part of the way of thinking of intermediate customer stakeholders and their representative organizations, as well as of ultimate customers (that is, affected populations, Peruvian society, and others to the extent impacts mitigate worldwide environmental threats). The degree of internalization is a function of changes in individual and institutional awareness, attitudes, behavior, decisions, resource allocations, expenditure choices, and actions taken. Financial viability depends on political and budget priorities in the case of public sector institutions and on marketplace demand in the case of user services and products, whether the public or private sector supplies these.

SO4 interventions have occurred at many levels or categories of customers—society, public and private functional sectors, representative organizations, institutions and decision units, and families and individuals. Our findings and conclusions are presented below by level and category of the partner/customer, and they are distinguished by type of impact as appropriate.

General Awareness and Attitudes about Environmental Matters

Available information and measures, as well as our discussions and observations, suggest that there is an increased and growing awareness about environmental problems and issues (as compared to 1995 when SO4 was initiated). This includes, at least at the public sector institutional level and among both public and private sector opinion leaders, increased understanding of specific categories of problems and a nascent increase in understanding that there are alternative ways to approach mitigation.

The original design strategy was for SO4 to focus largely on national institutional and policy framework improvement interventions, combined with site-specific pilot demonstrations of applied solutions to environmental problems or threats. Other donor and Peruvian initiatives were expected to be the primary stimuli for generating multiplier effects in terms of increased awareness and replication of improved environmental management decisions/applications. To the extent such expected results are being measured and to the extent the evaluation team received anecdotal information, significant positive results are not clearly indicated.

In the absence of significantly greater donor emphasis on increasing effective demand—in other words, demand that is articulated and interpreted through mechanisms and channels that result in positive public and private sector decision making—we conclude that the demand side of the environmental management improvement equation will continue to lag the supply side. This is discussed in some detail in Chapter Five. In the absence of significant improvement in effective demand for changing environmental management, future sustainability of advances on the supply side (for example, improved national environmental policy and institutional framework and institutional capacities) is seriously compromised.

More specifically, we conclude that increased donor interventions would be appropriate (and would greatly increase sustainability of progress to date) in areas that stimulate widespread changes in behavior and habits, such as (1) encourage greater media coverage of “action opportunities” about how individuals, families, and local communities can change habits and behavior to mitigate environmental problems and (2) facilitate train-the-trainer initiatives that leverage the self-interest of training institutions, “trained” institutions, and media to increase their own (positive) visibility and public support/acceptance. Such initiatives could trigger sufficient understanding and peer group pressures to facilitate sustainability of behavioral changes friendly to the environment.

Organizational and Institutional Sustainability

As discussed in the SENREM mid-term evaluation report, acceptable progress has been made in improving the national environmental policy framework, and CONAM has developed and approved a conceptual framework for guiding its own institutional activities. The latter could well serve to guide all efforts toward environmental management improvement in Peru. However, generalized and sustainable public/private sector institutional strengthening, whether viewed in terms of results-oriented effectiveness of specific institutional functions or in terms of inter-institutional collaboration and synergies, remains a desirable but as yet unrealized goal.

An intended outcome of SENREM (and SO4 in general) is to strengthen selected environmental institutions. (Only SENREM is discussed in this respect because of its longer implementation history.) For SENREM, this is a derived result expected from a number of discrete interventions that have impacts on individuals across a number of institutions or organizations (and which may be different for different interventions). In this respect, SENREM provides no direct mechanism for ensuring synergies and multipliers for a particular institution or common inter-institutional function.

Generally, USAID-funded activities to be implemented with weak or nascent partner institutions normally seek integration of interventions toward a common institution-building expected result through the technical assistance contractor. The technical assistance contractor provides the overall management capacity and responsibility to optimize synergies and multipliers toward a defined institution-building expected result. Curiously, in the case of SENREM, this interim overarching management role has been assumed by the USAID SO4 core management team. Although the technical assistance contractor provides discrete technical assistance inputs, it was not specifically charged with institution-building responsibilities.

In hindsight, it appears that this innovative approach of SENREM to institution building has generated mixed results at best. The evaluation team concludes that these mixed results have not led to, and cannot be expected to lead to, institutional sustainability of nascent primary SENREM partner institutions (for example, CONAM) or to institutions established with assistance under SENREM (for example, SNA). The team further concludes that the innovative approach referred to above was not a design flaw but rather was a USAID management decision, made during initial technical assistance procurement.

Over the past three years, CONAM has defined its own "institutional purpose and role" within the environmental institutional system in Peru. CONAM is to be the headquarters for formulating and facilitating application of the elements of a national environmental policy framework, formulating an environmental agenda for Peru, and promulgating a national conceptual framework for furthering the environmental agenda of Peru. Furthermore, CONAM has decided to provide a direct vehicle for disseminating these to regional and local levels—that is, the CARs. During the institutional formation phase (since 1995), CONAM consulted with a considerable array of institutions and organizations in the environmental system, and received advice from technical assistance providers. It appears to us that CONAM is single-mindedly pursuing its institutional purpose and role (summarized above).

What CONAM has not achieved is "client support," which is essential to sustainability. Part of the problem is that CONAM has identified its clients, but most of these "clients" have not identified themselves as CONAM clients. In fact, some institutions that CONAM considers to be its clients consider themselves to be competitors (INRENA), and others are indifferent at best (industry organizations).

Given the existing relationship between CONAM and its "client pool," long-term institutional sustainability of CONAM does not depend on the amount or nature of the assistance to be provided by SO4 until the end of this strategy period (and beyond). Rather, institutional sustainability depends on political decisions of the Peruvian government, which by and large are decisions that neither USAID nor CONAM are in a position to leverage—USAID because it is not a big enough donor to exercise much leverage, and CONAM for lack of strong client support.

It is too early to speculate on the institutional sustainability of the SNA, but current conditions are not encouraging. There is time, however, for effective action under SENREM to influence the end result.

Technical Sustainability

Discussion elsewhere provides the views of the team on overall technical sustainability. We conclude that in the absence of greater emphasis on the demand side of the environmental system, progress already made on the supply side in terms of the national policy framework and specific policy implementation is not technically sustainable. More specifically, in the absence of enhancement of policy application capacity at the local and site-specific levels, a dynamic environmental management improvement process is not achievable or sustainable.

RELATIONSHIP TO WATER RESOURCES MANAGEMENT

SO4 has been supporting several activities related to water resources management. These include the work on water standards by the CONAM-led Grupo de Estudios Técnicos Ambientales (GESTA), the municipal and community environmental monitoring work carried out by OACA, the draft *State of the Environment Report* that features water-related subjects as its theme, and at least three of the technology demonstration projects that deal with water: sustainable management of natural bodies of water in the lower jungle, *campesino* systems for monitoring water quality, and use of unconventional technologies for potable water supply and latrines in rural and marginal urban zones.

Much more can and should be done to improve management of Peru's limited water resources. The revised strategic framework described in Chapter Four will facilitate addressing water resources management as a crosscutting issue. With the focus on policy and technology application in selected geographical areas, water availability and quality becomes a natural integrating mechanism for realizing synergies between "green" and "brown" environmental and protection programs. Protecting water sources through "green" watershed management and soil conservation programs and reducing contamination through reduced agricultural runoff help ensure more and better quality water for downstream urban populations. "Brown" sewage and industrial wastewater treatment programs not only protect potable water supplies for downstream users but also treat effluents that otherwise affect downstream agricultural uses. With limited water resources, cooperation is required on water distribution for competing uses such as human consumption and for industrial and agricultural purposes. Additional study is required to determine how these competing interests can be encouraged to work together on conservation, distribution, and quality problems at local government and inter-governmental levels.

An important future consideration is the need to educate the public on the problems involved in ensuring water availability and water quality, and what they can do to support programs in this area. Education programs in water use and conservation should be included in the public awareness activity. In fact, the crosscutting nature of water in terms of environmental, human health, and economic concerns makes it an excellent choice as the central theme in environmental awareness, information, and education programs.

Finally, crosscutting water policy issues should be considered for priority attention under the revised IR for continued strengthening of the national legal, regulatory, and policy

framework. Water policy legislation in Peru is woefully out of date. One important water policy issue needing further research for modernizing Peru's water policy legislation and regulations is water pricing (especially for agricultural uses that compete with urban needs). Since most of the urban population and much intensive agriculture is located in water-deficit coastal areas, water recycling and wastewater treatment are options for consideration within the context of water pricing policy. These are only a few of the important policy elements for incorporation into a modern and comprehensive water policy law for Peru.

CHAPTER SEVEN LESSONS LEARNED

ACTIVITY DESIGN

- Create demand for products before supplying them. There are examples in SENREM of products created without an obvious market; in some cases, the customers desire the product—e.g., a policy product—but do not have the capacity to use it. If demand is created for good industrial environmental performance, industry will find ways to respond cost-effectively.
- Conduct a comprehensive analysis of all relevant institutions, not just an analysis of an institution targeted for strengthening. Once this is done, use the results to identify and cultivate high-level political allies.
- Set objectives based on the things that should be accomplished, not on the capacities of partners to achieve them. If the real objective cannot be reached with current capacities, then that provides opportunities for mid-term strengthening instead of a lowering of standards.
- Benchmark globally for ideas. Efforts are under way around the world to achieve similar goals to those of SENREM, and the Internet makes it possible to find examples and resources very efficiently. This requires that partners have the skills needed to use the Internet; such skills should be provided to all partners.

ACTIVITY MANAGEMENT

- Ensure that management capacity is equal to project complexity and do not over-task management by adding new activities mid-term. If management capacity will be stretched, cut back on activities.
- Ensure that projects have competent, independent, and objective groups of advisors representing both experts in the relevant topics and customer groups that can provide strategic oversight, identify needs for management strengthening and provide needed skills, and review draft designs and products for quality assurance. Include this requirement in the terms of reference for contracts.
- Ensure stakeholder participation in design and implementation of projects and reinforce transparency and real review and input to draft products.

- Build the management capacities of partners in key areas such as business plan development, communication skills, Internet use, social marketing, financial analysis and accounting, and change management.

ANNEX A

**TERMS OF REFERENCE FOR EXTERNAL EVALUATION OF
STRATEGIC OBJECTIVE FOUR**

A. STRATEGIC OBJECTIVE TO BE EVALUATED

1. Strategic Objective (So) No.4: Improved Environmental Management In Targeted Sectors.
2. Date of Initial USAID Funding Commitment: September 22, 1995.
3. Current Planned Activities Completion Date: September 30, 2003.
4. Total Estimated Contributions for Implementation Period.
 - DA Grant Fund Contributions: US\$29,385,000
 - Host Country Counterpart Contributions: US\$2,473,000
5. Ongoing, Approved and Planned Activities and Development Assistance (DA) Funding Levels for Life-of-Activity (LOA).
 - a. Sustainable Environmental and Natural Resources Management Activity (SENREM), including new sub-activities planned to begin in year 2000: US\$16,407,000.
 - b. Biodiversity and Fragile Ecosystem Conservation and Management Activity (BIOFOR): US\$4,851,000.
 - c. Environmental Health Activity (EH): US\$4,374,000.
6. Funds specified in SOAG for Management, Coordination, Evaluation and Audit: US\$3,753,000.

B. PURPOSES OF THE EVALUATION

This mid-term evaluation has the following purposes:

1. To evaluate progress in implementation of the SENREM and BIOFOR Activities in terms of expected results, indicators and targets at the SO, activity and sub-activity (component/sub-component) levels, as well as significant unintended results, if any, and recommend actions for improving effectiveness and impacts;
2. To evaluate overall SO level progress and continued appropriateness of ongoing and planned activities, intermediate results and indicators, including assessment of the development impacts of strategy implementation, appropriateness of targets and means of measurement of indicator progress and development impacts, and to recommend actions for improving effectiveness and impacts;

3. To identify lessons learned from activity implementation experiences to date, and to determine and articulate the implications of these lessons learned for the ENR Strategic Objective and Intermediate Results (SO/IR) Strategy Framework;
4. To update the Mission Environmental Strategy (MES) as appropriate, to reflect changes in Peru's ENR conditions and trends since the original MES in 1995 and the ability of USAID/Peru interventions to influence these, as well as to anticipate future conditions and trends in the medium term, as these may affect the responsiveness of USAID/Peru strategy and activities to September 30, 2006;
5. Based on the results of the above, to review the existing ENR SO/IR Strategy Framework, and to recommend appropriate changes in that framework for the program period to September 30, 2006.

C. BACKGROUND AND SETTING

1. Background

In March, 1995, USAID/Peru completed a Mission Environmental Strategy (MES) to analyze Environmental and Natural Resources (ENR) problems in the country and to identify priority action areas in which USAID would have a comparative advantage. Three areas were identified by the MES as those with the greatest potential for USAID interventions: (a) normative reform; (b) pollution prevention; and (c) biological diversity and fragile ecosystems. Prior to 1995, the Mission's ENR programs had been almost exclusively directed to "green" issues (e.g., biodiversity, forestry, soil conservation, etc.). In order to better respond in those areas in which USAID would have a comparative advantage, the MES recommended that future ENR programs establish a better balance between "green" and "brown" (e.g., clean production, urban and industrial pollution prevention, etc.) interventions.

The MES led to approval by USAID/Peru of ENR Strategic Objective No. 4 (SO4) "Improved Environmental Management in Targeted Sectors", with its attendant intermediate results and strategic framework, and to the design, and authorization in September, 1995, of the \$12.8 million Sustainable Environmental and Natural Resource Management (SENREM) Project.

The MES also served as the basis for the ENR chapter of USAID's "Country Development Strategy for Peru: FY 1997-FY 2001", approved by the LAC Bureau in April, 1996. The ENR Strategy that is incorporated into the USAID/Peru Country Development Strategy is fully consistent with the MES recommendations, and represents an integrated effort towards attainment of SO4. It calls for implementation of the following major activities in the priority areas identified by the MES:

- Sustainable Environmental and Natural Resources Management (SENREM) Activity, first authorized as a bilateral project in FY 1995 and initiated in FY1996;
- Biodiversity and Protected Areas (BIOFOR) Activity, authorized in FY 1997 and initiated in FY 1998;
- Environmental Health (EH) Activity, authorized in FY1999, but not yet operational;
- Components/sub-activities planned for implementation under SENREM:
 - -Clean Production/Industrial Pollution Prevention (CEPCOM)
 - sub-activity, initially scheduled for authorization in FY1999, but
 - not yet approved, and,
 - -Consolidation of the Environmental Framework (CONEF) sub-activity, scheduled for final design and authorization in FY2000.

Initiated in 1996 as a bilateral project, the SENREM Activity has been strengthening the policy and regulatory framework, promoting private sector participation, and implementing pilot interventions to test and validate improved environmental practices/technologies. The BIOFOR Activity, initiated in late 1998, is strengthening the management and implementation capacity of government and private sector institutions working in protected areas and fragile ecosystems, and in carrying out related policy initiatives. The EH Activity, approved in FY1999, will support development of improved EH-related policies and policy implementation, and strengthening of institutional effectiveness, while addressing key environmental health problems on a pilot basis. CEPCOM and CONEF, which were originally envisioned as stand-alone activities, now are planned as additional sub-activities/components under SENREM to expand work already initiated in clean industrial production/pollution prevention and in strengthening the national environmental framework, respectively. In addition, CONEF will provide assistance in new priority areas not targeted in the original MES, and thus not included in currently approved SO activities.

2. Strategic Objective Grant Agreement

In order to consolidate under a single bilateral agreement all of USAID's ENR activities in Peru, and in response to AID re-engineering directives, the SENREM Bilateral Project Agreement with the Government of Peru recently was reformulated into a Strategic Objective Grant Agreement (SOAG). This SOAG was signed on August 25, 1999. It encompasses the two ongoing activities, SENREM and BIOFOR, the already approved EH Activity, and the new CEPCOM and CONEF sub-activities planned under SENREM. In accordance with the terms of the SOAG, Peru's National Environmental Council (CONAM), will continue being the main GOP implementing agency for SENREM, while the National Institute for Natural Resources (INRENA) of the Ministry of Agriculture, and the Environmental Health Directorate (DIGESA) of the Ministry of Health, have been designated as the principal GOP partner organizations for the BIOFOR and EH activities, respectively.

The SOAG, which covers the implementation period from calendar year 1996 through 2003, also specifies illustrative DA funding planned for each activity, as well as funds planned for overall monitoring, evaluation and audits, viz:

SENREM Activity (including CEPCOM and CONEF):	\$16,407,000
BIOFOR Activity:	4,851,000
EH Activity:	4,274,000
SO monitoring, evaluation & audits:	<u>3,753,000</u>
TOTAL SOAG DA Funding:	\$29,385,000

3. Ongoing SENREM Activity

Implementation of the SENREM activity was initiated in CY 1996. The SOAG, signed in August, 1999, extended the SENREM Planned Activity Completion Date (PACD) to September 30, 2003, the same as the SOAG completion date. Most ongoing and approved activity components will be completed by December 31, 2001, with the remaining two years devoted primarily to completing implementation of the planned new CEPCOM and CONEF sub-activities.

SENREM's ongoing principal components are:

- 1) The Legal, Regulatory and Policy Framework Component, designed to assist in the improvement of Peru's environmental laws and policies and to strengthen the environmental, policy-making and implementation capacity of Peru's National Environmental Council (CONAM), GOP related sector ministries and other public sector environmental organizations for identifying and solving environmental problems. This component consists of the following three elements: (a) technical assistance to CONAM and GOP ministries; (b) public sector environmental training; and (c) environmental information.
- 2) The Private Sector Advocacy Component, designed to strengthen the private sector's capacity for consensus building, problem-solving and environmental policy dialogue. It comprises the following six elements: (a) policy research studies; (b) creation of an "umbrella" organization of environmental networks and NGOs; (c) publication of an annual independent "state of the environment" report; (d) industry seminars; (e) clean production/pollution prevention program; and (f) municipal and community environmental monitoring.
- 3) The Pilot Demonstration Projects Component, designed to test and validate innovative environmental technologies and practices by private sector organizations, with a view towards their replication at a larger scale by the GOP, the private sector or other donors. The small-scale demonstration projects will establish tangible examples of value-added, environmentally sustainable activities. These will promote the principles

of conservation and sustainable use of natural resources, pollution prevention and waste minimization.

The primary public sector implementing institution for SENREM is CONAM, with direct implementation responsibilities for Component 1 and for the Clean Production Element of Component 2. USAID contracted a Private Sector Coordinating Institution (PSCI), Peru's Environmental Law Society (SPDA), which is implementing the other elements of Component 2, as well as Component 3. In addition, USAID contracted a Technical Assistance Provider (TAP), ABT Associates, which is providing technical assistance services, primarily to CONAM related to implementation of Component 1.

To date, important progress has been attained under each SENREM Component. Under Component 1, SENREM is assisting CONAM to assume its role as the main environmental policy-making and inter-sectoral coordination agency, and to set the basic framework and instruments for sound environmental management. Assistance also is being provided in development of several important pieces of environmental legislation and to the Ministries of Industry and Fisheries to strengthen their capabilities and to establish environmental standards and regulations. Under the Clean Production Element of Component 2, SENREM has been a key actor for establishment of ISO 14000 certification standards and for the certification of the first Peruvian industries under ISO 14000. It has provided assistance to prevent pollution and increase competitiveness in the fishmeal industry, and formulated the framework to establish a Clean Industrial Production Center.

Implementation also is progressing for all other elements under Component 2. Two policy research proposals have been completed, the first annual independent "State of the Environment Report" is nearing completion, and an "umbrella" organization of environmental networks and NGOs has been formalized to represent the interests of NGOs and citizens' groups in environmental policy dialogue with government and industry. Finally, under Component 3, three pilot projects under the Environmental Initiative for the Americas (EIA) have been successfully completed. Of projects being directly managed by SPDA, eleven that were selected in the first competition are approximately 50 percent complete, while twelve, selected in the second competition soon will be initiated.

To date, expenditures for SENREM implementation and monitoring total approximately \$6.1 million (about 50 percent of the originally approved funding level).

4. Planned Future SENREM Sub-Activities

4.1. Clean Industrial Production/Pollution Prevention (CEPCOM)

This sub-activity will expand the work initiated by the SENREM Clean Production Element under Component 2. A thorough assessment of conditions and options for implementation already has been developed by an IQC contractor. This will serve as the

technical basis for approval by USAID and subsequent incorporation into SENREM. CEPCOM will be comprised of the following main elements:

- Creation and operation of a Clean Production Center for industry, managed by a consortium, formed by a private sector industry association and a local university.
- Continuation of technical assistance to the Ministries of Industry, Fisheries, and possibly Energy and Mines, to strengthen environmental management capabilities and to develop new or improved environmental legislation, regulations, standards and management instruments.
- Continuation of technical assistance to the fishmeal industry to reduce pollution and wastes, and to improve competitiveness.
- Establishment of a revolving fund for environmental audits and small demonstration interventions.

At present, CEPCOM implementation and contracting mechanisms are being defined. Once completed, this sub-activity will be ready for approval and subsequent implementation. DA funding of \$4,000,000 is proposed for CEPCOM (including overall management, evaluation and audit funding), with the initial commitment planned for FY2000.

4.2. Consolidation of the Environmental Framework (CONEF)

Funds proposed for this sub-activity will serve to complete tasks required to obviate other important weaknesses in environmental legislation, policies and regulations, and capacities of environmental agencies in Peru. One possible area of increased assistance relates to environmental awareness and education. CONEF also can address other priority areas not covered under USAID's current strategy, which may be identified through program evaluations and/or in reformulation of USAID's planned general development strategy to year 2001, which will be extended within the next few months, to year 2006. \$2.1 million is proposed for CONEF, with a first obligation planned for FY2000.

5. Ongoing BIOFOR Activity

Implementation of the BIOFOR activity was initiated in October 1998, and the PACD is September 30, 2003, the same as the SOAG Completion Date. BIOFOR initially is being implemented through an IQC contract with International Resources Group (IRG). It is incorporated into the recent SOAG, and a BIOFOR Activity Implementation Letter is expected to be signed in the near future.

BIOFOR is designed to:

- a. Address policy issues that constrain environmentally sound and sustainable management of Peru's biological diversity and fragile ecosystems, particularly tropical

forests through technical assistance to appropriate GoP agencies. Among the issues to be addressed are development of economic valuation criteria for biological diversity, with incorporation of environmental and social costs and benefits; promoting incentives for conservation and sustainable use of biologically diverse areas, fragile ecosystems and forests; and developing voluntary forest management certification standards.

- b. Assist INRENA in developing its capability to provide leadership in relevant policy improvement and implementation, and to provide leadership in management of Peru's biologically diverse areas, fragile ecosystems and forests;
- c. Train local public and private institutions (NGOs, CBOs, universities, and others) in strategic and financial management to facilitate improved site-based conservation and sustainable management of biologically diverse areas and forest ecosystems;
- d. Provide grants to selected private sector organizations that develop training and pilot actions in innovative management of biologically diverse areas and fragile ecosystems.

To date, BIOFOR interventions have been implemented under the IQC contract with IRG. Under the SOAG, funds also will be provided to assist INRENA to better carry out its role and functions as the principal GOP partner institution for the Activity. An Activity Implementation Letter, currently being finalized, specifies implementation details, including working relationships among USAID, INRENA, IRG and other partner institutions, and provides a revised Activity budget.

In its first year of implementation, BIOFOR has assisted INRENA with (a) participatory planning criteria for permanent categories and management criteria for the Santiago-Comainas Reserved Zone, recently created in response to the peace accord with Ecuador; (b) supported ecological and economic zoning, underway for the entire department of Madre de Dios, which includes two national parks and two reserved zones; (c) assisted Peru's Privatization Commission in the development of management and economic valuation criteria for the Biabo-Cordillera Azul Production Forest Zone, where 631,207 hectares of private forest concessions soon will be awarded; and (d) promoted public and private institutional synergies in coastal areas of the Department of Ica.

Within 30 days of approval of the IQC Task Order in September, 1998, IRG established an office, hired local staff and began operations. During the first year of implementation, IRG has: (a) developed a management information system which is now operational; (b) assisted in establishing locally based Technical Advisory Committees (TACs) at each of the six BIOFOR sites, and (c) organized a Coordination Committee among donors engaged in conservation of biological diversity and forests.

As of December 1, 1999, cumulative expenditures under BIOFOR totaled \$933,117, approximately 20 percent of the Life-of-Activity (LOA) budget. IRG recently presented

the second annual work plan for BIOFOR, implementation, which begins on January 1, 2000.

6. Approved EH Activity

This Activity was approved in July 1999, and is included in the SOAG. The PACD is September 30, 2003, which also is the Completion Date for the SOAG. With the exception of a minor intervention (\$100,000) through the AID/W Environmental Health Project related to blood lead content in school children of Lima and Callao, no other activity elements have been initiated.

Two major activity results are planned:

- Improved environmental health services in targeted communities.
- Policies adopted that facilitate improved urban environmental health conditions.

Five second-level results are planned:

- Environmental health services and conditions improved in targeted areas.
- Environmental health related behaviors improved in targeted communities.
- Effective partnerships created to sustain and replicate demonstration projects.
- Government and NGO capacity to advocate for environmental health policy changes improved.
- Inter-sectoral mechanisms to identify and implement environmental health policy improvements established and operational.

DIGESA will be the primary public sector implementing institution for the EH Activity. Technical assistance services will be provided by an AID central project, while pilot demonstration interventions will be implemented through grants awarded to private sector institutions. Detailed implementation arrangements and procedures are being finalized and are expected to be approved shortly by USAID/Peru and DIGESA through an initial Activity Implementation Letter.

7. ENR SO/IR Strategy Framework Statement

The 1995 MES served as the basis for development of the ENR SO/IR Strategic Framework. Achievement of the ENR SO (SO4) of "Improved Environmental Management of Targeted Sectors", depends on accomplishment of five intermediate results. One or more performance indicators have been identified and are specified for the SO and for each of the intermediate results. Each of the ongoing, approved and planned activities and sub-activities under SO4, and that are being evaluated pursuant to these

terms of reference, contribute to one or more of the intermediate results as measured by one or more of their respective indicators.

The inter-relationships and flows from the ENR SO to IR's, indicators and supporting activities, are shown in summary form in see Figure 1 in Attachment E. Other SO4 framework documents provide annual targets, units of measure and sources of performance data. Activity design documents provide additional framework information, such as sub-results and respective indicators, targets and means of measurement. The annual USAID/Peru Results Review and Resource Request (R4), and relevant partner reporting documents, compare planned and actual performance data in terms of the various activity-specific contributions to indicators and targets for intermediate results and sub-results.

D. STATEMENT OF WORK

This is a multi-purpose effort to examine: (1) the dynamics and interactions of program planning, design, implementation and management performance by SO partners; (2) implementation arrangements and conditions; and (3) ultimate customer (beneficiary) participation, at all levels of disaggregation of the AID ENR program system—i.e., mission environmental strategy, SO/IR strategy framework, other planned and unplanned activity-level results and implementation activities, along with related indicators, targets and means of measurement, from the date of approval of SO4 in September, 1995 to the present. Thus, the evaluation will examine documents, actions, progress and performance related to: (1) Mission Environmental Strategy (MES), (2) ENR SO/IR Strategic Framework Statement and results progress reporting, (3) approved and planned implementation activity design, implementation and progress reporting documents, and documentation related to the various components/sub-activities and elements/sub-components, as appropriate, and (4) documents related to implementation arrangements and institutional responsibilities.

Applying the methods and procedures specified in the next section, the evaluators will carry out the tasks enumerated below, and such other tasks as may be necessary and appropriate to realize the evaluation purposes. The tasks set out below are identified as (1) "Major Tasks" encompassing the overall scope of the work to be carried out, and, (2) "Additional Tasks" that are cross-cutting or that should receive special emphasis in accomplishment of the major tasks.

1. Major Tasks Related to Evaluation of SENREM Activity

TASK 1.1. Describe, compare and analyze designed, approved and actual undertakings, and their respective accomplishments in the implementation of the following activity components and sub-components:

- Legal, Regulatory and Policy Framework Component
 - Technical Assistance to CONAM and GOP ministries;
 - Public Sector Environmental Training;
 - Environmental Information.
- Private Sector Advocacy Component
 - Carry out and disseminate policy research and operationalize a permanent ecological forum;
 - Prepare and publish annual "State of the Environment" reports;
 - Develop and operationalize a series of "sustainable industry" seminars;
 - Design and operationalize a "clean production program";
 - Develop and initiate municipal and community environmental monitoring programs.
- Technical and Financial Support for Demonstration Projects (DPs) Component (10 DPs originally were specified).

Program documents to be examined and evaluated include: planning and design studies and reports, approved design documents, partner agreement documents, technical assistance provider (TAP) candidate proposals, partner work plans, progress reports, and other documents generated as a part of program planning, approval, implementation and monitoring processes.

TASK 1.2. Based on findings, comparisons and analyses from the previous task, formulate conclusions about quality and adequacy of the planning, design, approval and implementation process, including significant divergences and/or inconsistencies from one stage to another of the process, progress in achieving expected results as well as in achieving unexpected or unanticipated results that may be identified during the evaluation, both in terms of indicators and targets selected, as well as of other important indicators/targets that may be identified during the evaluation.

TASK 1.3. Based on the findings and conclusions from the previous two tasks specified, formulate recommendations related to: (1) more effective utilization of resources in implementation, (2) adjustments in implementation arrangements to improve effectiveness and efficiency, (3) actions to improve management effectiveness, and, (4) adjustments to or changes in focus, structure and/or content of sub-activities (components, sub-components) and actions, and/or funding allocations, to improve activity performance in achieving specified results.

TASK 1.4. Assess appropriateness and potential contributions of the proposed CEPCOM and CONEF sub-activities planned for implementation under SENREM, and recommend

adjustments/changes, if any, including changes in funding allocations, with the respective rationales and justifications.

2. Major Tasks Related to Evaluation of BIOFOR Activity

TASK 2.1. Describe, compare and analyze designed, approved and actual undertakings, and their respective accomplishments in the implementation of the following activity components/sub-activities:

- Legal, Regulatory, and Policy Framework Component
 - Strengthen capacities of institutions and organizations working in protected areas and in fragile ecosystems, and/or in related policy improvement initiatives:
 - Selected General Directorates of the National
 - Natural Resources Institute (INRENA); and
 - (2) Selected private sector organizations, especially NGOs.
 - Provide specific policy assistance in areas such as:
 - Economic valuation criteria for biodiversity
 - conservation and sustainable use policies and programs, including methodologies for incorporating environment-related private and social costs and benefits into policy-making, as well as consideration of carbon sequestration benefits;
 - Economic incentive structures for biodiversity conservation and sustainable use;
 - Development of ENR-friendly regulations for recent ENR legislation;
 - Disincentives and institutional impediments to sustainable forestry;
 - Forest certification standards and monitoring mechanisms;
 - Public and private sector training related to biodiversity and fragile ecosystems management, conservation and sustainable uses;
 - Stimulate generation, adaptation and dissemination of natural resources information;
- Private Sector Participation Support by providing and backstopping small grants to PVOs, NGOs and/or local populations and groups for pilot testing and validation of the following types of illustrative actions:
 - Observe key species to monitor ecosystem health and to address key species threats;

- Improve territorial management of selected ecosystems;
- Contribute to participatory development of master management plans for selected protected areas;
- Contribute to strengthening local institutions and groups to manage biodiversity and natural forests;
- Encourage local populations to sustainably use natural resources;
- Assist to organize and consolidate local management committees for selected protected areas.

Program documents to be examined and evaluated include: planning and design studies and reports, approved design documents, partner agreement implementation documents, technical assistance provider (TAP) proposals, partner work plans, progress reports, and other documents generated as a part of program planning, approval, implementation and monitoring processes.

TASK 2.2. Based on findings, comparisons and analyses from the previous task, formulate conclusions about quality and adequacy of the planning, design, approval and implementation process, including significant divergences and/or inconsistencies from one stage to another of the process, progress in achieving expected results as well as in achieving unexpected or unanticipated results that may be identified during the evaluation, both in terms of indicators and targets selected, as well as of other important indicators/targets that may be identified during the evaluation.

TASK 2.3. Based on the findings and conclusions from the previous two tasks specified, formulate recommendations related to: (1) more effective utilization of resources in implementation, (2) adjustments in implementation arrangements to improve effectiveness and efficiency, (3) actions to improve management effectiveness, and, (4) adjustments to or changes in focus, structure and/or content of components, sub-components and actions, and/or funding allocations, to improve activity/sub-activity performance in achieving specified results.

3. Other Major Tasks

TASK 3.1. Related to EH Activity: Review and assess continuing appropriateness of EH design under current conditions and institutional structures, and based on findings and conclusions therefrom, recommend appropriate adjustments/changes.

TASK 3.2. Related to Mission Environmental Strategy (MES): Review and update the 1995 MES and discuss implications thereof for the ENR SO/IR Strategic Framework, including indicators, targets and means of measurement, as well as for the various activities and sub-activities to be supported through the year 2006;

TASK 3.3. Related to ENR SO/IR Strategic Framework Statement: Based on the results of the previous tasks, recommend changes and adjustments to the USAID/Peru ENR SO/IR strategic framework, with appropriate rationales and justifications, and, based thereon, prepare a draft restatement of the ENR SO/IR Strategic Framework Statement.

TASK 3.4. Related to Focus of Proposed CONEF Sub-Activity: Based on findings and conclusions related to ongoing activities and the MES update, recommend focus and high-priority design elements for the proposed CONEF sub-activity. Provide sufficient detail to guide the SO4 core team in prioritizing and selecting actions to be supported, and to formulate effective implementation arrangements.

4. Additional Tasks

Specified below are additional tasks that cut across ongoing and planned SO4 activities, and/or where special emphasis is desired. Reporting on these tasks may be within the framework of one of the required reports, or as an annex with syntheses and references in the relevant required report(s), as considered appropriate.

TASK 4.1. Related to SO4 Environmental Information, Education and Communications (IEC) Strategy: From an IEC perspective, evaluate contributions of all SO4 ongoing and planned activities to intermediate results; assess relative emphasis being given to IEC initiatives in terms of cost-effectiveness in achieving the SO and IRs, and provide conclusions and recommendations to guide future IEC activities. Special attention should be given to analysis of design, application and utilization of the annual ENR survey being supported under SO4, including specific recommendations for improving the design and application of future surveys, and for improved utilization of information already collected. Satisfactory completion of this task will result in a proposed strategy for future IEC activities consistent with current SO4 program commitments, including funding implications for implementing the proposed strategy.

TASK 4.2. Related to SO4 Policy Interventions: From an overall ENR policy perspective, assess effectiveness of the approaches being used in ongoing activities (and proposed in planned activities) and suggest ways to improve rates and positive impacts of policy changes and applications. Recommend ways to improve effectiveness in utilization of SO4 resources to influence the rate and impacts of both brown and green policy change and application processes.

Task 4.3. Related to Other USAID/Peru Strategic Objectives: Activities being implemented under other USAID/Peru strategic objectives often have ENR impacts, and ENR SO4 activities often relate closely to the subject matter focus of these other strategic objectives, e.g., local government, agriculture and rural development, public health, sustainable economic growth, etc. The evaluators will become sufficiently familiar with programs and activities of other strategic objectives to (1) assess opportunities for synergies with SO4 in terms of program design, funding and management, and in activity implementation arrangements, (2) determine the extent to which these synergies are being realized, and, (3) formulate recommendations for ways to improve communications about and realization of synergies between SO4 and other strategic objectives, at the level of the various USAID/Peru strategic objective management teams, among partner institutions, and at the field level during activity implementation.

TASK 4.4. Related to Other Donor ENR Assistance: Become sufficiently informed about other donor ENR-related assistance to assess the degree of complementary and consistency (or lack thereof) with SO4 interventions, and to what extent, if any, SO4 contributions to improving the effectiveness of other donor assistance. Suggest ways SO4 can improve complementarity and synergism of other donor programs with SO4 activities and/or how SO4 can catalyze better targeting of other donor assistance to achieve higher levels of complementarity and synergism.

TASK 4.5. Related to Management Information Systems (MIS) in Ongoing Activities: Review design and operation of management information systems planned for SENREM and BIOFOR. Determine the degree to which these respective systems are operational, including the extent to which they are providing relevant and reliable information, and the way in which this is being applied in management decision-making at the sub-activity and activity levels and at more aggregate levels of ENR policy and program decision-making. Recommend specific practical steps for improving the effectiveness of management information generation, interpretation and utilization processes.

TASK 4.6. Related to Centrally Funded Projects: Review actions and undertakings financed through centrally funded projects. Assess their effectiveness and relevance in terms of achieving the SO and IRs, and, if appropriate, recommend ways to make them more responsive to the SO and IRs.

TASK 4.7. Related to Evaluation Workshop: In close collaboration with the SO4 core team, plan, organize and hold a workshop to share and discuss evaluation findings, conclusions and recommendations (see Evaluation Timetable Section for timing of the workshop). A workshop facilitator will be contracted by contractor to assist the evaluation team in applying a group dynamics approach to the workshop. The evaluation team will consider the results of the workshop to make adjustments in findings, conclusions and recommendations, and in making final revisions to their reports as they consider to be appropriate.

TASK 4.8. Related to Gender Considerations and Disadvantaged Groups: The evaluation will assess the extent to which SO4 activity design and implementation incorporate gender considerations, and the extent to which concerns related to the rights and interests of disadvantaged groups are considered. This assessment should address these issues in terms of policy interventions, pilot undertakings and participation in management decision-making at all levels of the SO4 program and activities.

TASK 4.9. Related to Counterpart Contributions and Sustainability: The evaluation should compare agreed levels of counterpart contributions (both in-kind and budgetary) to actual levels, assess adequacy of reporting systems and other information sources for determining amounts of counterpart contributions, provide conclusions with regard to both amounts and quality/relevance of such contributions and make related recommendations. Additionally, the evaluation will project sustainability of activities, sub-activities and actions that should continue beyond the respective LOAs, and recommend actions to enhance prospects for sustainability. Specifically, the evaluation should relate the level of counterpart commitments to sustainability beyond the LOAs.

TASK 4.10. Related to Measurement of Sustainable Development Impacts: An important task of the evaluators is to assess development impacts of application of the SO4 program and strategy. Thus, the evaluators should determine not only achievement of specific events, milestones or targets, but assess the effect of SO4 interventions on the way in which sustainable conservation and use of natural resources and environmental protection are viewed and treated in social, economic and managerial terms (i.e., the sustainable development impact of interventions). The evaluation also should recommend ways in which SO4 can improve the measurement of the sustainable development impact (benefits) of such interventions, and to whom these accrue.

TASK 4.11 Related to Water Resources Management: Assess the way in which the Strategic Objective and the various activities respond to the need to manage carefully the very limited water resources of Peru. Identify additional opportunities to promote water resources management within the existing activities and in the still to be developed "Consolidated Environmental Framework." For example, each activity deals with water resources in one way or another. Is there some strategic way to tie the water resource efforts of the various activities together as a cross cutting theme? Please also consider opportunities in water policies including water pricing, water recycling and wastewater treatment and reuse and in the strengthening of water resource management institutions. Public awareness/education on water scarcity and conservation should also receive some attention in completing this task.

E. METHODS AND PROCEDURES

Generally acceptable evaluation methodologies for AID programs and activities will be used. Relevant planning, design, programming, implementation and progress reporting

documents will be reviewed, as well as other appropriate reports and studies related to the subject matter, whether or not generated with assistance under the SO program. As specified in the work schedule below, initial orientation, basic documents review, team-building and preparation of a tentative work plan and schedule will take place at contractor's headquarters and/or in AID/W. It should be emphasized that this evaluation is intended to be an interactive effort between evaluation team members and the SO4 core team. Thus, a continuing process of close consultation, exchange of information, views and impressions, and interaction among and between members of both teams should be the norm.

Upon arrival of the initial expatriate team members in Peru, orientation meetings will be held with the SO4 core team (and selected extended team members, as appropriate) to discuss detailed guidance and further specification of expectations. Additionally, initial consultations will be held with technical assistance providers (TAPs) and other SO and activity partners to finalize the evaluation work plan and schedule of interviews with partners, intermediate customers and ultimate customers (beneficiaries), and for site visits. Site visits will be sufficient to impart a sense of the accomplishments and the field impacts of pilot undertakings, as well as the impacts at the field level (and feedback effectiveness) of policy improvement and institutional strengthening initiatives.

One member of the SO4 core team will be designated as the USAID/Peru liaison with the evaluation team. The liaison (or other SO4 team member, as appropriate) will accompany evaluation team members in meetings with host country partners and on site visits. Weekly progress meetings will be held with the SO4 team, or with designated team members, and SO4 team members will be available for consultation to the extent feasible.

Interviews will be held with key SO program, activity, and sub-activity (component) technical assistance personnel, with host country partner institution counterparts, with participating grantees/subcontractors, with USAID/Peru Mission management and support office staff, as appropriate, and with a sampling of intended intermediate customers and ultimate customers (beneficiaries) of each activity/component.

Rapid appraisal techniques may be applied to determine impact of activities/components on intended intermediate and ultimate customers. The team will review all documents and data relevant to quantifying progress, as well as to determine quality of actions supported and results achieved. The approach will be to determine and document facts and objective findings, apply evaluators' expert interpretations and judgements to draw conclusions based on facts/findings, and to formulate recommendations based on findings and conclusions from the evaluation exercise.

Lessons learned to guide future design, planning, programming and implementation, and issues that require immediate USAID and/or implementing partner's attention, along with recommended option(s) for issue resolution, will be provided. The activity, component and/or sub-activity evaluation process also is expected to provide sufficient information to

prepare the updated MES, and to critically review and reformulate as needed the ENR SO/IR Strategic Framework Statement, including changes judged by the evaluation team to be appropriate in the strategic objective, intermediate and activity/sub-activity level results, indicators, methods of measurement, targets, etc.

Information gathering and interpretation by the evaluators should be an iterative process in which feedback from component and activity/sub-activity level information and interpretation will guide evaluation conclusions and recommendations at the MES and ENR SO/IR strategic framework levels, and vice versa.

USAID/Peru, TAPs, and other SO and Activity level partners, will assist the team, as appropriate, to access relevant documents, to arrange interviews and to plan and carry out site visits. Each TAP and each major partner will designate a liaison person to facilitate the work and activities of relevant evaluation team members.

F. REPORTING REQUIREMENTS AND SCHEDULE

1. A tentative Work Plan and Schedule will be submitted to USAID/Peru for comment upon arrival in-country of the team leader, and a final work plan and schedule will be presented by COB on day 3 in-country;
2. Individual preliminary draft evaluation reports for the SENREM, BIOFOR and EH activities will be presented to USAID/Peru by the end of week four in-country;
3. A preliminary draft overall ENR strategic objective program and framework evaluation report will be presented to USAID/Peru prior to the departure of the evaluation team leader at the end of Phase I;
4. A preliminary draft updated MES will be presented to USAID/Peru prior to the departure of the evaluation team leader at the end of Phase I;
5. A draft ENR SO/IR Strategic Framework Restatement will be presented to USAID/Peru for comment by the end of the first week of Phase II;
6. A revised final draft of all reports, taking into account timely USAID observations/comments on draft reports will be presented to USAID/Peru prior to the departure of the evaluation team leader at the end of Phase II in-country;
7. Final copies of all reports, with executive summaries in English and Spanish, will be provided to USAID/Peru within 20 days after completion of in-country activities during Phase II. Five hard copies and diskettes in MS Word 97/Excel 97 of all required reports and all annexes will be provided.

G. EVALUATION REPORTS OUTLINE OF CONTENTS AND SUGGESTED LENGTH

The SENREM Activity Evaluation Report and the BIOFOR Activity Evaluation Report should conform substantially to the outline of contents provided in Attachment F below. The overall SO Program and Framework Evaluation Report should conform substantially to the outline of contents provided in Attachment G below.

Suggested length of the evaluation report for the SENREM Activity is up to 35 pages; and for the BIOFOR Activity, up to 25 pages. Any additional detail considered important to explain or substantiate the content of the respective evaluation reports may be included in appropriate annexes and specifically referenced in the report.

Because of the pre-implementation stage of the EH Activity, the evaluation of that activity will be limited to a review of the continuing validity of design elements, planned implementation arrangements, and expected results, indicators and targets, including recommendations for adjustments thereto, if any. Suggested length is up to 10 pages.

The Table of Contents for the existing 1995 MES can serve as a guide for organizing content of the updated MES. However, it is expected that the updated MES will be more succinct, referencing the original MES, if and as appropriate. Nevertheless, the updated MES should be prepared as a "stand-alone" document.

H. TEAM COMPOSITION AND LEVEL OF EFFORT

▪ Senior Expatriate specialists:

1. Team Leader: ENR Management, Policy Implementation and Institutional Strengthening Specialist (9 weeks);
2. Urban/industrial environmental management and protection ("brown") specialist (4 weeks);
3. Natural resources management, conservation and protection ("green") specialist (3 weeks);
4. ENR economic analysis and policy specialist (3 weeks);
5. ENR Information, Education, Communications and Evaluation (IECE) ("blue") specialist (4 weeks).

A six-day work-week is authorized, for a total level of effort of 138 person work days for expatriate specialists.

▪ **Senior Peruvian Specialists:**

1. Brown specialist: 8 weeks (48 person work days)
2. Green specialist: 7 weeks (42 person work days)

A six-day work-week is authorized for a total level of effort of 90 person work days for Peruvian specialists.

The contractor will be responsible for identifying all technical members both expatriate and Peruvian.

I. SUGGESTED EVALUATION TIMETABLE

A suggested timetable for completing the evaluation in two phases follows:

▪ **PHASE I: 5 weeks, beginning o/a February 14, 2000.**

Days 1-3:

In Washington, DC: The initial expatriate team of four specialists (the team leader, brown specialist, green specialist and the economics/policy specialist) will travel to Washington, DC, to: (a) participate in a program of activities and meetings arranged by contractor for orientation and team-building purposes, (b) review core SO4 design and implementation documents, and, (c) develop a preliminary evaluation team work plan and schedule. This program of activities may include meetings with key AID/W Global and Regional Bureau technical personnel, and may include meetings with relevant specialists on contractor's staff. Additionally, contractor also may arrange meetings with US-based backstop personnel of the respective TAPs for SENREM and BIOFOR. If possible, a member of the USAID/Peru SO4 team will participate, as well. On day 3, the initial expatriate team will complete activities in Washington, DC, and leave for Peru;

In Peru: The Peruvian specialists will assemble and organize a library of relevant SO4 planning, design, implementation and progress reporting documents, as well as significant contemporary ENR-related studies and reports (generated with or without SO4 support), that may be useful to the team in their work.

Days 4-7 in Peru: Hold initial meetings with SO4 core and selected extended team members, finalize work plan and schedule of interviews and site visits; continue document review; initiate schedule of interviews and site visits;

Days 8-14 in Peru: Continue interviews and site visits; complete document reviews; prepare descriptive outlines of reports to be drafted during Phase I, receive SO4 team comments and finalize descriptive outline; initiate drafting of activity evaluation reports;

Days 15-21 in Peru: Complete interviews and site visits; continue consultations as appropriate and continue drafting of activity evaluation reports. The expatriate green specialist and the economics/policy specialist will complete their respective draft reports, hold exit briefings as appropriate, and depart Peru on Day 20,

Days 22-28 in Peru: Continuation of consultations on an as needed basis; continuation of report drafting; expatriate brown specialist completes respective draft reports and holds exit briefings, as appropriate;

Day 22: IEC specialist arrives in Peru;

Day 23: Evaluation team in-depth progress review meeting with SO4 core team and selected extended team members, focussed on findings, conclusions and preliminary recommendations;

Day 27: Expatriate brown specialist departs Peru;

Days 29-34 in Peru: Remaining team members (team leader, IEC specialist and the two Peruvian specialists): (1) complete drafting of required Phase I reports; (2) continue consultations and hold exit briefings, as appropriate; (3) reach agreement on date, agenda, list of participants and facilitator for evaluation workshop to be held in Lima during week three of Phase II; (4) submit electronic copies of each draft Phase I report in English (supporting team member reports and annexes may be in English or Spanish) to USAID/Peru for review and written comments;

Day 34: (1) Remaining expatriate team members depart Peru; (2) Peruvian specialists, in consultation with SO4 liaison and workshop facilitator, finalize arrangements for planned workshop, finalize participants' list and invitations, and coordinate with SO4 liaison for issuing/delivering invitations.

During the period from the end of Phase I to initiation of Phase II, the USAID/Peru SO4 core team and selected extended team members will review and provide written comments on evaluation team Phase I draft reports. Comments will be sufficiently detailed and explanatory to permit the evaluation team to reasonably respond through report revisions or by separate memoranda of observations, within the limits of the time frame of Phase II, specified below. Major comments should be typed, whereas editorial and other minor comments may be provided in legible handwriting in the margins of the draft reports.

- **PHASE II: Four weeks, beginning o/a April 3, 2000.**

Day 1: Expatriate team leader and IECE specialist travel to Peru; Peruvian specialists receive reviewers' comments, consult with SO4 liaison, gather any additional information required to address comments;

Days 2-7 in Peru: Team members consult as appropriate with persons providing reviewer comments and with others, and revise draft reports accordingly;

Days 8-14 in Peru: Evaluation team, in consultation with SO4 core team members and the workshop facilitator, prepares background materials to be reviewed by participants prior to the workshop (such materials may be one or more of the final draft reports, and/or summaries, matrices and/or visuals, as agreed with the SO4 core team and workshop facilitator), deliver background materials to participants; with facilitator, prepare additional materials to be used during evaluation workshop; reconfirm attendance by key participants;

IECE specialist holds exit briefings, and departs Peru on day 13; Peruvian green specialist completes assignment on day 13;

Days 15-21 in Peru: Team leader and Peruvian brown specialist, with assistance from the facilitator, lead workshop; finalize executive summaries in English and in Spanish; proceed with final revisions to Phase I reports;

Day 15: Hold evaluation workshop;

Days 16-19: Team Leader and Peruvian brown specialist finalize changes in reports, incorporating workshop results as appropriate;

Day 20: Peruvian brown specialist completes assignment; team leader works on draft restatement of ENR SO/IR Strategic Framework;

Days 22-27: Team leader: (1) completes final consultations and final revisions of Phase I reports, (2) completes draft of ENR SO/IR Strategic Framework restatement, (3) holds final review with SO4 core team, (4) completes final administrative matters, and, (5) finalizes draft reports for submission to USAID/Peru, and to contractor headquarters for final editing, formatting and duplication;

Day 27: Team leader departs Peru.

J. QUALIFICATIONS AND DUTIES OF EVALUATION TEAM MEMBERS

Desired minimum qualifications, as well as major responsibilities and duties, for each evaluation team member are shown in Attachment H.

K. OTHER TERMS OF REFERENCE

1. **Laptop Computers.** Each team member will have a laptop computer for personal use, and will be familiar with its use for purposes of the evaluation. Additionally, arrangements will be made by contractor for access to printing and copying services.
2. **Logistic Support.** Although USAID/Peru, TAPs and host-country partner institutions will assist in coordinating interviews and site visits, contractor must provide for team member logistic support such as space for internal team meetings, arranging and managing appointments, local and in-country travel, etc.
3. **Changes in Terms of Reference.** The contractor's proposal must conform substantially to these terms of reference, but may offer specific changes and/or adjustments. Proposed substantive changes/adjustments in (1) the statement of work, (2) required reports, (3) overall or individual team member levels-of-effort, (4) team member minimum qualifications and major responsibilities, (5) timetable for the evaluation, and, (5) other substantive changes proposed, must be approved by the SO4 core team and by the contracting Officer.

ACTIVITY EVALUATION REPORTS
SUGGESTED OUTLINE OF CONTENTS

EXECUTIVE SUMMARY (3-4 pages)

List of Acronyms

- I. Introduction
 - A. Background
 - B. Activity Dynamics and Setting (initial, evolution and current)
 - 1. Environment and natural resources conditions
 - 2. Political/economic conditions
 - 3. Institutional conditions
 - 4. Management and implementation arrangements conditions
- II. Brief Activity Description (to provide background and set the context for next section).
- III. Findings, Conclusions, Recommendations
 - A. Significant changes in original implementation arrangements
 - B. Overall Activity Management (each management partner and roles should be treated).
 - C. (Separate treatment of each component and/or sub-component, as appropriate to clearly identify cause/effect and/or associated relationships).
 - D. Sustainability (as Activity resources are depleted)
 - E. Potential for increasing private sector participation (technically, managerially and financially).
- IV. Major issues Requiring additional analysis and/or consultation among partners (and/or with customers).
- V. Gender and/or disadvantaged populations considerations of particular relevance, and that may be addressed within the context of USAID/Peru inputs.
- VI. Lessons Learned (with particular emphasis on those that lead to modifications being recommended in the MES and/or the SO/IR strategy framework.

VII. Annexes

- A. Contributions of each activity (and components/sub-activities thereof) to relevant indicators and targets , and/or to activity/component level results indicators and targets;
- B. Activity Implementation events, i.e., significant events, milestones and/or completion of a process especially relevant to achievement of IRs, activity-level expected results and the respective indicators, and to major unexpected results).
- C. Technical Annexes (For each component and sub-component, as appropriate).
- D. Lists and Schedules.
 - 1. List of Individuals/Institutions Contacted
 - 2. List of Documents Consulted
 - 3. Schedule of Interviews and Field Visits.
- E. Other annexes (may be included as considered necessary and appropriate by the evaluation team).

OVERALL STRATEGIC OBJECTIVE PROGRAM
AND
FRAMEWORK EVALUATION REPORT

SUGGESTED OUTLINE OF CONTENTS

A. SO4 IDENTIFICATION DATA SHEET (to be provided by Mission)

B. Executive Summary (Development objectives, purpose of evaluation, study method, major findings, conclusions, recommendations and lessons learned about design and implementation of this type of program)

C. Body of Report.

1. Introduction: (Background; Purpose of Evaluation; Team Composition; Evaluation Methods; Program Setting [during original design and currently]; ENR Management Dynamics relative to SO program; political, social, economic and institutional setting).
2. Brief Description of Program: (Summarize activities/components; relative contributions to SO and Irs; budgetary support levels; end of activity status for each activity in the context of the SO and IRs; original and current SO4 results framework)
3. Presentation of Evidence and Findings: (As per tasks specified in IV, above)
4. Succinct Statement of Conclusions: (Drawn from Findings)
5. Lessons Learned
6. Recommendations: (Based on Findings, Conclusions and Lessons Learned, stated as actions to be taken to change SO implementation documents to align activities/sub-activities with any proposed changes in SO strategy, IRs, and/or current/anticipated implementation conditions and arrangements.

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ANNEXES: The content of the separate activity evaluation reports serves as the back-up for this overall SO program and framework evaluation report, and may be referenced as appropriate. Thus, no annexes to this report are required.

EVALUATION TEAM MEMBERS

**DESIRED QUALIFICATIONS AND
MAJOR RESPONSIBILITIES AND DUTIES**

1. **Expatriate Team Leader (ENR Management, Policy Implementation and Institutional Strengthening Specialist).**
 - a. **Qualifications.**
 - ☐ Doctorate (or equivalent, e.g., Masters plus professional degree or appropriate specialized academic studies and published research) in an ENR-related field (e.g., biological sciences, resource economics, other related social science, or planning/management field;
 - ☐ 15 years of professional experience with extensive focus on at least three ENR-related subject areas: policy analysis and implementation dialogue, institutional development and operations management, *ENR implementation management* improvement;
 - ☐ 10 years of international experience including experience in design, implementation and evaluation of USAID or other donor-assisted programs, with at least five years of this experience in Latin America, and preferably with experience in Peru;
 - ☐ Participation in five or more evaluations of USAID or other donor ENR-related programs, and in at least two of these as team leader;
 - ☐ Sensitivity to issues related to gender and to disadvantaged populations;
 - ☐ Demonstrated team-building and team leadership skills under short deadline conditions;

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- ☐ Demonstrated capacity to interact and dialogue effectively with all levels of actors and beneficiaries in ENR donor- assisted activities;
- ☐ Excellent writing skills in English;
- ☐ Minimum of S-3, R-3 in Spanish

b. Major Responsibilities and Duties.

- ☐ Serve as team leader for evaluation team;
- ☐ Serve as principal evaluator of institutional strengthening and program management improvement dimensions of SO4 implementation activities;
- ☐ Complement other specialists in evaluation of policy implementation and improvement feedback aspects of activities;
- ☐ Provide leadership, process guidelines and framework for organizing and synthesizing evaluation information, and for formulating conclusions and recommendations based thereon;
- ☐ Incorporate/synthesize team member reports into required reports, and complete final drafting and editing to assure that reports are consistent in both content and style;
- ☐ Supervise the activities and work of all evaluation team members, and provide them with direction and guidance as appropriate to generate the information and reports required within the specified time-frame;
- ☐ Serve as principal drafter for updated MES and for ENR SO/IR strategic framework restatement.

2. Expatriate Urban/Industrial Environmental Management and Protection ("Brown") Specialist.

a. Qualifications.

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- ☐ Recognized expertise and experience in clean and efficient industrial processes, pollution prevention, environmental health and technology transfer; Preferably
- ☐ PhD (or a Masters with equivalency in further studies and research) in a relevant engineering field or related discipline;
- ☐ 10 years of experience in development, implementation and evaluation of industrial pollution prevention/abatement projects, and on industrial environment-related management and organization, with experience in Latin America, and preferably with experience in Peru;
- ☐ At least two years of experience in industrial environment-related technical assistance and technological information transfer, adaptation and application;
- ☐ Teamwork skills and excellent writing skills in English;
- ☐ S-3,R-3 capability level in Spanish;

b. Major Responsibilities and Duties.

- ☐ Assume primary responsibility in collaboration with the Peruvian urban environmental specialist for evaluation of the SENREM Activity;
- ☐ Evaluate progress attained under the Clean Production Element of SENREM;
- ☐ In consultation with appropriate evaluation team specialists, evaluate the quality, appropriateness and level of technical assistance provided to the Ministries of Industry and of Fisheries for strengthening environmental policy, legal and institutional framework;
- ☐ Evaluate the quality, appropriateness and level of technical assistance provided to private sector manufacturing and fisheries plants aimed at reducing waste and pollution while increasing efficiency and productivity;

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- ❑ Evaluate appropriateness and probable effectiveness of planned levels-of-effort under the approved EH Activity and under the proposed CEP COM sub-activity of SENREM, including the proposed Clean Production Center;
- ❑ Assess contributions of the above to the SO, IR indicators and targets, and recommend adjustments to improve effectiveness;
- ❑ Based on the above, identify changes required in the brown sector of the current MES, and propose activities, sub-activities, and related expected results, indicators and targets to extend the strategy from the year 2003 to the year 2006.

3. Expatriate Natural Resources Management, Conservation and Protection (“Green”) Specialist.

a. Qualifications.

- ❑ Masters or higher degree in biological sciences, anthropology, sociology, rural development or similar field
- ❑ At least 10 years of experience in conservation planning and management activities, with experience related to the following ecosystems: tropical forest, highland, coastal/marine; with at least 5 years of this experience in Latin America, and preferably with experience in Peru;
- ❑ A solid record of publication in one or more of the above areas
- ❑ Sensitivity to issues related to gender and disadvantaged populations
- ❑ Teamwork skills and excellent writing skills in English
- ❑ S-3,R-4 capability in Spanish.

b. Major Responsibilities and Duties.

In close collaboration with the Peruvian green specialist:

- ❑ Take the lead in evaluating the original design and actual progress compared to planned progress in the BIOFOR activity

- ☐ Assess appropriateness of changes made in the sub-activities and actions to be accomplished under BIOFOR as the result of the SOAG (including review of the BIOFOR initial activity implementation letter)
- ☐ On the basis of information gathered and findings therefrom, formulate conclusions related to adequacy of original BIOFOR design, the initial TAP work plan and schedule, working relationships with INRENA, and appropriateness of actions taken and accomplishments since activity inception
- ☐ In consultation with other team members, formulate recommendations for improving future performance under BIOFOR, as well as any proposed changes in the focus or sub-activities thereunder to more effectively accomplish the intended purposes of BIOFOR
- ☐ In consultation with the team leader and the economic policy specialist prepare a preliminary draft of the appropriate sections of the BIOFOR Activity evaluation report and assure incorporation of contributions of other team members as appropriate
- ☐ Contribute as appropriate to the update of the MES
- ☐ Recommend to the team leader adjustments to the ENR SO/IR strategy framework

4. Expatriate ENR Economics and Policy Specialist.

a. Qualifications.

- ☐ PhD or equivalent in environmental and resource economics or equivalent field
- ☐ 10 years experience in economic and policy analysis of both brown and green environmental issues, more specifically with economic aspects of water and air quality policies, pollution prevention, use of economic instruments in environmental management, and with economics of biodiversity, economic valuation, and forest management incentives and self-help policies
- ☐ 5 years of experience working with economics and related policy issues in Latin America, and preferably with experience in Peru;
- ☐ Experience in evaluating impacts of ENR policy improvement interventions
- ☐ Sensitivity to issues related to gender and disadvantaged populations
- ☐ Teamwork skills and excellent writing skills in English

- S-3,R-3 in Spanish

b. Major Responsibilities and Duties.

- Review planned and actual progress in improving economic policies under the SENREM and BIOFOR activities; review the planned treatment of economic policy issues in the approved EH Activity
- Based on the above reviews, formulate findings and conclusions with regard to the adequacy of current efforts under each activity to achieve improvements in relevant economic policies under each activity
- Assist the evaluation team to incorporate the current status of the economic policy framework and specific policies and needs into the MES update for both brown and green ENR matters
- Review the treatment of economic policy issues in the ENR SO/IR strategy framework, and assist the team to incorporate recommended changes in that treatment;
- Specific areas for review, assessment and evaluation frame and economics and economic policy perspective include, but are not limited to the following:
 - Evaluation of current status of economic instruments (Eis) being introduced under SENREM, from both a theoretical and an empirical standpoint, including suggestions for achieving acceptance and support by key GOP agencies;
 - Assessment of economic considerations related to the various demonstration projects being supported, or proposed, under SENREM, BIOFOR and EH; include suggestions on how to make them more environmentally and economically efficient;
 - Provide a current perspective of the preferred methods and techniques for economic valuation of environmental/natural resources assets to promote innovative and practical valuation exercises contemplated in the BIOFOR activity;
 - Provide insights and information on approaches to valuing potential and actual health impacts of alternative environmental policies; emphasis should be given to specification of social and private costs associated with specific environmental pollutants, including discussion of social and private benefits derived from prevention and/or control (specific pollutants of interest include lead, contaminated water, industrial SO₂, Nox, TSP, etc.).

5. Expatriate ENR Information, Education, Communications and Evaluation (IECE) Specialist.

a. Qualifications.

- ☐ BSc in communications or other social science, with post graduate studies in an IEC-related field
- ☐ Ten (10) years of international experience in the design and implementation of USAID-supported IEC activities, with at least four (4) years of working experience in Latin America, and preferably with experience in Peru:
- ☐ IEC experience should include but not be limited to:
 - Design and implementation of integrated plans and campaigns to promote the conservation and sustainable management of the environment and natural resources
 - Analysis of IEC problems at the national and local level
 - Working experience sufficient to provide a thorough understanding of formal and informal IEC techniques and methods, including traditional and mass media
 - Design and implementation of cost-effective and high-impact IEC strategies and interventions
 - Working experience sufficient to have a thorough knowledge of design parameters and application of techniques to analyze public perception and opinion, such as surveys, polls, and interviews, and their corresponding quantitative processing methods (Candidate should have at least 5 years of experience in this area, applied to ENR matters)
 - Design and monitoring of indicators and targets to substantiate program/activity performance and progress
- ☐ Familiarity with management-for-results principles and practices
- ☐ Familiarity with methods and procedures for evaluating ENR management improvement programs, especially as regards impacts on public knowledge and attitudes about the need and ways to maintain and improve environment quality and natural resources conservation
- ☐ Sensitivity to issues related to gender and disadvantaged groups
- ☒ Teamwork and excellent writing skills
- ☐ S-3,R-3 Spanish capability

B. MAJOR RESPONSIBILITIES AND DUTIES.

- ❑ Review the results of the SO4 interventions since 1996 from an IEC standpoint
- ❑ As a result of this review, identify key findings to be used to define future SO4 IEC interventions
- ❑ Describe and apply methods and tools to evaluate SO4 interventions and activities dealing with IEC aspects; assess the importance given to IEC elements of SO4 activities and interventions, and identify the main obstacles facing IEC efforts underway or planned
- ❑ Special emphasis should be given to the analysis of the annual ENR surveys conducted by CUANTO since 1996.
 - Results of the latest survey (1998) indicate that all impact indicators selected to monitor changes in ENR awareness and perception have decreased relative to the 1997 results. This decrease has been attributed by CUANTO to the random error in the sampling. The IECE specialist should address this issue and provide specific recommendations for the design and application of future surveys.
 - A detailed plan for analysis of data processing and interpretation methods and procedures being applied should be provided by Contractor to help CUANTO generate a better product, with suggestions to improve and make more effective use of the data. The specialist will evaluate whether some assistance is needed to make surveys and reports based thereon more innovative and user-friendly to facilitate more widespread dissemination and interest in the results.
- ❑ Develop a practical monitoring plan to measure progress and impact of interventions in the blue (blue in Peru is environmental awareness/education) front
- ❑ Review current implementation plans of activities under the SO4 portfolio to identify opportunities, resources and possibilities to implement additional "blue" interventions
- ❑ Develop a strategy for eventual USAID blue interventions on the basis of the key findings, the indicators identified to measure progress and impacts, the review of implementation plans, and the interviews with USAID and non-USAID personnel
- ❑ Estimate costs for implementing the above strategy
- ❑ Present the results of the blue evaluation at the workshop, focussing on:

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- The significance and feasibility of the blue front within the rationale of SO4, including attainment of expected results and targets
- Proven methods and techniques to successfully implement interventions in the blue front
- Success stories and case studies of blue interventions in other countries, preferably in Latin America
- Key findings of the IEC evaluation of the SO4 portfolio
- Produce a technical report with the most important findings and recommendations on the feasibility of introducing a new set of blue front interventions under the SO4 portfolio.

6. Peruvian Biodiversity and Forestry Sustainable Management Specialist

a. Qualifications.

- Masters degree or higher in a natural resources related field, e.g., biological sciences, agricultural/forestry economics, sociology or anthropology or a rural development field that complements the qualifications and specializations of the expatriate green specialist
- Extensive knowledge of Peru's biological diversity, forestry resources, and attendant problems and opportunities for sustainable use and conservation
- 5 years of experience in natural resources management and/or conservation work, especially in tropical forest, highland and coastal/marine ecosystems (should complement the specialty areas of experience of the expatriate specialist)
- Sensitivity and a clear perspective regarding issues related to gender and disadvantaged populations (e.g., indigenous peoples and cultures)
- Team work skills and excellent interpersonal and communications skills (both verbal and written) in Spanish
- Good speaking and reading comprehension capability in English

b. Major Responsibilities and Duties.

- ❑ Primary responsibility for gathering and reviewing relevant information, and providing briefing notes to share with the expatriate specialist related to green matters, especially for the BIOFOR Activity
- ❑ In collaboration with the expatriate specialist:
 - Participate in interviews and site visits and report on impressions/findings
 - Provide suggestions for conclusions drawn from document reviews, interviews and site visits
 - Assist in formulating recommendations for adjustments/improvements to BIOFOR Activities, other SO-related green activities and for the updated MES
 - Draft technical notes as agreed for use in draft reports

7. Peruvian Urban/Industrial Environmental Management and Policy Specialist;

a. Qualifications.

- ❑ Recognized expertise, broad knowledge and experience in the industrial and urban sectors related to environmental management, prevention and control matters;
- ❑ Masters degree in a relevant engineering specialty or closely related field (or BSc with equivalent specialized training and research experience);
- ❑ 10 years of experience in industry and/or urban utility services, with at least 5 years in activities related to improved environmental management, pollution prevention and/or control technologies and systems (experience and knowledge should complement the specialized knowledge and experience areas of the expatriate brown specialist);
- ❑ Familiarity with Peruvian Government agencies responsible for industrial pollution prevention and control and environmental health regulations and management, as well as with Peruvian environmental policies, legislation and institutional framework related to brown environmental management;
- ❑ Sensitivity and a clear perspective regarding issues related to gender and disadvantaged populations;
- ❑ Teamwork skills and good interpersonal and communications skills (both verbal and written) in Spanish
- ❑ Good speaking and comprehension capability in English

b. Major Responsibilities and Duties.

- ❑ Primary responsibility for gathering and reviewing relevant information, and providing briefing notes to share with the expatriate specialist related to brown matters, especially for the SENREM and EH Activities;
- ❑ Review and assess current Peruvian environmental legislation and regulations for the manufacturing and fisheries sectors and for the environmental health sector;
- ❑ Based on the above review and assessment, determine and evaluate the impact of relevant SENREM activities and the potential impact of the EH Activity in addressing and ameliorating gaps, overlaps and/or inconsistencies in this environmental legal, policy and institutional framework;
- ❑ Identify and assess public and private sector institutional weaknesses and progress made under SENREM to address these;
- ❑ Recommend additional measures to more effectively address the institutional weaknesses identified and assessed above;
- ❑ Collaborate with the expatriate brown specialist and other evaluation team members in advising on local conditions and needs, and on formulation of findings, conclusions and recommendations related to evaluation of the SENREM Activity and in updating the brown aspects of the MES;
- ❑ In collaboration with the expatriate brown specialist:
 - Participate in interviews and site visits and report on impressions/findings
 - Provide suggestions for conclusions drawn from brown-related document reviews, interviews and site visits
 - Assist in formulating recommendations for adjustments/improvements to SENREM activities and planned EH activities, other SO-related brown activities and for the updated MES
 - Draft technical notes as agreed for use in relevant draft reports.

ILLUSTRATIVE BUDGET

I. COST FACTORS

- Senior expatriate specialists: \$900/day
(multiplier of 2.1 x daily rate of \$400);
- Senior Peruvian specialists: \$400/day
(multiplier of 2.0 x daily rate of \$200/day);
- Per Diem:
 - +Washington, DC @ \$164/day
 - +Lima @ \$213/day
 - +Site visit areas in Peru @ \$103/day
 - International airfare (RT): \$1,400

II. COST ESTIMATES

Personnel Costs	
- \$900 x 138 days	\$124,200
- \$400 x 90 days	36,000
Per Diem Costs	
- Washington, DC: 12 days x \$164	1,968
- Lima: 119 days x \$213	25,347
- Site visit areas: 35 days x \$103	3,605
International travel: 7 RT x \$1,400	9,800
Other costs (logistic support assistance, communications, in-country travel, taxis, workshop, duplication, supplies & materials)	10,000
TOTAL ESTIMATED COST	\$210,920
THIS MAARD	138,000
BALANCE UPON AVAILABILITY OF FUNDS	\$72,920

ANNEX B

LIST OF INDIVIDUALS AND AGENCIES CONTACTED

ABT Associates

Richard C. Worden, TAP

AECI (Agencia Española de Cooperación Internacional)

Sr. José Hermoza Jerí, Consultor de Proyecto

AED (Academy for Educational Development)

José A. Romero, Representante en el Perú

AGENDA: PERÚ

Francisco Sagasti, Director

Americas Fund

Lourdes Escaffi, Coordinator

APECO (Asociación Peruana para la Conservación de la Naturaleza)

Silvia Sánchez, Directora Ejecutiva

Sofía Brutton

Asociación de ONGs de Madre de Dios

Sra. Zoila Arredondo, Representante

Asociación de Pequeños Extractores Madereros de Madre de Dios

Sr. Rafael Ríos, Presidente

BACKUS Corporación S.A.

John Stenning Orellana, Asesor de la Presidencia

Marino Defilippi Ordoñez, Relaciones Institucionales

Banco Mundial

Pierre Werbrouck, Representante Residente en Perú

Carlos Monge, Desarrollo Rural y Medio Ambiente

BID (Banco Interamericano de Desarrollo)

Alfonso Tique Andrade, Especialista Sectorial

Cámara de Comercio de Pisco

Eduardo Alvaro

Cámara de Turismo de Madre de Dios

Sr. Mario Troncoso, Presidente

Sr. Orlando James, Empresario y Promotor

Ing. Kurt Holle, Rainforests Expedition

CENERGIA (Centro de Conservación de la Energía y el Ambiente)

Jorge Aguinaga

CIDA (Canadian International Development Agency)

Sr. Stephen Potter, Primer Secretario (Cooperación Técnica)

CONAM (Consejo Nacional del Ambiente)

Gonzalo Galdos, President

Paul Remy, Executive Secretary

Luis Egocheaga, Director SENREM Project

David Solano, Director de Educación

Rosa Salas, Directora de Educación y Cultura Ambiental

Eduardo Talavera Ampuero, Secretario Ejecutivo Regional

Conservación Internacional-Perú

Ing. Carlos Ponce del Prado, Director Regional Andes

Biól. César Ascorra, Coordinador de Campo Pto. Maldonado

Ing. Nelson Menéndez, Asesor Forestal, Pto. Maldonado

COSUDE (Cooperación Suiza para el Desarrollo)

Isabel Pierich, Consejera Adjunta

Consultores Pucallpa

Ing. Mario Quevedo, Consultor Forestal

Econ. Rómulo Coronado

CTAR-Ica (Consejo Transitorio de Administración Regional de Ica)

Dr. Juan R. Martínez Madueño, Director Zonal - Pisco

Ing. Carlos Garcá Lira, Director Regional - Pesquería

CTAR-Madre de Dios (Consejo Transitorio de Administración- M. de D.)

Sr. Rosalío Haypar, Gerencia Regional de Planificación y Presupuesto

DIGESA (Dirección General de Salud Ambiental, MS)

Jorge Villena Chávez, Director General

Juan Narciso Chávez, Director General Adjunto

Javier Hernández Campanella, Director Ejec. Saneamiento Básico

Ana María Gonzáles del Valle, Directora Ejec. Ecología y Ambiente

Eco Innovaciones Financieras

José Salazar B., Economista

Embajada de Finlandia

Sr. Mikko Pyhala, Embajador

Embajada de Holanda

Sr. Robert Nijhof, Ambiente y Recursos Naturales
Sr. Jan Keesverkoojens
Sra. Gina Gálvez

ESAN (Escuela de Administración de Negocios para Graduados)

Alfredo Novoa-Peña, Dean

ETTSA (Empresa de Transportes "El Triunfo" S.A.)

Oswaldo Montejos Carlier, Gerente General

FAO (Food and Agriculture Organization)

Ing. Manuel Villavicencio, Oficial de Programa

FEDAMAD (Federación Agraria Departamental de Madre de Dios)

Ing. Héctor Vélchez, Asesor Forestal

Fondo Contravalor Perú-Francia

Sr. Mario Porras Salvador, Asistente Técnico

Fondo de la Américas

Sr. Eduardo Ishii Ito, Director Ejecutivo

IDEMA (Instituto de Defensa del Medio Ambiente)

Guillermo Zvetcovich Masciotti, Director Ejecutivo

IIAP (Instituto de Investigaciones de la Amazonia Peruana)

Ing. Alejandro José Farfán, Representante Pto. Maldonado

INKABOR S.A.C.

María del Carmen Campos B., Area Sales Executive

INRENA (Instituto Nacional de Recursos Naturales)

Dra. Josefina Takahashi Sato, Jefa
Biól. Luis Alfaro, Director General DGANPFS
Ing. Rosario Barrera, Directora de ANP
Ing. Jorge Malleux, Director General DGF
Ing. Raúl roca Pinto, Director General MAR
Ing. Luis Novoa, Representante INRENA Pto. Maldonado
Ing. Cecilia Arellano, Gerenta Comité de Reforestación

Instituto CUANTO

Richard Webb, Director
Nicholas Asheshov, Periodista
Gloria Calderón, Ambiente y Recursos Naturales
Yelka Briceño, Ambiente y Recursos Naturales

Instituto Rural Valle Grande

Miguel Angel Zegarra Guevara, Jefe Programa Sierra

IPES (Instituto de Promoción de la Economía Social)

Oscar Espinoza, Coordinador del Proyecto

Libio Villar, Asesor Ambiental

IRD (Instituto de Investigación para el Desarrollo-Francia)

Sr. René Marocco, Representante en el Perú

IRG (International Resources Group)

Patricia Fernández- Dávila, Activity Manager

Daniel Valle Basto, Coordinador de Capacitación y Proyectos

Oscar Rada

Ministerio de Pesquería

Sulma Carrasco, Directora General Medio Ambiente

MITINCI (Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales)

Agnes Franco, Vice Ministra de Industrias

Javier Ramírez-Gastón, Director General de Industrias

Carmen Mora Donayre, Directora de Asuntos Ambientales

Ing. Edgar Robles Falcón, Director Regional-Arequipa

Ing. Celi Mercado, Directora Regional-Ica

Municipalidad Distrital de Paracas

Dr. Juan J. Donayre Mendoza, Alcalde

Municipalidad Provincial de Pisco

Dr. Juan Díaz Buleje, Alcalde

Municipalidad Provincial de Coronel Portillo (Pucallpa)

Sr. David Yamashiro, Alcalde

Municipalidad Provincial de Tambopata (Puerto Maldonado)

Sr. CPC Santos Kaway, Alcalde

Sr. Mario Valverde, Administrador

OACA (Oficina de Asesoría y Consultoría Ambiental)

Marcos Alegre, Director

Ana Zuchetti

Carlos Pacheco

PNUD (Programa de la Naciones Unidas para el Desarrollo)

Sr. Alberto Giesecke, Oficial de Programa

PROFONAMPE (Fondo Nacional para Areas Naturales Protegidas por el Estado)

Gabriel Quijandría Acosta, Jefe del Departamento Técnico

Pro Naturaleza

Gustavo Suárez de Freitas, Director Ejecutivo

Jorge Ugaz Gómez, Director de Proyectos

Proyecto Conservando Castañales, Pto. Maldonado

Ing. Vanessa Sequeira, Directora de Campo

Proyecto MADEBOSQUE - Cámara Forestal Nacional-Pucallpa

Ing. Marco Romero, Director

Reserva Nacional de Paracas -INRENA

Biól. Luis Paz Soldán, Jefe

Señal Verde (Programa ambiental de radiol)

Augusto Urrutia Prugue, Director

SNA (Sociedad Nacional del Ambiente)

Amelia Torres Cuadros, Presidenta

SNI (Sociedad Nacional de Industrias)

Cecilia Rosell Grijalba, Coordinadora

SPDA (Sociedad Peruana de Derecho Ambiental)

Jorge Caillaux, Presidente

Manuel Pulgar Vidal, Executive Director

Carlos Gasco, Project Manager

Albina Ruiz, Asesora Ambiental

Mercedes Lu, Coordinadora Técnica

Sociedad Nacional de Minería, Petróleo y Energía

Carlos Diez Canseco, Gerente General

The Lexington Group (Environmental Management Consultants, Inc.)

C. Foster Knight, Senior Vice President

UNALM (Universidad Nacional Agraria La Molina)

Manuel A. Ríos, Profesor Principal, Cs. Forestales

Jaime Mendo, Profesor Principal, Pesquería

Unión Europea

Sr. Stephan Müller, ENR Projects

Universidad de Lima

Eric Cardich Briceño, Coordinador

Universidad del Pacífico

Rosario Gómez de Zea, Profesora-Investigadora, Centro de Investigación

Elsa Galarza Contreras, Profesora-Investigadora, Centro de Investigación

Universidad Nacional de Ucayali (Pucallpa)

Ing. Wilfredo Bonilla, Profesor Asociado, Facultad de Ciencias Forestales

USAID (Agencia para el Desarrollo Internacional de los EE.UU.)

Tom Geiger, Director

Tim Miller, SO4 Team Leader

Edilberto Alarcón, SENREM Activity Manager

Tom Moore, BIOFOR Activity Manager

Jorge Elgegren, EH Activity Manager

Carrie Thompson, SO1 Team Leader

Mike Kaiser, SO2 Team Leader

Richard Martin, SO3 Team Leader

Mike Maxey, SO5 Team Leader

WWF (World Wildlife Fund for Nature and Natural Resources)

Fiorella Cerruti, WWF-Peru

ANNEX C

SCHEDULE OF INTERVIEWS AND FIELD VISITS

WEEK ONE

Monday 4/3	John O'Donnell and Howard Clark arrive in Peru. Housed at Hotel El Olivar.
Tuesday 4/4	12:30 p.m. O'Donnell meets with Tim Miller, S04 team leader.
Wednesday 4/5	9:00 a.m. Team meeting (O'Donnell, Mann, Hammer, Clark, Llerena) to discuss terms of reference, assignment of responsibilities, scheduling and logistics. Discuss terms of reference, key contacts, scheduling. 2:30 p.m. Team meets with Timothy Miller S04 team leader. 3:00 p.m. Team meets with S04 team.
Thursday 4/6	11:00 a.m. Team plus Tim Miller and Eddy Alarcon meet with Paul Remy, executive secretary of CONAM (Consejo Nacional del Ambiente) and Luis Egocheaga, Director SENREM project. 4:00 p.m. O'Donnell/Mann/Hammer/García meet with Lourdes Escaffi de Venes, former USAID/Peru Americas Fund Coordinator.
Friday 4/7	10:30 a.m. Team meeting to discuss scheduling, logistics. 12:00 p.m. Team meeting with Manuel Pulgar Vidal, Executive Director of SPDA (Sociedad Peruana de Derecho Ambiental) and Carlos Gasco, SPDA SENREM Project Manager
Saturday 4/8	Documentation Review 3:00 p.m. Hammer/García meet with Foster Knight, Consulor of Perú 2021.

WEEK TWO

Monday 4/10

9:00 a.m. O'Donnell meets with Manuel Pulgar Vidal, Executive Director of SPDA (Sociedad Peruana de Derecho Ambiental)

9:00 a.m. García/Hammer meet with Luis Egocheaga, Director SENREM Project, CONAM (Consejo Nacional del Ambiente)

9:00 a.m. Clark meets with Patricia Fernandez-Dávila, Activity Manager IRG (International Resources Group)

9:30 a.m. Connor arrives in Perú. Housed at Hotel El Olivar.

11:00 a.m. García/Hammer meet with Carmen Mora, Supervisión y Fiscalización Ambiental, MITINCI (Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales).

2:00 p.m. O'Donnell/García meet with John Stenin from Backus.

4:00 p.m. O'Donnell/Hammer/García meeting with SPDA team (Sociedad Peruana de Derecho Ambiental) and SNA (Sociedad Nacional del Ambiente).

Tuesday 4/11

8:30 Hammer/García meet with Richard Worden, TAP ABT Associates Inc.

10:00 a.m. Team meets with Paul Remy, executive secretary of CONAM (Consejo Nacional del Ambiente)

11:30 a.m. O'Donnell/Hammer/García meet with Agnes Franco, Vice Ministra de Industria.

3:00 p.m. Hammer/García meeting with SPDA team (Sociedad Peruana de Derecho Ambiental – OACA (Oficina de Asesoría y Consultoría Ambiental)).

3:30 p.m. Clark meets with Thomas Moore (USAID)

4:00 p.m. O'Donnell/Mann meet with Paul Remy, executive secretary of CONAM (Consejo Nacional del Ambiente)

Wednesday 4/12

11:00 a.m. Connor meets with A. Torres SNA (Sociedad Nacional del Ambiente)

11:30 a.m. Hammer/García meet with Carlos Diez Canseco, Sociedad Nacional de Minería y Petróleo.

12:30 p.m. O'Donnell/Mann lunch with Tom Geiger USAID Mission Director.

2:30 p.m. Team meeting with S04 core team.

3:00 p.m. Hammer/García meet with Ana María Gonzales DIGESA (Dirección General de Salud Ambiental).

5:00 p.m. Hammer/García/Connor meet with SPDA team (Sociedad Peruana de Derecho Ambiental) - Instituto Cuanto.

Wednesday 4/13

9:00 a.m. Connor meets with L. Egocheaga, D. Solano, R. Salas, CONAM (Consejo Nacional del Ambiente).

9:00 a.m. O'Donnell meets with Richard Martin, S03 (Health, Nutrition and Population) Team Leader.

10:30 a.m. Hammer/García go to Villa El Salvador with IPES team (Instituto de Promoción de la Economía Social).

11:00 a.m. Connor meets with José Romero, Representative, AED (Academy for Educational Development).

12:00 p.m. O'Donnell meets with Michael Kaiser S02 (Economic Growth) Team Leader.

12:45 p.m. Clark meets with Carlos Ponce, Conservation International.

2:00 p.m. O'Donnell/Mann meet with Patricia Fernandez-Dávila, Activity Manager IRG (International Resources Group)

4:00 p.m. O'Donnell/Mann meet with Richard Worden, TAP Abt. Associates Inc.

4:00 p.m. Connor meets with Augusto Urrutia Prugue, Director Señal Verde.

Friday 4/14

O'Donnell travels to Cañete: (Microempresa de pesticidas y fertilizantes orgánicos and Valle Grande). Pisco: (fish meal factory and BIOFOR technical committee) and Paracas: (Scallops project and BIOFOR activities).

9:00 a.m. Hammer meets with Eddie Alarcón, USAID.

9:00 a.m. Clark/Llerena meet with Luis Alfaro, Director General Protected Areas, INRENA (Instituto Nacional de Recursos Naturales).

10:00 a.m. Clark/Llerena meet with Jorge Maleaux Director General, Forestry INRENA (Instituto Nacional de Recursos Naturales).

10:00 a.m. Connor Meets with Alfredo Novoa, Rector ESAN (Escuela de Administración de Negocios para Graduados).

11:30 a.m. Connor meets with Oscar Espinoza, Director de Gestión Ambiental, IPES (Instituto de Promoción de la Economía Social).

2:00 p.m. Connor meets with Fiorella Cerruti, WWF (World Wildlife Fund).

3:30 p.m. García/Hammer meet with J. Estilman CITECAL.

Saturday 4/15

O'Donnell in Cañete, Pisco and Paracas.

García/Hammer/Connor travel to San Mateo.

12:00 Clark meets with Gustavo Suárez de Freitas, Director Ejecutivo de Pro Naturaleza.

2:00 Clark lunch with Tom Moore, USAID.

WEEK THREE

Sunday 4/16

5:00 p.m. García/Hammer travel to Arequipa.

8:00 p.m. Clark meets with Dennis del Castillo, WWF (World Wildlife Fund).

Monday 4/17

11:00 a.m. Connor meets with Ing. Juan Carlos Pacheco, Proyecto ALA, OACA (Oficina de Asesoría y Consultoría Ambiental).

2:00 p.m. Connor meets with Isabel Pietrich, COSUDE.

2:00 p.m. O'Donnell meets with Carry Thomson, S01 (Democracy) Team Leader.

3:00 p.m. O'Donnell/Mann meet with Tom Geiger, USAID Mision Director.

4:00 p.m. Clark/Llerena meet with Sylvia Sánchez, President of APECO (Asociación Peruana para la Conservación de la Naturaleza).

4:30 p.m. O'Donnell meets with Pierre Werbruck, Representative of the World Bank.

8:00 p.m. García/Hammer arrive from Arequipa.

Tuesday 4/18

8:00 a.m. to 11:00 a.m. Hammer presentation at Universidad del Pacífico.

10:30 a.m. O'Donnell/Mann/Connor/Llerena/Clark meet with Josefina Takahashi, Chief INRENA (Instituto Nacional de Recursos Naturales).

12:00 p.m. O'Donnell meets with Alfonso Tique, IDB.

1:00 p.m. O'Donnell/Mann meet with James Riordan, Chemonics / PARA.

1:30 p.m. Garcia/Hammer Lunch with Luis Egocheaga, Director SENREM Project, CONAM (Consejo Nacional del Ambiente).

2:00 p.m. Connor meet with Sofia Brutton, APECO (Asociación Peruana para la Conservación de la Naturaleza).

3:00 p.m. O'Donnell/Hammer/García meet with Alfredo Novoa, Rector ESAN (Escuela de Administración de Negocios para Graduados).

4:00 p.m. O'Donnell/García/Hammer meet with Carbich, Universidad de Lima.

5:30 p.m. O'Donnell/Hammer/García meet with Francisco Sagasti, Agenda Perú.

5:30 p.m. Clark/Llerena meet with Patricia Fernandez-Dávila, Activity Manager IRG (International Resources Group).

Wednesday 4/19

8:00 a.m. O'Donnell/Mann/Miller/Alarcón meet with Gonzalo Galdos, President CONAM (Consejo Nacional del Ambiente), Luis Egocheaga, Director SENREM Project.

9:00 a.m. Connor meets with Jan Keef Verkoijen, Primer Secretario de Cooperación, Dutch Embassy.

9:30 a.m. Dry Run of Howard Clark Presentation.

11:00 a.m. García/Hammer/Connor meeting with CUANTO and SPDA team (Sociedad Peruana de Derecho Ambiental).

12:00 p.m. O'Donnell meets with Mike Maxey, S05 (Alternative Development) Team Leader.

12:00 p.m. Connor meets with Max Tello, John Hopkins University.

2:30 p.m. Presentation by Howard Clark and Carlos Llerena on findings, conclusions and recommendations on BIOFOR activity and other green elements of S04.

4:30 p.m. García/Hammer meeting with DIGESA team (Dirección General de Salud Ambiental).

6:00 p.m. Hammer meets with Inti Landouru, El Comercio (newspaper).

8:00 p.m. Team dinner at Jaime García's house.

Thursday 4/20

USAID HOLIDAY

Report Preparation

8:00 a.m. García/Hammer breakfast with S. Salazar

10:00 a.m. Team meeting / Evaluation Overview.

2:30 p.m. Team meeting SENREM

Friday 4/21 USAID HOLIDAY

Report preparation.

Saturday 4/22 Report Preparation

9:30 a.m. Team meeting / CONEF

WEEK FOUR

Sunday 4/23

Monday 4/24

9:00 a.m. Connor meets with Ana María Perez, Programa de Televisión "El Mundo de las pimes".

10:00 a.m. Connor travel to Valle de Lurín with Pacheco, OACA (Oficina de Asesoría y Consultoría Ambiental).

12:00 p.m. García/Hammer meet with Jorge Aguinaga, CENERGIA (Centro de Conservación de Energía y del Ambiente.

3:00 p.m. García/Hammer meeting at Sociedad Nacional de Pesquería.

Tuesday 4/25

12:30 p.m. García/Hammer meet with Ana Zucchetti Director Valle Verde OACA (Oficina de Asesoría y Consultoría Ambiental).

Wednesday 4/26

2:30 p.m. Dry run of presentation for S04.

Thursday 4/27

Presentation for USAID of overall findings, conclusions and recommendations.

Friday 4/28

Complete draft reports

Saturday 4/29

JO'D /BH/JC leave

WEEK FIVE

Sunday 4/30	FM leaves
Monday 5/1	USAID HOLIDAY
Tuesday 5/2	Carlos Llerena delivers draft reports to USAID

WEEK SIX

USAID reviews draft reports

WEEK SEVEN

USAID reviews draft reports

WEEK EIGHT

Monday 5/22	10:00 p.m. John O'Donnell arrives in Peru. Housed at Hotel El Olivar.
Tuesday 5/23	9:30 a.m. Team meeting
Wednesday 5/24	10:00 a.m. Team meets with Tim Miller 6:00 p.m. John O'Donnell, Fred Mann, Jaime García meet with Antonio Bernales to discuss workshop with SENREM participants
Thursday 5/25	9:00 a.m. Workshop with SENREM participants at Hotel Miramar (John O'Donnell, Fred Mann, Jaime García)
Friday 5/26	Incorporate comments in SENREM Report. 4:00 Receive comments from USAID on all draft reports.

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Saturday 5/27

Prepare final drafts of all reports.

WEEK NINE

Monday 5/29

Prepare final drafts of all reports

Tuesday 5/30

10:00 a.m. Deliver executive summary of overall report in Spanish to USAID.

4:00 p.m. Team meet with Tim Miller and Antonio Bernales to discuss format of May 31 workshop.

Wednesday 5/31

Workshop with S04 extended team to discuss overall report and recommendations for the future.

Thursday 6/1

Incorporate comments from workshop with S04 extended team.

Friday 6/2

10:30 a.m. Meeting with USAID to discuss overall report.

Saturday 6/3

Incorporate comments from USAID in final reports.

WEEK TEN

Monday 6/5

Incorporate comments/finalize reports.

3:00 p.m. Deliver all reports to USAID.

Tuesday 6/6

7:00 a.m. John O'Donnell leaves.

ANNEX D
LIST OF DOCUMENTS CONSULTED

Abt Associates Inc. 1998 Análisis de Fortalecimiento Institucional del Consejo Nacional del Ambiente (CONAM), Resumen Ejecutivo, Lima.

Abt Associates Inc. 1998 Comparative Analysis of Clean Production Centers, SENREM Project - Peru, (Draft).

ADEFOR 1997, Generación de Tecnologías en Restauración de Áreas con Pastos Altoandinos en Zonas de Explotación Minera, Proyecto SENREM, Cajamarca.

ADES 1997, Conservación de la Biodiversidad de Uña de Gato y Recuperación de Suelos Degradados con Sistemas Sostenibles Agroforestales en Pucallpa, Proyecto SENREM, Ucayali.

AIDER 1997, Recuperación y Producción Sostenida de Bosques y Praderas: Un Medio de Lucha Contra la Desertificación y la Pobreza, Proyecto SENREM, Piura.

AMACAU. 1998. Proyecto enriquecimiento de bosques en formación en suelos aluviales de la Amazonía Peruana. AMACAU (Asociación de Mujeres Campesinas de Ucayali), project proposal to SPDA for small grants.

AMUCAU y Mil-Agros S.A. 1997, Enriquecimiento de Bosques en Formación en Suelos Aluviales de la Amazonía Peruana, Proyecto SENREM, Ucayalli.

ANDERSON, A. (ed.). 1990. Alternatives to deforestation: Steps toward Sustainable use of the Amazon Rain Forest. Columbia University Press. New York.

APECO 1997, La Agricultura Orgánica como Tecnología Promotora del Desarrollo Rural Sustentable en las Comunidades Vecinas al Parque Nacional del río Abiseo, Proyecto SENREM, La Libertad.

Ashton, P. 1989. Species richness in tropical forests. In: L. Holm-Nielsen, I. Nielsen, and H. Balslev (eds.). Tropical Forests: Botanical dynamics, speciation, and diversity. Academic Press, London. p.239-251.

Atwood, J. B. 1999 (Dec.) Climate Change Initiative. USG, Washington. [<http://www.usaid.gov/EE/EEST/ENR/GCC/gccilet.htm>]

Balslev, H., J. L. Luteyn. (eds.) 1992. Páramo, an Andean ecosystem under human influence. Academic Press, London.

BERNALES A.A., ZUBIRÍA, A.S. 1999 Análisis y Propuesta para el Fortalecimiento Institucional de la Dirección de Medio Ambiente (DIREMA) de Ministerio de Pesquería, Informe Final.

- Bernales, A.** 1999. Current situation and elements for environmental management in the Pisco-Paracas area: An approach. Evento de lanzamiento del complejo de exportación Pisco, agosto 1999. BIOFOR/EPIQ/USAID, Lima.
- BERNALES, A.A.** 1999 Situación Actual y Elementos para la Gestión Ambiental en el Área Pisco - Paracas: Una Aproximación, IRG - BIOFOR, USAID-Peru - EPIQ, Lima.
- Bibby, C. J., et al.** 1992. Putting biodiversity on the map: Priority areas for global conservation. International Council for Bird Preservation, Cambridge. 90p.
- Brown, S.** 1999. Land-use and forestry carbon-offset projects. Winrock International, Paper prepared for the USAID Environment Officers Training Workshop. 41p.
- Caley, M. J., D. Schulter.** 1997. The relationship between local and regional diversity. Ecology 78:70-80.
- CARE Perú y la Universidad de Fernando Lores** 1997, Manejo Sostenible de Cuerpos Naturales de Agua en la Selva Baja, Proyecto SENREM, Loreto.
- CENCA** 1999 Propuesta Innovadora y Sostenible de Evacuación, Tratamiento y Reuso de Residuos Líquidos Domésticos, Proyecto SENREM, Lima.
- CENERGIA** 1999, Administración de Energéticos en la Industria, Proyecto SENREM, Lima.
- Centro Peruano de Estudios Sociales (CEPES)** 1999 Hacia una Política Ambiental en el Perú: Sociedad Nacional del Ambiente, Lima, 73 pp.
- CIDRA** 1999, Conservación y Uso Sostenible y Rentable de la Biodiversidad de Plantas Medicinales Nativas Altoandinas por Pisos Ecológicos por la Población Campesina de Ayacucho, Proyecto SENREM, Ayacucho.
- Consejo Nacional del Ambiente (CONAM)** 1999 Comisión Ambiental Regional Cusco, Plan de Acción Ambiental, Programa Capacidad 21 PNUD, Lima.
- Consejo Nacional del Ambiente (CONAM)** 1999 Comisión Ambiental Regional Región Costera, Ancash, Plan de Acción Ambiental, Programa Capacidad 21 PNUD, Lima.
- Consejo Nacional del Ambiente (CONAM)** 1999 Comisión Ambiental Regional Madre de Dios, Plan de Acción Ambiental, Programa Capacidad 21 PNUD, Lima.
- Consejo Nacional del Ambiente (CONAM)** 2000 Comisión Ambiental Regional Moquegua, Plan de Acción Ambiental, Programa Capacidad 21 PNUD, Lima.

Consejo Nacional del Ambiente (CONAM) s/f Ecodiálogos 96 Ica, 97 Arequipa y 99 Lima, Compromisos para el Desarrollo Sostenible (Separatas).

Conservación Internacional (CI) 1999 Zona Reservada de Tambopata - Candamo: Madre de Dios - Puno, Perú, Lima.

Conservación Internacional Perú. 1997. Biodiversidad de la Cordillera del Cóndor: Referencias Técnicas para su Conservación. CI-Peru ediciones, Lima.

Dinerstein, E., et al. 1995. A conservation assessment of the terrestrial Ecoregions of Latin America and the Caribbean. The World Bank & The World Wildlife Fund, Washington, DC. 129p.+ maps.

Eguiguren E., A., A. Martínez F. 1996. Experiencias forestales comunitaria en América Latina: Documento síntesis. Fundación Natura & Red Latinoamericana de Bosques, Quito.

FAO, 1998 Environmental Issues Paper, Perú, Lima.

FDA y la Asociación Artesanal de Extractores de Productos Hidrobiológicos "Tunca Mar" 1997, Implementación Integral de un Área de Repoblamiento Demostrativo para el Manejo Sostenible de la concha de Abanico, en Laguna Grande, Proyecto SENREM, Ica.

Geithner, T. F. 1999. [25 October 1999 letter from T. F. Geithner, International Affairs, Dept. of the Treasury, Washington, D.C., to E. Goldenberg, Minister of Economy and Finance, Peru].

Gentry, A. 1977. Extinction and conservation of plant species and habitats of Ecuador and Amazonian Peru. *In:* G. T. Prance, T. S. Elias (eds.). *Extinction is forever.* New York Botanical Garden, New York. p.136-149.

Gentry, A. 1979. Extinction and conservation of plant species in tropical America: A phytogeographical perspective. *In:* I. Hedberg (eds.). *Systematic Botany, plant utilization, and biosphere conservation.* Almqvist & Wiksell, Stockholm. p.100-126.

Gentry, A. 1988. Tree species richness of upper Amazonian forests. *Proceedings National Academy of Science (USA)* 85:156-159.

Grace, J., et al. 1995. Carbon dioxide uptake by an undisturbed tropical rain forest in southwest Amazonía, 1992 to 1993. *Science* 270:778-780.

Guinand, I.E. y Chávez, J.M. 1997 La Cooperación Internacional para la Gestión Ambiental y de Recursos Naturales en el Perú: Situación Actual y Perspectivas, USAID Perú, Lima.

Hanrahan, M., et al. 1995. Environmental and natural resource management in Peru: A strategy for USAID/Peru assistance. Growth and environmental management in harmony. USAID/Peru, Lima. 85p. +annex 99p.

Hanrahan, M., Jackson, G., Quinlan, M., Nanita-Kenneth, M., Ocaña, V.J. y Pulgar-Vidal, M. 1995 Environmental and Natural Resource Management in Peru. A Strategy for USAID/Peru Assistance.

Hanrahan, M., Jackson, G., Quinlan, M., Nanita-Kenneth, M., Ocaña, V.J. y Pulgar-Vidal, M. 1995 Environmental and Natural Resource Management in Peru. A Strategy for USAID/Peru Assistance. (Annexes).

Harremoës, P. 1996. Dilemmas in ethics: Towards a sustainable society. *AMBIO* 25:390-395.

Holdgate, M. 1996. The ecological significance of biological diversity. *AMBIO* 25:409-416.

Holm-Nielsen, L., I. Nielsen, H. Balslev (eds.). 1989. Tropical Forests: Botanical Dynamics, Speciation, and Diversity. Academic Press, London. p.239-251.

Hough, J. 1988. Obstacles to effective management of conflicts between national parks and surrounding communities in developing countries. *Environmental Conservation* 15:129-136.

IDEMA 1997, Agricultura Urbana, Proyecto SENREM, Arequipa.

IINCAP Jorge Basadre 1999, Técnicas Ecológicas de Recuperación y Mantenimiento de la Biomasa y Biodiversidad de Pastos y Arbustos Nativos y Naturalizados para Restaurar la Esponja Hídrica de la Cabecera de la Microcuenca del Río Negro-Malcas, Proyecto SENREM, Cajamarca.

Informe Final Programa Recicla 99 (Enero 2000).

Informe Final Programa Recicla 99, (Informes contrapartes Huancayo, Informes contrapartes Trujillo), (Enero 2000).

Instituto de los Hermanos de las Escuelas Cristianas "La Salle" 1997, Una gotita de Creatividad en el Desierto, Proyecto SENREM, Lima.

Instituto Montaña 1999, Agua para siempre: Sistemas Campesinos de Monitoreo de Calidad de Agua y Procedimiento de Negociación para el Desarrollo de Mejores Prácticas de Manejo en Empresas Mineras, Proyecto SENREM, Huaraz.

International Resources Group, Ltd. (IRG) 1998 BIOFOR Annual Activity Operating Plan, Period Covered: October 1998 - December 1999, Lima, 25 pp. + Attachments.

International Resources Group, Ltd. (IRG) 1999 BIOFOR Plan Operativo Anual ,
Período: Enero - Diciembre 2000, Lima, 25 pp. + Anexos.

International Resources Group, Ltd. (IRG) 2000 BIOFOR Annual Summary Report N° 1,
Period: October 1, 1998 - December 31, 1999, Lima.

International Resources Group, Ltd. (IRG) 2000 BIOFOR Quarterly Report N° 5, Period:
October 1 - December 31, 1999, Lima.

IPCC. 2000(March). Summary for Policymakers, Informal Review Draft.
Intergovernmental Panel on Climate Change.

IPES 1999 Fomento de la Gestión de Aceites Residuales en Grifos, Factorías y Restaurantes.
Proyecto SENREM, Lima.

ITDG 1997, Utilización de la Cascarilla de Arroz como Fuente Energética en Ladrilleras,
Proyecto SENREM, Piura.

Kumari, K. 1996. Sustainable forest management: Myth or reality? Exploring the
prospects for Malaysia. *AMBIO* 25:459-467.

Laidre, L., N. Ryman. 1996. Effects on intraspecific biodiversity from harvesting
and enhancing natural populations. *AMBIO* 25:504-509.

Linares, a.m. 1997 Asesoría para el Fortalecimiento Institucional de la Dirección de Asuntos
Normativos como Unidad Ambiental del Ministerio de Industria, Turismo, Integración y
Negociaciones Comerciales Internacionales (MITINCI), Informe 1: Análisis Institucional de
la Dirección de Asuntos Normativos, Lima.

Llerena, C.A. 1987 Erosion and sedimentation issues in Peru. International Association of
Hydrological Sciences (IAHS) publication 165: 3-14.

Llerena, C.A. 1991 Contaminación atmosférica, efecto invernadero y cambios climáticos:
sus impactos forestales. *Revista Forestal del Perú* 18 (2): 101-135.

Mares, M. 1992. Neotropical mammals and the myth of Amazonian biodiversity.
Science 255:976-979.

PACT PERU 1999 Capacidades de Gestión y Necesidades de Capacitación en Seis
Ecosistemas Frágiles del Perú: Diagnóstico Situacional, Informe final, IRG - BIOFOR,
USAID-Perú.

Padoch, C. 1988. Aguaje (*Mauritia flexuosa* L.f.) in the economy of Iquitos, Peru.
Advances in Economic Botany 6:214-224.

- Painter, et al.** 1985. Fragile Lands in Peru, report to the S&T/LAC Fragile Lands Working Group. USAID/Peru. 36p.
- PERU - Ministerio de Educación** 1997 Nosotros y los Andes: Ambiente y Educación, Proyecto de Educación Ecológica en Formación Magisterial, COSUDE.
- PEEFORM, IDEA-PUC**, Tomo I 209 pp., Tomo II 529 pp.
- Petchey, O. L., et al.** 1999. Environmental warming alters food-web structure and ecosystem function. *Nature* 402:69-72.
- Peters, C.** 1990. Population ecology and management of forest fruit trees in Peruvian Amazonía. In: A. Anderson (ed.). Alternatives to Deforestation: Steps toward sustainable use of the Amazon Rain Forest. Columbia University Press. New York. p.86-98.
- Phillips, O. L.** 1996. Long-term environmental change in tropical forests: increasing tree turnover. *Environmental Conservation* 23:235-246.
- Phillips, O. L., et al.** 1998. Changes in the carbon balance of tropical forests: Evidence from long-term plots. *Science* 282:439-442.
- PREVIT** 1999, Control de la Contaminación de la Bahía de Yunguyo-Lago Titicaca a través de un Sistema Biológico no Convencional, Proyecto SENREM, Puno.
- PROCUSCO** 1997, Agroeconomía Rentable en Cusco, Proyecto SENREM, Cusco. Propuesta de Proyecto Centro de Producción Limpia CPC Perú, Informe Final, Octubre 7, 1999.
- PROSIP** 1999, Uso Sostenible de Recursos Fitogenéticos Andinos en el Nor-Yauyos, Proyecto SENREM, Lima.
- RAAA** 1999, Microempresa Productora y Comercializadora de Plaguicidas y Fertilizantes Naturales en Cañete, Proyecto SENREM, Lima.
- Redford, K. and S. Sanderson.** 1992. The brief, barren marriage of biodiversity and sustainability? *Bulletin of the Ecological Society of America* 73:36-39.
- Roca, R., L. Adkins, M. C. Wurschy, K. L. Skerl.** 1996. Wings from afar: An ecoregional approach to conservation of neotropical migratory birds in South America. The Nature Conservancy and USAID; Arlington, VA. 180p.
- Salazar, J.E.** 2000 El Banquero Exitoso del Tercer Milenio: La Fórmula Verde, Friedrich Ebert Stiftung, Lima, 146 pp.

SENATI 1999, Control de Gases Contaminantes de Vehículos Motorizados, Proyecto SENREM, Lima.

Solano, p. 1999 Hidrocarburos y Áreas Naturales Protegidas: Más Allá del Suelo y el Subsuelo, SPDA, USAID, Lima, 101 pp.

Southgate, D. 1991. Tropical deforestation and agricultural development in Latin America. Discussion Paper 91-01. London Environmental Economics Centre, London.

Southgate, D., H. L. Clark. 1993. Can conservation projects save biodiversity in South America? *AMBIO* 22:163-166.

TECNIDES 1999, Uso de Tecnologías no Convencionales para el Abastecimiento de Agua Potable y Letrinización en Zonas Rurales y/o Urbano Marginales, Proyecto SENREM, Lima.

Tratado de Cooperación Amazónica. 1995a. Uso y conservación de la fauna silvestre en la Amazonía. TCA, Secretaria Pro-tempore, Lima. 216p.

Tratado de Cooperación Amazónica. 1995b. Sustainability of the Amazon forest: Proposal of criteria and indicators for. TCA, Secretaria Pro-tempore, Lima. 45p.
[English + Spanish + Portuguese = 149p.]

Tratado de Cooperación Amazónica. 1996. Patentes, propiedad intelectual y biodiversidad Amazónica. TCA, Secretaria Pro-tempore, Lima. 456p.

Uhl, C., C. Jordan, K. Clark, H. Clark, R. Herrera. 1982. Ecosystem recovery in Amazon coating forest after cutting, cutting and burning, and bulldozer clearing treatments. *Oikos* 38:313-320.

Uhl, C., D. Nepstad, R. Buschbacher, K. Clark, B. Kauffman, and S. Subler. 1990. Studies of ecosystem response to natural and anthropogenic disturbances provide guidelines for designing sustainable land-use systems in Amazonía. *In:* A.

Anderson (ed.). Alternatives to Deforestation: Steps toward Sustainable Use of The Amazon Rain Forest. Columbia University Press. New York. p.24-42.

USAID - Perú 1997 Evaluación Comparativa de Riesgos Ambientales en la Salud en Lima Metropolitana - Informe Final, Chemonics Internacional y Asociados, PRIDE, Lima, 227 pp. + Anexos.

USAID - Perú 2000 El Medio Ambiente en el Perú, 2000, Instituto Cuánto, (Borrador), Tomo Principal y Anexos.

USAID/PERU Office of Rural Development, Project Paper, Sustainable Environmental and Natural Resources Management Project 527-0368, September 20, 1995

USAID/PERU R4, Results Review and Resources Request, FY 1996 – FY 1999, April 28, 1997.

USAID/PERU R4, Results Review and Resources Request, FY 1997 – FY 2000, April 14, 1998.

USAID/PERU R4, Results Review and Resources Request, FY 2001, March 12, 1999.

USAID/PERU, Convenio de Donación de Objetivo Estratégico entre La República del Perú y el Gobierno de los Estados Unidos de América para el Mejoramiento del Manejo Ambiental en Sectores Seleccionados, 25 de Agosto de 1999.

USAID/Peru, Results Review and Resource Request FY2002, 13 de Marzo, 2000.

Wallin, T. R., C. P. Harden. 1996. Estimating trail-related soil erosion in the humid tropics: Jatun Sacha, Ecuador, and La Selva, Costa Rica. *AMBIO* 25:517-522.

Wells, M. and K. Brandon. 1992. People and Parks: Linking protected area management with local communities. International Bank for Reconstruction and Development, Washington.

WRI, IUCN, UNEP. 1992. Estrategia global para la biodiversidad: Pautas de acción para salvar, estudiar y usar en forma sostenible y equitativa la riqueza biótica de la tierra. WRI, IUCN, UNEP; Washington. 244p.

Young, K. R. 1996. Threats to biological diversity caused by coca/cocaine deforestation in Peru. *Environmental Conservation* 23:7-15.

ANNEX E
ENVIRONMENTAL FUNDS AND OTHER DONOR PROGRAMS

ENVIRONMENTAL FUNDS AND OTHER DONOR PROGRAMS

ENVIRONMENTAL FUND (PROFONAMPE)

1. Name of Fund:

Fondo nacional para las áreas naturales protegidas por el estado (profonampe)
National fund for protected natural areas

2. Address:

Prolongación Arenales 722, San Isidro
E-mail: gquijandria@profonampe.org.pe

3. Telephone/fax:

441-5870, 441-8383

4. Head of the Technical Department:

Gabriel Quijandría Acosta

5. How and when established:

Established in late 1992, following the example of several successful new funding initiatives (mainly debt swaps) in other countries like Costa Rica and Bolivia.

6. Purpose of fund:

To provide stable and long term funding for the Peruvian biodiversity preserved into the National System of Protected Natural Areas (SINAMPE). This goal is pursued through finding and administering global financial resources.

7. Activities eligible for financing:

- Related to biodiversity conservation in the SINAMPE territory
- Creation, restoration, protection and maintenance of parks and reserves, either public or private
- Development and support of local conservation programs

8. Programs to date:

Apoyo a las áreas naturales protegidas (GEF). 1995, \$5.200.000

Financiamiento de costos recurrentes en nueve áreas naturales protegidas. (Germany) 1996-2005, \$6.100.000

Manejo Integral del Santuario Histórico de Machu Picchu. 1996-2001, (Finland), \$3.600,000

Protección de seis áreas naturales protegidas. (K f W, Germany), 1998-2003, \$6.000.000

Plan de acción ambiental para las zonas de amortiguamiento del Bosque de Protección Alto Mayo-margen izquierda del río Mayo. (Germany), 1996-2005, \$2.500.000

Desarrollo de la capacidad institucional del SINANPE para la gestión, administración y aprovechamiento sostenible de la biodiversidad y los recursos naturales en áreas protegidas (Germany), 1996-2005, \$2.500.000

Conservación de la biodiversidad en la Zona Reservada de Tumbes. (Donation Mac Arthur Foundation), 1995-1997, \$80.000

Fondo fiduciario Canada, 1996, \$354.000

Fondo de emergencia para guardaparques - FEGUARDA. (Donation Holland), 1995

Programa para áreas naturales protegidas en la sierra. (Holland), 2000, \$4.500.00

Proyecto Biodiversidad Amazónica. IIAP, Iquitos, \$1.000.000

Programa de pequeñas donaciones para proyectos (PNUD) 1999, \$250.000/year

9. Composition of Board of Directors:

- Head: representative of higher authorities of Ministry of Agriculture
- A representative from the Ministry of Economy and Finance
- A representative from Presidency of Council of Ministers
- Three representatives from the Peruvian Environmental Network
- A representative from the international technical cooperation agencies in Perú

10. Planned or proposed future activities:

Fortaleciendo la conservación de la biodiversidad y la administración de áreas protegidas a través de una mayor participación de la sociedad civil y el sector privado. (PROFONANPE 2), Banco Mundial, 2000-2010, \$15.000.000

11. Views on capacity of funding recipients, i.e. capable, need training??.

At present , funding recipients capability has been enhanced, but support is still needed.

**ENVIRONMENTAL FUND
(AMERICAS FUND)**

1. Name of Fund:

AMERICAS FUND OF PERU

2. Address:

Av. Ricardo Palma 857 Miraflores

3. Telephone:

447-9952

447-9953

4. Executive Director:

Eduardo Ishii Ito

5. How and when established:

- Program agreement by and between the government of the United States of America and the government of the Republic of Peru concerning the sale, reduction and cancellation of certain loans. June 26, 1997
- Agreement between the Government of the United States of America and the Government of the Republic of Peru concerning the establishment of an Americas Fund and Administering Board. December 24, 1997

6. Purpose of fund:

The purpose of the Fund is to promote activities designed to preserve, protect, or manage Peru's natural and biological resources in an environmentally healthy and sustainable way, and also to further the improvement of child survival and child development in Peru

7. Activities eligible for financing:

- Recovery, protection or sustainable use of oceans, the atmosphere and all other natural resources
- Recovery, protection, or sustainable use of wild or endangered animal and vegetable species
- Creation, restoration, protection and maintenance of parks and reserves, either public or private
- Development and support of local conservation programs
- Training programs, to strengthen conservation institutions and improve and strengthen the scientific, technical and administrative capacity of the persons and organizations committed to conservation efforts
- Development programs to improve survival and development of infant population at risk

8. Funding recipients to date:

They are currently involved in the evaluation and qualification process of their First Project Competiton. They already have received 269 Projects Profiles

9. Composition of Board of Directors:

- One representative appointed by the Government of the United States of America
- Two representatives appointed by the Government of the Republic of Peru
- Five representatives from a broad range of Peruvian environmental and local community development organizations, including child survival and child development, nongovernmental organizations, and scientific and academic bodies, selected by the Government of the Republic of Peru in consultation with these groups. These representatives shall be approved jointly by the Parties, and shall constitute a majority of the members of the Board

10.Planned or proposed future activities:

- Carry out our the First Project Competition.
- Invite non lucrative institutions to our Second Project competition, formulate the appropriate documents: evaluation guides, application forms, etc.
- Establish a data base with information related to the organizations carrying-out projects, and eligible institutions in the environmental and childhood survival fields.
- Formulate the Strategic Institutional Plan in a participative manner with Board Members of the Fund.
- To promote an assembly of non-governmental entities to select new representatives for the Board. This includes the preparing and approval of standards to select these new members.
- To organize in a joint manner with PROFONANPE and FONAM, an international forum related to environmental, economic and financial fields.

11.Views on capacity of funding recipients, i.e. capable, need training??.

These capacities are currently being evaluated. Possibly, it would be required some institutional strengthening activities will be needed.

DONOR REPORT

1. Name of Donor:

GTZ - GERMAN TECHNICAL COOPERATION

2. Address:

Fomento del Sistema Nacional de Areas Naturales Protegidas

FANPE – INRENA/GTZ

Los Petirrojos 355, Urb. El Palomar,

Lima 27, San Isidro

E-mail: fanpe@terra.com.pe

3. Telephone/fax:

225-1884

4. Name and Title of Director and/or Environmental Coordinator

Siegfried Kastl, Asesor Principal

5. Recently Completed Projects (last three years)

Medidas complementarias de reforestación. ONG H. Moche, Lima, 1997-1999, \$1.507.000

Conservación, manejo y uso sostenible de la diversidad biológica en la Reserva de Paracas. INRENA, Lima, 1997-1999, 280.500.

6. On going projects (last three years)

Conversión de la deuda alemana KfW-INRENA. INRENA, Lima, 1996-2006, \$4.950.000.

Minimización de impactos ambientales causados por operaciones auríferas en Madre de Dios. Ministerio de Energía y Minas-DGAA, Lima, 2000-2002. .

Desarrollo regional Jaén, San Ignacio, Bagua. INADE, Jaén, 1997-2005, \$1.850.000

Desarrollo alternativo Alto Mayo. INADE, Moyobamba, 1997-2000, \$1.925.000.

Varios proyectos de apoyo privado (Iglesias, AGRO-ACCION). \$2.000.000

Total annual funding for the projects below as a whole: \$ 7.500.000 (donation) y \$ 6 millones (loan)

Fortalecimiento del sistema nacional de áreas naturales protegidas (FANPE), INRENA, Lima, Cusco, Rioja. 1998-2002, \$4.400.000

Programa de agua potable y alcantarillado en ciudades seleccionados, PROAGUA, Chiclayo y Lima, \$6.453.000

Desarrollo rural en el valle del Colca, Arequipa.

Pequeñas y medianas irrigaciones en la sierra sur III (Plan Meris Inka-Apurímac), Cusco, Apurímac.

Desarrollo rural en Cajamarca (DR-Cajamarca), Ministerio de Agricultura, Cajamarca.

Asesoría al Sector Agricultura, Oficina de Planificación Agraria (OPA). Ministerio de Agricultura, Lima.

Proyecto de eficiencia energética en las pequeñas y medianas empresas del Perú. MITINCI, Lima.

Desarrollo integral Alto Mayo (DIAM), Moyobamba.

Asesoramiento a la Superintendencia Nacional de Servicios de Saneamiento, SUNASS, Lima.

Programa de Agua y Alcantarillado de Tumbes y Ayacucho, Ayacucho.

Fomento del cultivo y de la comercialización del café biológico, Cámara Peruana del Café, Lima.

Orientación de la investigación agraria hacia el desarrollo alternativo, IICA, Lima.

Programa Piloto para el Asesoramiento sobre Desarrollo Alternativo en Zonas de Riesgo, IICA, Lima.

7. Future activities:

Basically, they are continuing the ongoing process.

8. Views on critical environment needs:

The main objective of the German cooperation through FANPE is to support and fund the National System of Protected Natural Areas.

9. Views on AID activities:

GTZ representative knows and recognizes the importance of the diverse AID projects. But some concern is expressed about AID supported activities related to coffee promotion, due to their potential impacts on the mountainous, upper Amazon soils, protection forests, and protected natural areas.

10. Views on inter-donor coordination:

They consider the inter-donor coordination activities promoted by USAID and IRG very important and useful for the improved efficiency of environmental and natural resource external funding in Peru. They expect to continue their participation in future meetings.

DONOR REPORT

1. Name of Donor:

Inter American Development Bank (IADB)

2. Address:

Banco Interamericano de Desarrollo
Paseo de la República 3245, piso 13,
Lima 27, San Isidro
E-mail: alfonsoti@iadb.org

3. Telephone/fax:

215-7800/442-3466

4. Name and Title of Environmental Coordinator

Alfonso Tique Andrade
Especialista Sectorial

5. Recently Completed Projects (last three years)

Modernización en el sector pesquero, \$793.000

Apoyo a pequeños agricultores en Ayacucho, \$40.000

Apoyo a la Dirección General Forestal, INRENA \$35.000

Centro acuícola regional amazónico, \$20.000

Asistencia técnica al IIAP e INRENA, \$19.000

Producción limpia en CENERGIA - MEM, \$69.000

Pequeñas empresas rurales y energía renovable, \$180.000

6. On going projects

Centros de servicios empresariales, \$918.000

Apoyo al programa de pueblos indígenas, \$700.000

Apoyo a la Cámara Nacional Forestal, \$210.000

Implementación de un sistema de manejo ambiental, \$469.000

Fortalecimiento institucional ambiental. CONAM, Lima, 1996-2000, \$1.800.000

Desarrollo sustentable de la cuenca del río Madre de Dios. IIAP, Puerto Maldonado, 1998-2000, \$150.000

7. Future activities:

Basically, they are continuing the ongoing process. Environmental and natural resources projects under consideration to present are:

Trout culture in the Lake Titicaca, \$110.000.

Sustainable energy services, \$750.000.

Industrial sector energy efficiency, \$2.000.000.

Support to CEPERI-Biabo

8. Views on critical environment needs:

Both green and brown issues but primarily. Biodiversity and natural resources conservation and management, especially Amazon forests.

9. Views on AID activities:

USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:

They consider inter-donor coordination activities as needed and desirable.

DONOR REPORT

1. Name of Donor:

World Bank (WB)

2. Address:

Banco Mundial
Av. Pardo y Aliaga 640, piso 16,
Lima 27, San Isidro
E-mail: cmonge@worldbank.org

3. Telephones/fax:

442-9804, 442-8132, 442-0282, 421-7239/421-7241

4. Name and Title of Environmental Coordinator

Carlos Monge Salgado
Especialista en Desarrollo rural y Medio Ambiente (proyectos GEF)

5. Recently Completed Projects (last three years)

Pueblos indígenas, Ministerio de la Presidencia, Lima, \$5.000.000

6. On going projects

Manejo de los recursos naturales para el alivio de la pobreza en la sierra. Ministerio de Agricultura, PRONAMACHS, Lima, \$51.000.000

Gestión colaborativa para la conservación y el desarrollo de la Reserva de Biósfera del noroeste, Tumbes, Pro-NATURALEZA, 1999-2002, \$750.000

Programa de conservación comunitaria y desarrollo sostenible con comunidades indígenas en Vilcabamba. Conservación Internacional-Perú, 1999-2002, \$750,000

Manejo indígena de áreas protegidas en la Amazonía Peruana (Cordillera del Cóndor, Gueppi, Pacaya-Samiria, Purús, Cordillera del Sira), INRENA, 2000-2004, \$10.000.000

7. Future activities:

Mainly biodiversity participative conservation. Keep working mainly with GEF funds. Most important projects in preparation are:

Centro de Biodiversidad, CETA, IIAP, UNAP, Iquitos, Alpahuayo, Mishana. 2000-2004, \$3.000.000

Conservación de la biodiversidad a través del manejo de la cuenca del río Nanay. IIAP, 2000-2002, \$750.000

Conservación de los humedales de Virrilá-Illescas y San Pedro, costa norte del Perú, APECO, UNP, 2000-2002, \$750.000

Fortalecimiento de la conservación de la biodiversidad y la administración de áreas protegidas a través de una mayor participación de la sociedad civil y el sector privado (PROFONAMPE II), \$15.000.000.

8. Views on critical environment needs:

Indigenous people, biodiversity and natural resources, especially Amazon forests. WB representative considers very important to work with local groups specially with municipalities.

9. Views on AID activities:

USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:

WB considers inter-donor coordination activities as needed and desirable.

DONOR REPORT

1. Name of Donor:

CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA)

2. Address:

Embajada de Canadá
Libertad 130,
Lima 18, Miraflores,
E-mail: stephen.potter@dfait-maeci.gc.ca

3. Telephones/fax:

444-4015/444-4347

4. Name and Title of Environmental Coordinator

Stephen Potter
Primer Secretario (Cooperación Técnica)

5. Recently Completed Projects (last three years)

Varios proyectos en agua y saneamiento en pequeñas ciudades del interior y zonas rurales (Huaral, Tambo Grande, Nazca, Ica, Palpa) y áreas periurbanas de Lima, proyectos con Municipalidades, aprox. \$700.000/año

6. On going projects

Peru Energy Regulatory Assistance Project: environmental management and safety standards, biomass studies, MEM, Lima, 1998-2002, total: \$7.600.000.

Strengthening institutional Capacity of MEM Mining General Directorate, Lima, 1999-2001, total: \$3.500.000.

7. Future activities:

Keep present projects, plus water related projects in the coastal areas and land use in coastal and Andean regions. Climate change. Probable support to environmental control related activities of the Contraloría Nacional. A Canadian environmental mission will visit Peru in December 2000.

8. Views on critical environment needs:

Mainly water quality related ones, in anticipation of future demand pressures.

9. Views on AID activities:

There has been only limited environmental related contact with USAID.

10. Views on inter-donor coordination:

Wish to be informed on inter-donor coordination activities.

DONOR REPORT

1. Name of Donor:

AGENCIA ESPAÑOLA DE COOPERACIÓN INTERNACIONAL (AECI)

2. Address:

Miguel Dasso 117, 2do. piso,
Lima, 27, San Isidro
E-mail: jhermoza@aeci.org.pe

3. Telephones/fax:

440-7832, 222-6890, 421-6416/221-2301

4. Name and Title of Environmental Coordinator

José Hermoza Jerí
Consultor de Proyecto

5. Recently Completed Projects (last three years)

No information.

6. On going projects

Defensoría del Pueblo y comunidades nativas amazónicas, Oficina de la Defensoría del Pueblo en Lima, y ciudades de selva, 1999-2001, \$800.000

Bosques húmedos de Varzea, Pacaya-Samiria (Programa Araucaria). CTAR, Loreto, Iquitos, 1999-2001, \$2.500.000

Valle del Colca y Reserva Nacional Salinas-Aguada Blanca (Programa Araucaria). CTAR, Arequipa-DESCO, Chivay, 1999-2001, \$2.500.000

Apoyo al desarrollo del sector pesquero. Instituto Tecnológico Pesquero de Paita, IMARPE, litoral y Titicaca, 1999-2001, \$900.000

7. Future activities:

Institutional strengthening, education and modernization of productive activities

8. Views on critical environment needs:

Sustainable production, biodiversity preservation and institutional support.

9. Views on AID activities:

USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:

AECI considers the inter-donor coordination activities something worth while and in which they would like to participate.

DONOR REPORT

1. **Name of Donor:**
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)
2. **Address:**
Manuel Almenara 328
Urbanización Aurora,
Lima 18, Miraflores,
E-mail: FAO-PER@field.fao.org
3. **Telephones/fax:**
446-2985, 446-8698, 447-9849/447-2640
4. **Name and Title of Environmental Coordinator**
Manuel Villavicencio
Oficial de Programa
5. **Recently Completed Projects (last three years)**
Apoyo al Proyecto Nacional de Manejo de Cuencas Hidrográficas y Conservación de Suelos (PRONAMACHCS), FAO-Holanda, \$7.000.000

Mataderos modulares, Municipalidad Distrital de Maranganí, Sicuani, Cusco

Ecología, Comunicación y Educación (trabajo con municipios), FAO-Suiza
6. **On going projects**
Apoyo a la estrategia nacional de desarrollo forestal, Ministerio de Agricultura, Lima, 2000-2003, FAO-Holanda, \$2.000.000

Manejo integrado de plagas, SENASA, Lima, 2000-2004, FAO-Holanda, \$2.000.000

Integración fronteriza Perú-Ecuador, Catamayo-Chira, INADE-CTAR, Piura, 2000, TCP, \$300.000
7. **Future activities:**
Andean and coastal agriculture, and Amazon forestry.
8. **Views on critical environment needs:**
Water pollution by mining; water quality in urban areas, Amazon deforestation.
9. **Views on AID activities:**
USAID funding amounts and allocation are considered important.
10. **Views on inter-donor coordination:**

FAO considers inter-donor coordination an important activity.

DONOR REPORT

1. Name of Donor:
FINNISH COOPERARION

2. Address:
Av. Víctor Andrés Belaúnde 147,
Edificio Real Tres, 5to. Piso, Ofic.. 502,
Lima 27, San Isidro,
E-mail: finlandia@computextos.com.pe

3. Telephones/fax:
222-4466/222-4463

4. Name and Title of Environmental Coordinator
Mikko Pyhala
Embajador de Finlandia

5. Recently Completed Projects
No information

6. On going projects (last three years)
Apoyo al Santuario Histórico de Machu Picchu, INRENA, \$9.000.000 (canje de deuda)

Proyectos de desarrollo de fronteras en la cuenca del Napo, \$2.000.000

7. Future activities:
Activation of present projects. Private PNAs as interesting alternatives.

8. Views on critical environment needs:
Biodiversity , Andean region, and Amazon forests

9. Views on AID activities:
USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:
The Finnish Ambassador participates in inter-donor coordination activities and strongly believes they must be maintained and enlarged.

DONOR REPORT

1. Name of Donor:

FONDO DE CONTRAVALOR PERU - FRANCIA

2. Address:

Calle La Habana 110,

Lima 27, San Isidro

E-mail: mporras@ambafrancia.com.pe

3. Telephone/fax:

222-5999/222-5622

4. Name and Title of Environmental Coordinator

Máximo Porras Salvador

Asistente Técnico

5. Recently Completed Projects (last three years)

Varios proyectos sobre medio ambiente, varios ejecutantes, Lima e interior del país, 1993-2000, \$872.436

Varios proyectos sobre recursos hídricos, varios ejecutantes, Lima e interior del país, 1993-2000, \$422.240

6. On going projects

Rimac watershed, water related, health, other environmental issues and education.

7. Future activities:

Agricultural production projects mainly with municipalities, NGOs and local groups.

8. Views on critical environment needs:

Mostly related with human basic needs, and water issues in Andean and Amazon regions.

9. Views on AID activities:

USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:

Are not aware of inter-donor coordination activities, but would like to know more about them.

DONOR REPORT

1. Name of Donor:

HOLLAND EMBASSY

2. Address:

Av. Principal 190, 4to. Piso,
Urbanización Santa Catalina,
Lima 13, La Victoria,
E-mail:

3. Telephones/fax:

476-1069, 476-1193, 476-1266

4. Name and Title of Environmental Coordinator

Robert Nijhof and Jan Keesverkoojens (from June on Mrs. Gina Gálvez)
Coordinators of Environment and Natural Resource Projects

5. Recently Completed Projects (last three years)

Eco-desarrollo del Santuario Nacional Lagunas de Mejía e Irrigación Iberia, PRODENA, INRENA, Ministerio de Agricultura, Arequipa, 1996-1999, \$250.000.

Apoyo a plantaciones forestales con fines energéticos en Sierra (FAO-Holanda III), PRONAMACHCS, Lima, 1993-1998, \$4.576.022.

Plantaciones forestales en el Perú (FAO-Holanda), PRONAMACHCS, Lima, 1995-1998, \$2.388.180.

Proyecto Algarrobo Fase III. Ministerio de Agricultura - Dirección General Forestal, 1992-1997, \$3.249.430.

Manejo y uso integral de manglares de Costa Nor-Oeste. Pro-NATURALEZA, 1995-1999, \$58.650

Fondos para la energía renovable, COFIDE, 1996-2000, \$4.834.850.

Integración de educación ambiental sobre bosques tropicales en curriculum escolar de educación primaria, SPDA, 1996-1998, \$248.450.

Silvopasturas y desarrollo de las comunidades campesinas de las microcuencas altoandinas del río Llaucán, INRENA, 1997-2000, \$1.362.390

6. On going projects

Manejo de bosques secundarios en Amazonia para comercio. Cámara Forestal, 1997-2002, \$3.317.270.

Conservación de bosques comunales en la Amazonia Peruana, Pucallpa. SNV, REDFOR y AIDSESP, \$1.500.000

Conservación de los bosques de la Amazonía alta en la selva central del Perú. Parque Nacional Yanachaga-Chemillén. INRENA y Pro-NATURALEZA, 1997-2002, \$3.416.754

Proyecto integral de conservación y desarrollo en el Parque nacional Bahuaja-Sonene y su área de influencia, Madre de Dios. Pro-NATURALEZA e INRENA, 1998-2002, \$1.500.000.

Fortalecimiento de la capacidad local para el desarrollo y conservación integrada de montañas en la Reserva de Biósfera del Huascarán y la cordillera de Huayhuash. TMI, Huaraz, 1997-2000, \$1.362.390

Conservación ecosistemas tropicales y uso sostenible de RRNN en Zona Reservada Tambopata. INRENA, 1997-2000, \$1.345.500.

Conservación de bosques amazónicos altos en Selva Central. INRENA, 1997-2002, \$883.000.

Manejo de RRNN y desarrollo productivo en la sub-cuenca del río Cumbaza en San Martín. ONG HIVOS, 1997-2002, \$1.267.760

Manejo integral de los bosques secos de la costa norte en el post-niño y plan de manejo de la zona reservada Batán Grande, INRENA, 1998-2002, \$4.102.500

7. Future activities:

They are looking for better and more efficient cooperation alternatives. Probably through institutional and policy sector support.

8. Views on critical environment needs:

There must be a drastic reduction of environmental pressures without compromising economic growth. PNAs, Forestry sector, sustainable forest management..

9. Views on AID activities:

USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:

The Holland representatives consider the inter-donor coordination activities in which they have had strong participation, important and useful. They consider that these meetings should focus on commitments identification, evaluation of topics of interest and possible conflicts, and agencies' activities coordination.

DONORS REPORT

1. Name of Donor:

UNITED NATIONS DEVELOPMENT PROGRAM (UNDP)

2. Address:

Av. Benavides 786

Lima 18, Miraflores,

E-mail: alberto.giesecke@pnud.org.pe

3. Telephones/fax:

447-0054, 241-0544/241-4839, 447-2278

4. Name and Title of Environmental Coordinator

Alberto Giesecke

Oficial de Programa (proyectos GEF)

5. Recently Completed Projects (last three years)

Estrategias para conservación de diversidad biológica del Perú, CONAM, 1997-1998, \$227.150.

Apoyo a Perú en preparación de documento ante Convención sobre Cambio Climático, CONAM, 1997-1998, \$195.500.

6. On going projects

Gestión regional y local del desarrollo sostenible, Capacidad 21 CONAM, 1997-2000, \$800.000.

Conservación de la biodiversidad en la cuenca del lago Titicaca-Desaguadero-Poopó-Salar de Copaisa (Binacional) 1998-2001, Perú \$ 2.000.000

Electrificación rural a base de energías fotovoltaica en el Perú, 1998-2002, \$7.776.093

Conservación in-situ de cultivos nativos, 1999-2004, \$6.421.000

Programa de pequeños subsidios \$400.000 por año

Conservación y uso sostenible de la diversidad biológica en el bosque seco del norte del Perú y sur del Ecuador, \$10.000.000

Conservación y uso sostenible de ecosistemas acuáticos en la Amazonia peruana, \$7.500.000

Conservación de los ecosistemas de lomas costeras del Perú, \$7.000.000

Conservación y uso sostenible de ecosistemas marinos y costeros del Perú, \$3.800.000.

Establecimiento de un sistema de áreas protegidas en el Departamento de Ucayali en la Amazonia peruana, \$4.000.000.

Conservación de la diversidad biológica en los bosques de neblina del Perú, \$5.000.000.

Conservación de la diversidad biológica y control de la desertificación en ecosistemas alto-andinos en el Perú, \$11.900.000.

Desarrollo de las potencialidades de la diversidad biológica para eco-negocios con participación de la empresa privada, \$4.200.000.

Conservación de especies endémicas y en peligro de la flora y fauna del Perú, \$8.700.000

Conservación de aves migratorias y ecosistemas de humedales en la costa y Andes del Perú, \$4.600.000.

Inventario y conservación de recursos genéticos del Perú \$8.400.000.

Se estima un financiamiento total de \$75.000.000 para 5 años para los siguientes proyectos ambientales y de recursos naturales seleccionados:

2 aprobados sobre lomas costeras y territorio indígena Amarakaeri;

5 en vías de aprobación aún sin respuesta, sobre biodiversidad en la cuenca del Cotahuasi; biodiversidad y ecoturismo en el bosque seco de la costa; ecosistemas andinos, pastos y camélidos; manejo sostenible de recursos de la cuenca del Nanchoc, Zaña; y especies promisorias de la flora amazónica.

2 listos para ser presentados: Santuario Nacional de Ampay y cuenca del río Nariño; y reserva genética para caoba.

8 que están siendo corregidos por sus autores: desertificación de bosques de algarrobo; nueva tecnología para energía y agroindustria; pequeñas cocinas a gas; sistemas de energía renovable en la Amazonia; lomas de Pachacamac; repoblación de camélidos sudamericanos; modelo de manejo de la biodiversidad y cambio climático por medio de energía solar; y uso de energías renovables por micro-empresas.

7. Future activities:

Activate delayed projects and improve the control of expenditures. Possible issues for more active involvement are wetlands and climate change.

8. Views on critical environment needs:

Biodiversity conservation.

9. Views on AID activities:

USAID funding amounts and allocation are considered important.

10. Views on inter-donor coordination:

UNDP considers the inter-donor coordination activities a need for handling critical issues and for dealing with the Government of Peru.

DONOR REPORT

1. Name of Donor:

COSUDE – SWISS DEVELOPMENT AND COOPERATION
SECO – SE

2. Address:

Las Flores 459,
Lima 27, San Isidro,

3. Telephone/fax Number:

441-5570/442-9076

4. Name and Title of Director and/or Environmental Coordinator

Isabel Perich,
Consejera Adjunta

5. Recently Completed Projects (last three years)

REDINFOR: Started in 1984 to 1998. In all the country. Forest documentation.

PEEFORM: Started in 1988 to 1999. In Ancas, Cajamarca, Cusco, Junin, and Puno.
Related with education in forestry.

6. On going projects

Masal Project: Started in 1997 in Cusco and finish date September 2001. The counterpart is the Agriculture Ministry – PRONAMACHCS. Sustainable management of land and water on mountainsides in the Andes, through the support to the Andean communities with technical assistance and training programs. The funding is US\$ 2.1 millions.

GAMA: Started in January 2000 and will go to December 2002 located in Puno and in the south east region of the country. The counterparts are Ministry of Energy and Mines, NGOs and Small mining communities. Supports sustainable development of micro-mining, since there are almost 40 thousand poor people dedicated to this activity. The project includes training and educational programs, improvement of health conditions, legal advisory support. The funding is US\$ 1.33 million.

Biodiversity: Started in 1993 to December 2000 and is a regional Program with Bolivia and Ecuador. Is located in Cusco, Cajamarca, Cerro de Pasco and the central sector of the Andes in Peru. The counterparts are CIRMMA, BIOGEN, and Universities. Conservation, production, marketing and processing of Andean tubers crops. Funding is US\$ 2.03 millions.

Fondo Contravalor: Started in 1994 to June 2000, to be located all over the country. The counterparts are different NGOs (50%) and State Agencies (50%). There were over 100 different projects. This Fondo dedicated around 60% of the funding to Natural Resources

projects. The funding is US\$ 34 millions and it came from the bilateral negotiations on the public debt between Peru and Switzerland.

7. Future activities:

Basically, they are continuing the ongoing process. In particular they are planning to support the establishment of a Cleaner Production Center in a joint venture with USAID. The funding will be around 0.7 million.

8. Views on critical environment needs:

The priority sectors are: water and sewerage, small and micro-business support, sustainable agriculture and governance. The important thing to take into account is that they are a cross-sectoral in their approach to the environment and gender issues.

9. Views on AID activities:

They recognize the importance of the projects that had been supported by AID. They consider the AID activities as a comprehensive approach.

10. Views on inter-donor coordination:

They have been working together (joint ventures) with other donor like the IADB, Holland Gov., AID, GTZ, PNUD, UNICEF, World Bank, etc. They found it very useful, important and interesting to work with other partners.

DONORS REPORT

1. Name of Donor:

EUROPEAN UNION

2. Address:

Manuel Gonzales Olacchea 247,

Lima 27, San Isidro,

E-mail: smuller@delper.cec.eu.int

3. Telephones/fax:

212-1132, 212-1135

4. Name and Title of Environmental Coordinator

Stephan Muller

Environment and Natural Resources Projects

5. Recently Completed Projects (last three years)

Medio ambiente en países en vías de desarrollo. 2000.

Producción sostenible en la comunidad Amazónica, fase de consolidación (CASPI-2).

CARE, Iquitos, 1994-2000, \$1.690.000.

Reforestación con algarrobo aprovechando el evento el Niño (investigación). Universidad de Piura, \$135.000.

6. On going projects

Manejo sostenible de la Reserva del Manu. CTAR Madre de Dios, INRENA, 1999-2003, \$6.300.000

Manejo de residuos sólidos en el cono norte. Lima, 2000, \$963.000

Manejo de recursos madereros en Cajamarca (capacitación). ADEFOR, Cajamarca, \$780.000

Manejo de recursos naturales en el Alto Mayo. ITDG, 1997-2001, \$470.000

7. Future activities:

Institutional strengthening: INRENA

8. Views on critical environment needs:

Amazon region, resource management and biodiversity.

9. Views on AID activities:

USAID funding amounts and allocation are considered important. There are some contacts between EU and USAID on health and drug issues.

10. Views on inter-donor coordination:

EU representative considers that inter-donor coordination activities are important and needed.

ANNEX F

ACTIVITY EVALUATION REPORT: SENREM, EH, AND CEPCOM

ACTIVITY EVALUATION REPORT: SENREM, EH, AND CEPCOM

EXECUTIVE SUMMARY

This is a Mid-Term Evaluation Report of USAID/Peru's Sustainable Environmental and Natural Resources Management (SENREM) Activity, including the Clean Production/Industrial Pollution Prevention (CEPCOM) and Consolidation of the Environmental Network (CONEF) components. This report also assesses the soon-to-be-initiated Environmental Health (EH) Activity and offers recommendations for its implementation.

The **goal** of SENREM is improved conservation and use of natural resources in Peru. The **purpose** is to increase the capacity of public and private institutions to identify and resolve environmental and natural resources (ENR) problems.

SENREM has five desired Intermediate Results (IRs):

1. Strengthen the environmental policy-making and implementation capacity of government institutions, especially the National Environmental Council (CONAM);
2. Improve Peru's environmental laws and framework;
3. Provide reliable information that meets the decision-making needs of all sectors involved in environmental policy making;
4. Strengthen the private sector's capacities for consensus building, problem solving, and environmental policy dialogue; and
5. Develop and test cost-effective, financially sustainable ENR practices and technologies.

To achieve these results, SENREM was designed with three components:

1. Legal, regulatory, and policy framework impacting on the first three IRs above;
2. Private sector advocacy impacting on the fourth IR; and
3. Demonstration projects impacting on the fifth IR.

FINDINGS AND CONCLUSIONS BY COMPONENT

COMPONENT A: LEGAL, REGULATORY, AND POLICY FRAMEWORK

Findings and Conclusions

The assistance provided under SENREM under Component A to CONAM has been successful in helping establish CONAM operations and in providing a significant amount of the technical support it needed to create a foundation for Peru's environmental policy and regulatory framework. In comparison to progress in other countries, USAID assistance has helped Peru achieve impressive advances in environmental policy, law, and regulations in a short time. The policies and regulations for managing industrial pollution are generally in place. However, CONAM and Government of Peru ministries have much work remaining to do on the policies, regulations, and authorities needed for effective enforcement of standards; promotion of real pollution prevention in industry; and creation of market demand for improved industrial environmental performance.

Recommendations

The remaining SENREM assistance to CONAM should focus on four areas:

- a) SENREM should bring in other national institutions with policy and regulatory analysis capability to help complete products currently under development or planned by CONAM. Further technical assistance should be given to CONAM and ministries in partnership with local nongovernmental institutions, especially universities. The implementing unit (UEP) within CONAM should facilitate this.
- b) SENREM should help CONAM and relevant Peruvian stakeholders in this component learn more about the "best practice" environmental policies and frameworks worldwide and how they could apply in Peru.
- c) SENREM should help CONAM create a facilitating framework for local management of the environment, recognizing that the Regional Environmental Councils (CARs) are coordinating organizations and the greatest burden for real action on environmental enforcement and improvement will fall on local governments.
- d) SENREM should help CONAM engage the financial sector in its programs. The financial sector has been largely left out of SENREM activities, yet it is crucial for increasing private sector advocacy for the environment and can play an important role in a comprehensive environmental policy framework.

COMPONENT B: PRIVATE SECTOR ADVOCACY

Findings and Conclusions

Performance under Component B has resulted in considerable progress being made toward achievement of IR4, "Strengthen the private sector's capacities for consensus building, problem solving, and environmental policy dialogue." The establishment of the National Environmental Society as an umbrella organizations for environmental nongovernmental organizations (NGOs) and networks and the work done by each of the participants on this component have been important steps in this direction. The contractor and subcontractors have made good progress in complying with their terms of reference and have been strengthened by their participation in SEMREN. More needs to be done to realize synergies within and between project sub-activities.

Recommendations

The general contractor for Component B should organize a management retreat for all of the implementing subcontractors under Component B of SENREM to help guide the entire component in meeting its original goals, creating synergies between and among elements, and improving the management capacities of the individual subcontractors.

COMPONENT C: DEMONSTRATION PROJECTS

Findings and Conclusions

Thus far, this component has made good progress toward achieving IR5, "Develop and test cost-effective, financially sustainable Environment and Natural Resources (ENR) practices and technologies." The process followed for soliciting, evaluating, and approving proposals was carried out effectively and served as a model for similar programs, such as the Americas Fund and the BIOFOR pilot projects. The competitive grants program was open to both "green" and "brown" projects. Most of the proposals for the first competition were "green." The second competition was more balanced. Although sustainability was emphasized in proposal preparation, some of the projects visited may need additional support to achieve financial sustainability. The costs of administering the demonstration projects are high because the projects are scattered around the country and because more grants were given than originally planned. Because funds have been fully allocated, no future grants will be issued under this component.

Recommendations

All of the demonstration projects should be examined to see whether there are any opportunities for leveraging and synergy that are not being exploited. Some of the remaining funds available under Component B could be used to hold a general meeting of the grantees to help them share experiences and find opportunities for partnerships in the future. If USAID funds similar programs in the future, they should be designed with a geographic focus to increase the potential for synergy and reduce project supervision costs.

Clean and Efficient Production Component

The base for this activity was established with the initial fishmeal pollution prevention demonstration project and subsequent Clean Production (CP) activities carried out under SENREM. In 1999, a team of U.S. consultants produced an activity design for CEPCOM. The activity has not started yet.

As USAID/Peru prepares to implement CEPCOM, the evaluation team has a general observation on the activity and several recommendations on the individual sub-activity components. The general observation is that the promotion of CP in a society requires a broader vision of policy and institutional development than is expressed in the design document. It requires participation by the financial sector, macroeconomic planners and managers, the educational system, and the general public to build demand for greener products, training of industry, and more. The CEPCOM design proposes to support the Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales (MITINCI) with policy and technical assistance on the supply side. Careful attention also should be given to building demand if CEPCOM is to fully realize its potential.

A number of technology and business development centers either have been established or are being established in Peru. Some are sector-specific; others have general business and technology expertise. Several universities have initiated programs on the environment, and some business schools are interested in developing executive education and regular degree classes on environmental management. At the same time, the business community is more aware and more interested in promoting environmentally sustainable economic development. The proposed CEPCOM should capitalize on these resources to become a center for training trainers in CP concepts, tools, and applications. The proposed Clean Production Center (CPC) should create consortia of other organizations that can help targeted companies and facilitate use of their skills and resources to create CP outcomes. The center's work with individual firms should be limited to the initial stages of project implementation for demonstration purposes. The CPC also should help integrate CP concepts into university and other industry education programs. To support this, a CP information clearinghouse should be established in a university with a good business library and solid reference collection management capabilities. It should use a "best practices" information collection strategy, recognizing that CP is happening around the world and the most relevant solutions for Peru will often come from other developing countries.

The CP advisor based at MITINCI should report to and work with the Vice Minister for Industry as well as with the MITINCI environmental office. The goal should be to help MITINCI establish collaborative relationships with other ministries (e.g., Finance, Agriculture) and to promote understanding among ministries of the many concepts and dynamics needed to promote CP on a broad scale.

Consolidation of the Environmental Framework

The evaluation team believes that design and implementation of the proposed CONEF activity should be reconsidered. If USAID decides to pursue the revised strategic framework suggested by this evaluation, some of the resources programmed for CONEF could be used for a simple amendment of the SEMREN and BIOFOR activities to meet urgent funding needs, with the balance of the CONEF funds redirected to begin funding the revised strategic framework for FY2002-2006. This would obviate the need to design two new activities (CONEF and the elements of a revised strategic framework) in a relatively short time.

Environmental Health

The EH activity is designed and authorized, but implementation has not yet begun. This creates an opportunity to more closely integrate the EH activity with SENREM and the activities contemplated under CEPCOM.

Recommendations

To better integrate the EH activity with actions to be undertaken through CEPCOM, the Directorate General for Environmental Health of the Ministry of Health (DIGESA) and the CPC should work together to focus on businesses in peri-urban areas that are creating EH problems. A risk assessment study could identify the types of businesses that should be targeted. Surrounding communities should be trained in how to work with the targeted companies to achieve the mutual goals of improved resource productivity and reduced pollution. To provide added incentives for CP, selected local governments could be trained in how to write local ordinances that require polluting companies to develop CP plans that could be shown to local leaders.

The EH activity should support DIGESA in an analysis of the economic costs of poor environmental health in all sectors of Peru, and the results should be packaged and marketed using a customer segmentation approach (e.g., business executives, policy makers, local government leaders). CONAM should use the results of the study to ensure that EH issues are addressed in environmental planning regulations, such as the environmental impact assessment (EIA) and Programas de Adecuación del Medio Ambiente (PAMAs) guidelines.

Another policy development opportunity would be for the EH activity to include a policy study that looks at the local regulatory authorities of DIGESA and the municipalities and

examines how these authorities can be used to protect environmental health using CP approaches.

CROSSCUTTING FINDINGS AND CONCLUSIONS

SENREM has made substantial progress in achieving Strategic Objective 4, "Improved Environmental Management in Targeted Sectors." A basic legal, regulatory, and policy framework is in place. Important institutions have been strengthened. Innovative technologies are being developed and tested. There is increased awareness of an interest in environmental concerns.

With this stronger base in place, the evaluation team believes that, in a second phase of USAID support, the emphasis in SENREM on creating policy and technology products should be shifted to focus more on an effort to create market demand for and increased capacity to apply these products. Assistance to the Government of Peru should focus on creating reasonable targets for environmental performance and positive, tangible incentives for achieving them. Assistance to the private sector should focus on environmentally sustainable economic development that emphasizes growth and profit as the motives, and new skills and productivity as the means to ensure sustainability.

CONAM has helped to create a framework that includes environmental standards and planning and analysis tools. CONAM's ability to develop more elements of a comprehensive environmental framework is somewhat hampered by a lack of interaction with some sectors (the National Institute for Natural Resources [INRENA] and the Ministry of Finance), uncertain support at the highest levels, and budgetary constraints. The major challenge in this second phase would be the application at the local level of the policies and technologies that have been developed with assistance from SEMREN.

The environmental challenges that USAID and the Government of Peru have attempted to address through SENREM are similar to those facing developing countries worldwide. In many countries, innovative solutions to environmental challenges have been found and are documented. The spread of the Internet now makes it possible for people throughout Peru to learn about and use these solutions and resources. In all USAID environmental activities, project design should begin with training on how to use the Internet to find what has worked elsewhere. This benchmarking approach is applicable within Peru as well. Environmental activities are under way and solutions are being found throughout Peru in almost every sector and type of institution. The evaluation team found many local instances of valuable skills and solutions that were unknown to others using USAID funds to develop similar skills and solutions. USAID should ensure that all of its projects include support for doing inventories of potentially related activities at the earliest possible stage.

INTRODUCTION

Background

Peru is a country whose wealth has historically been based in natural resources, including mining and fishing. It also is recognized as a leading region of natural biodiversity. As the world's leading producer of coca used in the production of cocaine, there has long been concern about helping farmers in coca-producing areas find alternative crops and businesses that will reduce the amount of coca grown. Until the early 1990s, USAID/Peru responded to these issues with environmental strategies primarily focused on the "green" or natural resources aspects of Peru, rather than the "brown" or pollution aspects of environmental degradation.

In 1994, USAID prepared a comprehensive Mission Environmental Strategy (MES). It identified three major priorities for USAID: policy and regulatory reform, pollution prevention, and conservation of biological diversity and protection of fragile ecosystems. Concurrently, USAID re-engineered itself to operate in pursuit of strategic objectives. At the same time, USAID responded to the Environmental Initiative for the Americas program of the Latin America and Caribbean (LAC) Bureau by preparing and receiving approval for five proposals dealing with the "brown" environment.

To provide a framework and provide further support for SO4, USAID initiated the SENREM activity in 1995 with the **goal** of improved conservation and use of the natural resource base in Peru. The project **purpose** is to increase the capacity of public and private institutions to identify and resolve environmental and natural resource problems. SENREM is primarily focused on the "brown" aspects of meeting the SO4 goals; USAID also implemented a BIOFOR project under SO4—discussed separately—that responds to "green" challenges and opportunities

SENREM has five desired Intermediate Results (IRs):

1. Strengthen the environmental policy-making and implementation capacity of government institutions, especially CONAM;
2. Improve Peru's environmental laws and framework;
3. Provide reliable information that meets the decision-making needs of all sectors involved in environmental policy making;
4. Strengthen the private sector's capacities for consensus building, problem solving, and environmental policy dialogue; and
5. Develop and test cost-effective, financially sustainable ENR practices and technologies.

To achieve these results, SENREM was designed with three components:

1. Legal, regulatory, and policy framework impacting on the first three IRs above;
2. Private sector advocacy impacting on the fourth IR; and
3. Demonstration projects impacting on the fifth IR.

The performance indicators of SENREM have been refined over time and currently are:

- Number of policy instruments and management tools developed;
- Number of policy/legislation overlaps, inconsistencies, or gaps eliminated;
- Level of stakeholder participation in achieving these results;
- Percentage of public that understands and is concerned about ENR problems;
- Number of ENR private sector activities;
- Number of ENR technologies demonstrated in pilot projects;
- Number of ENR technologies replicated or adopted in non-pilot areas; and
- Number of industrial plants implementing CP.

The implementing structure of SENREM is as follows:

A. Legal, Regulatory, and Policy Framework

- A.1. Technical Assistance to CONAM and Government of Peru Ministries
- A.2. Public Sector Environmental Training
- A.3. Environmental Information
- A.4. CONAM Implementing Unit

B. Private Sector Advocacy

- B.1. Policy Research
- B.2. Permanent Ecological Forum
- B.3. Industry Seminars
- B.4. State of the Environment Report
- B.5. Municipal and Community Environmental Monitoring
- B.6. Clean Production Program

C. Demonstration Projects

As SENREM was being designed, USAID was implementing the five LAC-funded environmental projects. Of these, three were fully implemented. One (CP in fishmeal processing) is receiving additional support and is now managed and reported in the USAID system under Component B.6. Two (Comparative Environmental Risk Assessment for Greater Lima, and Community-Based Solid Waste Management) were completed and are reported under Component C as demonstration projects.

Two other actions are planned as part of SENREM. The **Clean and Efficient Production/Industrial Pollution Prevention Element** will continue and expand the work begun under Element B.6. USAID has developed a draft design for CEPACOM. A **Consolidated Environmental Framework** element is expected to provide further integrative support to policy and other activities. CONEF has yet to be designed.

An **Environmental Health Activity** has been designed and approved with DIGESA as the proposed Government of Peru partner institution. It is targeted at peri-urban areas to improve environmental health services and conditions in targeted communities and to improve policies that promote environmental health.

Management and Implementation Arrangement Conditions

In July 1995, USAID began implementing the five environmental projects using funds from the Environmental Initiative for the Americas. The SENREM project design was approved in September 1995, and contractors were given notice to proceed in early 1997.

Component A is implemented by direct financial assistance to CONAM and by a U.S. technical assistance provider (TAP) based at CONAM. Abt Associates, the TAP, is contracted directly by USAID and has several subcontractors. Components B and C are implemented through a contract with a consortium of Peruvian institutions led by the Peruvian Society for Environmental Law (SPDA), with one exception: Element B.6, Clean Production Program, which Abt has been supervised and which includes follow-up to the fishmeal project originally funded by LAC Bureau.

BRIEF ACTIVITY DESCRIPTIONS

Component A: Legal, Regulatory, and Policy Framework

Implementing Mechanism

USAID's mechanism for this component includes: (1) A TAP contract with a consortium of U.S. consulting firms and (2) funding for a UEP within CONAM staffed by Peruvian nationals. The TAP includes (a) provision of an in-country advisor who resides in Lima and is based at CONAM and who works at CONAM and in the Government of Peru ministries CONAM is supporting, and (b) short-term technical assistance consultants who visit CONAM and its stakeholders to help with technical and policy inputs.

Element A.1: Technical Assistance to CONAM and Government of Peru Ministries

This element strengthens CONAM and provides technical assistance for meeting CONAM's objectives in environmental regulation and policy development. It is primarily implemented by the in-country advisor, with assistance from the UEP team. CONAM determines its needs, and the in-country advisor identifies appropriate U.S. expertise. The advisor also develops products for CONAM and client ministries.

Element A.2: Public Sector Environmental Training

This element includes a diverse collection of environmental training and information activities, including workshops for public officials, a recycling education program for primary and secondary schools, establishment and strengthening of CONAM's CARs, and other activities.

Element A.3: Environmental Information

The goal of this element is to provide useful and timely information to CONAM and to interested stakeholders outside of CONAM. The element primarily supports the establishment of a management information system (MIS) within CONAM. It also supports sponsorship of different environmental events, such as the Eco-Dialogo.

Element A.4: CONAM Implementing Unit

This element is not part of the original SENREM design but is reported as a separate element by CONAM. SENREM supports a team of professionals, the UEP, within CONAM to implement SENREM-funded activities. Four professional staff are supported who work closely with the in-country advisor.

Component B: Private Sector Advocacy

Implementing Mechanism

This component is implemented by a contract between USAID and a private sector organization. The contractor is the Sociedad Peruana de Derecho Ambiental (SPDA), an NGO formed to promote environmental law in Peru. SPDA created a consortium of itself and other organizations to implement this component. The consortium led by SPDA was selected by USAID and CONAM through a full and open competitive process involving more than 10 U.S. and Peruvian institutions and consortia. (SPDA, in a joint effort with the National Fisheries Society, had been selected several months earlier through a competitive process to implement the fishmeal pollution prevention project.)

A management team that works within SPDA administers the various activities. SPDA also implements the current activities under Component C, Demonstration Projects, but did not manage implementation of the five demonstration projects that USAID initiated in 1995.

Element B.1: Policy Research

The goal of this element is to support Peru's environmental policies and framework with research into specific policy areas, including a specific goal of reducing environmental risks, and outreach with the results. SPDA implements this activity within the consortium it manages. Under the SPDA contract, \$240,000 were budgeted for three policy research studies. One study was to be conducted by SPDA and the other two by other institutions to be selected. SPDA has been able to stretch its \$80,000 to fund three studies instead of one, leaving a balance of \$160,000, which may fund up to six additional studies to be conducted by institutions other than SPDA.

To date, SPDA has completed a study on oil exploration in protected areas. It had been working on a policy analysis of individual transferable quotas for fishing rights, but this has been halted because of political and economic changes due in part to the disruption of the fishing industry by climate changes. SPDA proposes to fund policy studies on forestry and other natural resource concessions and on land titles as they relate to environmental protection. The studies may not be done by SPDA or any consortium members. Instead, they will be contracted out through open competition to other qualified parties. There is an ongoing consultation process to decide on further research topics.

Element B.2: Permanent Ecological Forum

This element supports the establishment of the Sociedad Nacional del Ambiente (SNA), an umbrella organization of most of the environmental NGOs and environmental networks in Peru. The goal of the SNA, as established in the SENREM design, is to prepare proposals for action by the Government of Peru, promote understanding and awareness of sustainable development in all areas and stakeholder groups, improve relationships and dialogue between the private and public sectors, and institutionalize mechanisms to achieve these goals. SNA was established following a thorough diagnostic of environmental organizations and networks in Peru and a thorough and highly participatory process at the national level. SNA has not been formally recognized as a legal entity, and USAID funds to strengthen SNA are being administered by SPDA.

Element B.3: Industry Seminars

The Oficina de Asesoría y Consultoría Ambiental (OACA) implements this element whose objective is to increase private sector knowledge of and participation in policy dialogue. According to the original design, five sector-specific seminars are to be conducted that present best practices in pollution prevention and environmental management, discuss incentive structures for sectoral change, discuss options for improved private and nonprofit dialogue, evaluate future developments in the sectors that will impact the environment, and discuss changing roles for the private sector in ENR sustainability. Agendas for each seminar are to be developed jointly with CONAM, the SNA, the lead industry association for the targeted sector, and the appropriate Government of Peru ministries. The participating

industry association will be responsible for publishing the results of the seminar as a recommended sector strategy and action plan.

Element B.4: State of the Environment Report

This element is implemented by CUANTO, an organization formed to provide statistical information about Peru on many topics. CUANTO was given a broad scope of work that includes many possible objectives on providing a state of the environment report (see the SENREM design document). The design is to fund four reports with full financing for the first one and decreasing support for subsequent ones, on the assumption that CUANTO will be able to sell the state of the environment report and eventually make it self-sustaining. CUANTO received assistance from the World Resources Institute in the planning of the report and in the development of the outline for the first report. CUANTO has prepared a draft of the first report.

Element B.5: Municipal and Community Environmental Monitoring

OACA also implements this element. The objective is to help communities learn how to monitor the conditions of local air, water, and soil and use the information to identify problems, sources, and potential solutions. OACA will develop a simple environmental monitoring kit and teach communities how to use it. The communities will use the data from the kit and additional knowledge training to develop local environmental assessments. The approved Terms of Reference envision the participation of two local governments and two community organizations. In San Mateo, OACA would work with a grassroots organization. In Arequipa, it would work with two municipalities and one local organization.

Element B.6: Clean Production Program

The CP program began with the fishmeal factory pollution prevention project funded at the beginning of SENREM under the Environmental Initiative for the Americas. After the TAP contract was initiated, further pollution prevention assessments were done in fishmeal, brewing, pulp and paper, cement, and tanneries. UEP managed this element with the assistance of the in-country advisor and TAP's short-term consultants.

Component C: Demonstration Projects

This component began with the five EIA-funded demonstration projects initiated by USAID in 1995. The projects included fishmeal pollution prevention, a project on solid waste management by community groups, a comparative environmental risk assessment for Lima, development of a mine waste control project, and development of environmental guidelines for the mining industry. Two of the original five pilot projects have been replicated at a larger scale. Only the first three of these were fully implemented. The remaining two were

not completed for reasons beyond USAID's control. The first two projects were successfully implemented with good measurable results. The comparative risk assessment for Lima was completed, but the Lima municipal government did make significant use of the results because of political conflicts with the national government and other municipal priorities.

Another series of demonstration projects was included in the contract with SPDA implemented under Component C. The objective of the component is to demonstrate cost-effective and financially sustainable technologies and practices for sustainable use of natural resources and pollution prevention. SPDA organized a competition for grants to organizations to conduct demonstration projects. The project paper, ProAg, and SPDA contract envisioned that approximately 12 new projects (4 initiated per year) would be implemented, with a grant ceiling of \$300,000 per project. However, before the initiation of this component, USAID and SPDA agreed to increase the number of projects to between 20 and 24 with a grant ceiling of \$150,000. This would respond to the great demand and to allow an ample range of possible topic areas. It would also increase the probabilities of success of the program. In view of limitations in availability of funds, USAID and SPDA also agreed to conduct two competitions, one in Year 2 and one in Year 3 of the contract to select 10 to 12 projects in each competition. Eleven projects were selected in each round for a total of 22 demonstration projects.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Significant Changes in Original Implementation Arrangements

Based on the SENREM project paper, we observe no significant changes from the original implementation design or contracting arrangements.

Overall Activity Management

In spite of a heavy workload, the USAID SO4 management team closely monitored program activities and provided implementation guidance to CONAM and SPDA. In devising implementation arrangements for the new development strategy period, USAID should consider placing activities under the management of a U.S. contractor. The SO4 team would be freed of detailed, day-to-day implementation management and be allowed to focus more on strategic planning and monitoring of achievement of program objectives.

FINDINGS AND CONCLUSIONS BY ACTIVITY COMPONENT

Component A: Legal, Regulatory and Policy Framework

Element A.1: Technical Assistance to CONAM and Government of Peru Ministries

Findings and Conclusions

1. CONAM, MITINCI, the Ministry of Fisheries (MIPE), and the Government of Peru general environmental framework have been significantly strengthened by USAID assistance.
2. In comparison to progress in many other countries, USAID technical assistance has helped Peru achieve impressive advances in environmental policy, law, and regulation in a very short time.
3. Other key Government of Peru ministries with important environmental roles, such as the Ministry of Agriculture and the Ministry of Finance, have not been involved to any great extent under this component. As a result, the ability of the Government of Peru to develop and implement environmental policies, laws, and regulations has been somewhat hampered.
4. CONAM's credibility and effectiveness appear to be high for those institutions (MITINCI and MIPE) that received direct technical assistance under this component.
5. CONAM has created the CARs with support from SENREM, and the CARs are functioning now.
6. After SEMREN was initiated, Inter-American Development Bank (IDB) support was instrumental in creating the Marco Estructural de Gestion Ambiental (MEGA), an essential tool in guiding CONAM's activities.
7. In the initial stages, technical assistance was generally reactive to immediate demands from CONAM, MITINCI, and MIPE. Over time, it has become more proactive in promotion of many aspects of policy and law needed for integrated environmentally sustainable economic development.
8. Although some Peruvian experts have participated in TAP activities (for example, a Peruvian firm is one of the main subcontractors under the Abt contract, and several Peruvian experts have been contracted as individual consultants for specific activities), the TAP scope of work called for the use of foreign experts, despite the availability of significant local talent relevant to CONAM activities.

9. The in-country advisor position is ending soon, and USAID indicates that the unfinished legal, policy, and regulatory tools in the "brown" sector will be completed under the CEPACOM and EH activities while "green" tools will be completed by BIOFOR.
10. Private business participation in the technical assistance and in CONAM's product development efforts in general has been limited, although there was more interaction with private industry in other activities, such as the negotiations to establish standards and limits. There is little awareness of the best practices around the world used to stimulate private sector interest in environmental issues. CONAM can use information on these best practices to show the private sector or agencies that support the private sector why it is in their interests to participate in developing the environmental framework for Peru.

Recommendations

1. Further technical assistance to CONAM should focus on helping CONAM identify best practices and examples worldwide of environmentally sustainable economic development, and helping top leadership in the Government of Peru, academia, and the private sector to understand these practices and establish a common vision.
2. The UEP should develop an inventory of Peruvian expertise relevant to USAID-supported products for CONAM and the ministries that are currently under development or planned, and develop a strategy for bringing in this talent to work with the environmental sector.
3. Technical assistance to CONAM should focus on helping it use outside experts and prominent leaders available through the TAP to communicate core messages and themes.
4. Targets for this program should be the Ministry of Finance, the Ministry of the Presidency, and important business sectors that do not already understand best sustainability practices for their sectors. These organizations are critical sources of support and funding for addressing environmental concerns.
5. USAID should support technical assistance focused on opportunities to engage the financial sector for investment in market development that promotes best environmental practices—for example, encouraging the local production of recycling machinery, citrus-based cleaning chemicals, water conservation devices, and other technologies that make clean production possible. The technical assistance should help CONAM develop and promote policies that encourage such market development.
6. All additional technical assistance should specifically include in terms of reference that a key role of U.S. experts is to "train the trainers," and they must find and engage local experts to build their capacities.
7. The UEP should engage the Peru academic community in the design and preparation of products for CONAM and the ministries.

8. Technical assistance should be provided to help CONAM assist municipalities in learning about and how to apply the new environmental regulations. The CARs can provide a vehicle for this training, but the focus of policy application should be at the local level where ordinances based on or using environmental regulations are applied and enforced.

Element A.2: Public Sector Environmental Training

Findings and Conclusions

1. The original design of this element was focused on workshops for public officials. In implementation, many other activities were supported, such as a recycling education program for 500 primary and secondary schools; establishment and strengthening of CONAM's CARs, including support to regional executive secretaries; training for environmental auditors; support to solid waste management efforts in Cusco and Tarapoto; and assistance to Club ISO 14000.
2. The TAP has provided training to public sector officials that appear to meet the SENREM design requirements and contractual requirements.
3. The topics have been relevant to the regulatory needs but not to implementation capacities—for example, there has not been training in social marketing, change management, train-the-trainer, or other skills needed to translate knowledge into practical action.
4. None of the training appears to have been done in association with local training institutions such as universities, although some efforts were made to invite them to some of the training events and university faculty did attend some training by the TAP. There has been little train-the-trainer activity by the TAP, although other CONAM activities appear to some of this type of training.
5. Business sector training in this element has been limited. Thus, opportunities for leverage and dialogue have been limited. However, the business sector has received some good pollution prevention training under the CP element (e.g., ISO 14000, EIA procedures, auditor training).
6. The recycling education program for schools appears to be very well designed and implemented and appears to be having good results.
7. Some CARs have been supported under this element. A limited evaluation of the perception of various stakeholders of the CAR in Arequipa was done during a field trip there. The establishment of the CAR was marked by significant political problems with stakeholders, in particular the municipality of Arequipa. This raises concerns about the effectiveness and role of the CAR in that region in representing CONAM and acting as a productive forum for stakeholders. However, these issues may be unique to Arequipa so

no conclusions are drawn about the value and results of establishing the CARs in general, other than they appear to be a constructive vehicle for decentralizing concern with environmental issues to the regional level.

Recommendations

1. Any further training of public sector officials under SENREM should be conducted through local universities and sustainable NGOs. The TAP should be utilized to assist in developing capacity, producing training materials, and conducting pilot courses.
2. Training topics should include implementation skills such as train-the-trainer, change management, and the like, so that trainees effectively utilize the knowledge gained.
3. Training should be open to and specifically marketed to private sector participants, particularly the regulated community, and the training should include opportunities for dialogue among sectors regarding how to improve the training and encourage action based on new knowledge.
4. It should be recognized by all parties, particularly CONAM, that training is a critical skill that must be professionally developed and that it is not appropriate to simply hope that technical experts are also good trainers and developers of other teachers.
5. Further evaluation is needed of the CARs. The Arequipa evaluation, though limited, raises issues that need to be explored by studying how the other CARs were implemented and are operating.

Element A.3: Environmental Information

Findings and Conclusions

1. This element produced an MIS for SEMREN that is reported to have been completed in 1999 after previous unsuccessful attempts. The MIS is not being used in any significant way by SEMREN. USAID would like to see the MIS put to use.
2. We have found no evidence that the MIS produces environmental information used by outside parties, other than information that CONAM derives from the MIS and uses in its reports. SINIA, the National Environmental Information System that CONAM developed under an IDB grant and that received some assistance from SENREM, appears to be producing useful information. SINIA is now in a position to become an internal line item in the CONAM budget.
3. This element has supported a number of different environmental information events, such as the Eco-Dialogo. Comments on that activity reveal some significant issues, including the fact that participation in the events is expensive and thus not feasible for many

organizations and people. To help address this problem, SENREM financed participation in ECODIALOGO 99 for about 200 representatives from organizations with limited resources. Although ECODIALOGO provides a good opportunity for CONAM to report to the public on its accomplishments measured against planned targets, some stakeholders feel that the events are not used for real dialogues in which stakeholders' concerns are seriously addressed.

4. This element also has supported seminars for the media, as well as a series of smaller workshops for universities. CONAM sponsored a conference in Lima for universities. Faculty from around the country attended and shared information about their academic programs and other activities. The University of Lima followed up by sending a proposal to CONAM asking for help in establishing a university environmental network that would keep the momentum from the conference going, but CONAM decided not to act on it.

Recommendations

1. An audit of the SEMREN MIS should be undertaken and suggestions made how to improve its use, if in fact it is functional but not being used.
2. It does not seem reasonable to charge the public or organizations a fee to participate in the Eco-Dialogo because this obviously disenfranchises people and organizations that cannot afford to participate. CONAM and USAID should continue to find ways to hold such events without making them inaccessible to those with little money.
3. The proposal from University of Lima to develop a university environmental network should be revisited as a way of developing national expertise and assistance that CONAM needs to continue its policy development and other efforts.
4. CONAM should demonstrate what media coverage it has obtained from its seminars and activities. Simple measures, such as number of articles or TV spots, should be used. Media exposure is critical for developing public awareness and USAID, and CONAM should develop metrics for this.

Component B: Private Sector Advocacy

Findings and Conclusions

1. The implementing mechanism, a contract to a consortium of NGOs, appears to be proceeding as originally planned.
2. SPDA is the main contractor for this component, and the other members of the consortia are subcontractors to SPDA. Thus, SPDA is directly responsible to USAID for implementation of the program. SPDA has put in place a management team to oversee

contract implementation. Because of the large number of sub-activities, the SPDA management unit dedicates a major share of its time and effort to contract management, at the expense of strategic thinking about goals and objectives. Some opportunity for strategic thinking is afforded by the monthly meeting of the Project Board, composed of representatives of each member of the consortium, in which strategic aspects and achievement of program objectives are analyzed.

3. Neither the general contractor nor the subcontractors have much experience in for-profit business management—that is, selling products in a competitive market. They represent the nonprofit private sector, not the for-profit private sector. However, SPDA and its subcontractors have sought and received input from the for-profit sector. For example, industry operators participated in the development of the research studies. Fisheries and medium- and small-scale industry operators participated in the first two OACA seminars. The SNA has had a successful working meeting with entrepreneurs to discuss EIA procedures. The Pilot Project Steering Committee has one industry representative. Finally, the pilot project competition was open to for-profit organizations. Unfortunately, the response was poor and the quality of proposals low.

Recommendations

1. SPDA should organize short but intensive training for itself and for its subcontractors on the following topics: social marketing and communications, change management, and the use of the Internet for collaboration and research. All the parts of this component need training in skills that will help make their products more relevant and sustainable after the activity is finished.
2. SPDA should organize a management retreat for all the implementing subcontractors to develop ways to work together, find synergies, and improve outreach.

Element B.1: Policy Research

Findings and Conclusions

1. SPDA has completed one policy study (oil projects in protected natural areas) and is stalled on the second (individual transferable quotas for the fishing industry) because of "changes in the political situation." They said the first study was "well received," and 1,000 copies were distributed. SPDA reports that the regulations currently under development for the Protected Areas Law include many of the provisions and recommendations of the completed policy study.
2. Only one of the three originally proposed topics was approved by USAID, and there was a long process of review and improvement before the approval of the first two proposals. The Terms of Reference proposed by SPDA for the third study (natural resource concessions) have been sent back for improvements.

3. CONAM has relied on SPDA for help in other areas. SPDA has contributed significantly to the development of important pieces of environmental legislation.
4. SPDA is clearly managing a great deal of activity, including projects for a number of other clients besides USAID. In addition to environment law, advocacy is the other important area of SPDA work.

Recommendations

1. SPDA should give special emphasis to utilizing and involving local academic resources for their remaining studies, with the objective of increasing capacity for further analyses of relevant topics.
2. For future research studies, SPDA should continue the practice of convening a focus group of private sector representatives, in particular business executives, who are affected by the policy topic and who can give SPDA feedback on whether and how the proposed policy recommendations will encourage them to be stronger advocates for the environment.
3. A key topic for policy research should be municipal policies for encouraging local private sector and community-based advocacy for the environment.
4. The terms of reference for further policy studies (B.1.2 and B.1.3) should continue to involve potential policy users in the design and development of the studies so they have a chance to be really useful and practical for the private industry. Universities and other think tanks should be encouraged to submit proposals for these research studies. Special care should be taken to ensure that the proposed studies are completed before funding limits expire. The team recommends that the terms of reference allow respondents considerable flexibility in the methodology and suggested approaches to be used in addressing the policy problem area.

Element B.2: Permanent Ecological Forum

Findings and Conclusions

- a) The establishment of the SNA as an umbrella organization for environmental NGOs was an important first step. However, much remains to be done to define its role, provide safeguards against possible domination by an unrepresentative minority, and determine an operational agenda and build the operational capacity, including financial resources, to carry it out.

- b) The SNA has not yet established itself as a legal entity because of the lack of required legal documentation for some member organizations. SPDA/CEPES continues to administer USAID funds for strengthening SNA.
- c) There are a number of business organizations in Peru that now have significant environmental interests, environmental components, or committees that did not exist when SENREM was designed. This creates an opportunity for greater cooperation and mutual understanding in the private sector and even could lead to new partnerships between business and nonprofit NGOs.

Recommendations

1. It is important that SPDA/CEPES, SNA, and USAID have a common understanding of their respective roles and relationships. The team recommends that the three organizations hold a retreat for this purpose in the near future.
2. SPDA/CEPES should work with SNA to finalize establishing itself as a legal entity, using the member organizations whose documentation is in order and incorporating additional organizations as they fulfill their documentation requirements.
3. SPDA/CEPES, with SNA, should retain a management consultant to evaluate the proposed funding structure for SNA and recommend a structure for use of USAID funds that will ensure that they are used for their intended purpose.
4. There are now a number of business organizations with environmental missions or significant environmental interests and activities, in particular Confederación Nacional de Instituciones Empresariales' (CONFIEP) 2021, which promotes ISO 14000 among member industries. Consideration should be given to whether an "umbrella function" similar to that envisioned for SNA is planned or possible to accommodate the environmental interests of these business organizations.

Element B.3: Industry Seminars

Findings and Conclusions

1. OACA has conducted two seminars so far. A two-day seminar was held for the fishing industry on several topics of interest, including individual transferable quotas. About 80 people attended, including decision makers. The seminar included presentations and dialogues on issues. A three-day seminar was held for micro and small enterprises on environmental issues and practical solutions. The sectors represented included food processing, tanners, plating, machining, and textiles. The participants were organized into small working groups for discussion of issues and solutions. One hundred twenty people attended, including company owners and entrepreneurs.

2. OACA plans two more seminars on paper and cardboard, and environmental management systems, and a cross-sectoral seminar on solid waste management.
3. OACA does not charge anything to participate in the seminars. In discussion with people about this approach, the evaluation team found a lot of disagreement about whether to charge anything or what to charge.
4. The budget for each seminar is about \$16,000, including seminar design, marketing, implementation, preparation of a report on conclusions, and distribution of 200 copies of the report.
5. OACA has not collaborated with any other training institutions in the two seminars conducted already, although it did bring in speakers with various expertise.
6. OACA lacks a strategic plan for the topics for industry seminars or for leveraging the seminars by working with other training institutions.
7. The evaluation team found that there are at least several universities in Lima, and we assume in other regions, that are very interested in conducting seminars on environmental improvement for industry and that have business education experts who could provide significant expertise and resources to this effort.
8. Resources for this element appear to be used inefficiently, with no leveraging through other training institutions or building of capacities in other training institutions to ensure some sustainability of capacity once the OACA contract ends.
9. The impact of the seminars is unknown because OACA has no plans or budget to follow up with participants to learn about the seminar's impact or to find out if the conclusion reports that they distribute are even being read.

Recommendations

1. OACA needs a strategic plan for the remaining seminars that either gets them back to the original SENREM element design or revises the design with USAID approval. The proposed seminars are a mix of sector and cross-sector subjects that are not the same as the sectors proposed in the SENREM design.
1. Strategic guidance can be provided by business associations such as SNI, AMCHAM, or business schools like ESAN or Universidad del Pacifico that have a basic understanding of what industry needs to know in order to make changes that protect both the environment and profitability.
2. The seminars should be done in partnership with other organizations that specialize in training industry, in particular business schools and sector technology development organizations such as the new technology development centers being established by

MITINCI. This will increase the capacity of the business schools, increase the quality of expertise OACA can offer, and might lead to partnerships after the project ends. If a training institution offers in-kind resources, such as venues or speakers, this can dramatically reduce the cost of implementing the training. We feel the budget of \$16,000 per seminar is excessive and should be reduced to encourage OACA to find leveraging opportunities and increase the number of seminars offered under this element.

3. The seminars should be designed and marketed in cooperation with associations representing potential users. For example, a seminar on measuring the cost of waste and pollution should be offered in partnership with associations of accountants and financial managers who can market the seminars to their members at no cost to OACA. If relevant, the seminars should be designed so participants can receive official Continuing Professional Education credits needed to maintain their professional registrations.
4. The seminars should be designed with a train-the-trainer approach. Participants should leave with an understanding of how to replicate the training effectively within their own organizations. Local professional trainers can guide OACA in ways to achieve this result. The U.S. EPA has a train-the-trainer curriculum, available for free, that could provide excellent guidance to OACA for this objective. The publication "Pollution Prevention Trainers' Greatest Hits," available from the National Pollution Prevention Roundtable in the United States (www.p2.org), also would be very valuable to OACA.

Element B.4: State of the Environment Report

Findings and Conclusions

2. CUANTO presented SPDA and USAID an outline for the first state of the environment report, prepared with the assistance of the World Resources Institute, one of the leading organizations in the world in the collection and editing of environmental data and statistics. USAID reviewed the outline and found it acceptable. However, CUANTO's draft report did not adhere to the proposed outline, using it primarily as a general guide instead. USAID requested that the report be revised.
3. The report prepared by CUANTO is based on a theme of water and includes articles prepared by experts that were edited into more readable form by journalists. It also includes a directory of environmental organizations and contacts, a very short compendium of environmental regulations and policies, and a guide to sources of statistical information.
4. CUANTO says that the state of the environment report is directed to people interested in environmental issues. The report is very long and not very useable in its current form.
5. The contract calls for useful statistical information. CUANTO decided to focus on water for the first state of the environment theme and reported to us that they have found that there is very little data on water in Peru that allows for any statistical analysis because of

the lack of time series, quality control, specific geographical references, or data design for decision making.

6. CONAM has produced a state of the environment report that is much shorter, is designed around key environmental indicators, and is produced by the Universidad del Pacifico.

Recommendations

1. USAID, SPDA, and CUANTO need to rethink this activity. The three organizations should meet to reach agreement on the precise nature of the target audience for the report and how to involve members of that target audience in the design and development of the product. The target audience members, SPDA consultative committee, USAID, and CONAM should continue to be fully involved as the new report is developed.
2. CUANTO should establish a collaboration mechanism with the Universidad del Pacifico, which is producing the CONAM state of the environment report, and determine how to create synergies so that both products benefit. The Universidad del Pacifico report is much more focused on numerical indicators of environmental quality than is CUANTO's report, yet CUANTO has great capabilities in statistical analysis and data management. In turn, the Universidad del Pacifico has great strengths in marketing and product development for specific target groups as well as in environmental accounting. There should be many opportunities for synergies.
3. The evaluation team supports a suggestion by SPDA and CUANTO that one of the state of the environment reports focus on the municipal theme: environmental statistics at the municipal level, and problems and management practices at the municipal level. This would give focus to the state of the environment and engender a greater interaction between CUANTO and the other project institutions.

Element B.5: Municipal and Community Environmental Monitoring

Findings and Conclusions

1. OACA has established its program in San Mateo and has been using a water monitoring kit to identify problems created by discharges from old and working mines. San Mateo apparently has no significant air or soil contamination concerns. OACA previously helped San Mateo build a municipal wastewater treatment system with French donor funding. The San Mateo awareness and education program appears to be well done, and community leaders were very complimentary about the project.
2. The Arequipa project has just been initiated to work with the provincial municipality leading a group of five communities in district municipalities. It was delayed because of problems between CONAM, the local CAR, and the municipality about who is nominally supervising the project.

3. The team concurs with SPDA's observation that the most important element of OACA's work is to assist in developing local environmental management plans, which involves formation of local environmental management committees, integration with municipal government, and reinforcement of relevant local organizations.
4. The environmental monitoring kit is not yet designed except for a very simple kit for water that tests pH, color, turbidity, and conductivity. OACA is working on an integrated kit design by trying to take various off-the-shelf components and use them together. This aspect of the project has many challenges. OACA has not coordinated with DIGESA directly on this, despite DIGESA's capabilities in environmental quality monitoring. There is no clear business plan for making and selling the kits for the local communities and for educational purposes. It is clear to OACA that the kit as designed is an important first step, but it will need to be refined further to be useful for monitoring the pollutants covered under the new regulations for discharges that the ministries are promulgating.
5. This is an extremely relevant project that can empower local communities to actually use the environmental regulations being developed by the government. The success of this project depends on the quality and affordability of the kits; affordability is the weakest area of the project for achieving sustainable results.
6. The kits need some other complementary support activities in order to be successfully implemented: technical training for the users (local communities and educational institutions) and transfer of knowledge on how to use the kits to try to ensure compliance with the environmental legal framework.

Recommendations

1. OACA should take its project and kit concept to DIGESA to get its assistance in design and its ideas on how to introduce the kits on a wide scale. OACA also should try to design the kit so that some of the components can be manufactured locally. If important components must be imported, the kits will likely be much more expensive and much harder to maintain and use. OACA should work with DIGESA to collaborate or participate in the new EH activity to capitalize on the work it has already started.
2. OACA should exchange ideas and experiences with other NGOs and institutions about ways to effectively involve local communities in environmental issues.
3. OACA needs to think about marketing the kits to organizations like the Government of Peru, private sponsors, NGOs, and international donors.

*Element B.6: Clean Production Program***Findings and Conclusions**

1. The CP factory assessments have been quite successful at meeting the goals of a 10 percent reduction in factory pollution. In some cases, pollution was reduced significantly more than that. Moreover, more plants implemented pollution prevention projects than were targeted.
2. The assessment reports prepared by the technical consultants appear to be reasonable for the amount of time they were given. In some cases, because the consultants were able to spend only four hours at a plant, the evaluations were quite limited. In some of the reports, such as those for the cement industry, the recommendations are quite generic. None of the reports evaluated the quality of management systems; however, that was not an expectation of the evaluations.
3. In most cases, a Peruvian consultant accompanied the foreign TAP consultants, but in some cases, only foreigners did the evaluations. In these cases, there was no building of local capacity in CP assessment. In general, this is a weakness of all the assessments: they were not designed to transfer knowledge about how to do a CP assessment to the local consulting community. Thus, the sustainability of these activities is very low.
4. The fact that significant results were obtained in a greater than planned number of plants—and that in many cases the TAP consultants were only at the plants for a short time and then did short workshops for the sector—is not an indication of efficiency. Instead, it indicates that local consultants should have been intimately and extensively involved throughout the program, and the TAP should have delivered train-the-trainer assistance. Local consultants can do CP assessments if they are given this training and then the capacity is sustainable.
5. The in-country advisor said that there is an intention to use the results of the assessments in producing sector-specific CP guidelines, but the ministries have not yet produced them.
6. The environmental regulations and PAMA guides produced by MITINCI encourage a preventive approach to compliance, but they offer no specific guidance how to do this. Without such guidance, companies are unlikely to really apply CP thinking.
7. USAID sponsored an “ISO 14001 Club” (later becoming Proyecto CADENA within CONFIEP’s 2021 club) that provided training in ISO 14001 implementation to about a dozen companies. Some of these have achieved certification.
8. This activity was successful at meeting indicators for reduction in pollution in targeted plants and demonstrating that CP and pollution prevention are valid approaches to environmental improvement in Peru industry. It also has been successful at helping

introduce ISO 14001 to Peru industry and in providing training for environmental auditors.

Recommendations

1. This element will be continued under CEPCOM, and more specific recommendations will be made under each element of that new activity. The recommendations below should be followed in any future short-term CP assessments directed at Peru industry.
2. Any CP factory assessments should be designed and managed as an opportunity to train local consultants in technology and management and industry managers how to do CP assessments themselves.
3. CP assessments should address the capacity of factory management to implement recommendations and suggest management system improvements that will lead to CP activity. Too often, visiting engineers give managers a list of recommended and cost-effective improvements, which is then promptly put on the shelf because there are many management obstacles to implementing them. If time permits, a CP team can do an ISO 14001 gap analysis to show managers how close they are to having a management system that conforms to ISO 14001.
4. CP assessments should include a competent estimate of how much money a factory is losing due to waste. This is a critical datum because it motivates managers to change and helps communicate to all industry that waste is much more expensive than it thinks.
5. Following a CP assessment, if local political and social conditions permit it, the CP team should do a presentation to community leaders about what they found, in order to teach the community about CP concepts and how to encourage the companies around them to implement CP methods.
6. There are hundreds, and perhaps thousands, of "how to do CP guides" already. There are also thousands of CP fact sheets and guides for specific industries. Donors and others who are considering preparation of their own guides should first review a collection of existing guides and determine if simply translating or adopting these guides will meet their needs. There is absolutely no need for more CP guides to be produced from scratch.

Component C: Demonstration Projects

The evaluation team evaluated 5 of the 22 projects. The projects included the IPES project on used motor and cooking oil recycling in Villa San Salvador, the IDEMA project on urban organic farming in Arequipa, the organic fertilizers and pesticides project in Cañete, the Andean crops project in Yauyos, and the scallops repopulation project in Paracas.

Findings and Conclusions

1. In general, the process followed in soliciting, reviewing, and approving proposals was done effectively and served as a model for the development of similar activities, such as the Americas Fund and the BIOFOR pilot projects. There were 394 and 252 proposals submitted for the first and second rounds, respectively. Some of the projects visited are just starting and may need some additional support to achieve financial sustainability. an example is the organic fertilizers project in Cafiete, where the project is in the process of developing a more comprehensive business and marketing plan.
2. In the first phase, the project topics were skewed primarily toward the "green" side. In the second phase, more than half the projects are "brown."
3. Grantees have not received in-depth training under this component in business planning for financial sustainability and marketing, and it is apparent that some of them need such training if their projects are to meet the objectives of this component.
4. The cost of administering the demonstration projects is quite high because the projects are widely scattered around the country and because more grants are being given than originally planned. USAID stated that the decision to undertake more projects was made after thorough analysis and discussion and that the possibility of having more opportunities for success weighed more than spending a little more on supervision.
5. Although several grantee meetings have been held and other actions have been taken in an effort to identify and promote synergies among the projects, few synergies have been established. Some business organizations (e.g., SNI, COMEX PERU) have stated that they need training in how to develop environmental projects since most of them are new to this subject.

Recommendations

1. Some of the remaining funds available under Component B should be used to hold a general meeting of the grantees to help them share experiences and find opportunities for partnering. This should be considered as part of the recommendation to SPDA to hold a management retreat to improve synergies, leverage, and future partnerships of all elements under this component.
2. The evaluation team supports the SPDA initiative to have the grantees make a group public presentation about the results of their projects that can be turned into a major news event. Donor agencies in particular should be encouraged to attend so they can consider whether and how to take advantage of the initiatives created. SPDA is documenting all the projects with video, and this effort could be assisted by developing short radio spots that describe the projects and conclude with an advocacy message to the public.

Because no more grants will be offered under this program, the following recommendations apply to any future efforts:

1. Regardless of the subject matter, grants should be targeted specifically to organizations that demonstrate they understand business planning and market development.
2. Business organizations with environmental missions also should be targeted in grant marketing.
3. Similar programs funded by USAID in the future should be made with a geographic focus to increase the potential for synergy and to reduce project supervision costs.
4. The BIOFOR approach of strengthening and training organizations during the development of grant proposals should be used as a model for programs such as the Americas Fund PROFONANPE.

PROPOSED ACTIVITIES

Clean Production/Industrial Pollution Prevention

Activity Status

The foundation for this activity began with a fishmeal pollution prevention demonstration project and subsequent CP activities as described under Element B.6 above. In 1999, a team of U.S. consultants conducted a comprehensive design mission and produced an activity design for CEPACOM. The activity has not yet started.

Design Analysis

The CEPACOM design document recognizes that CP is not an activity but rather is the outcome of various policy, training, technical assistance, and public education efforts that need to be done in concert within a strategic framework. The design also recognizes that "clean production" and "pollution prevention" (P2) are phrases that mean nothing to industry and have no marketing power. It is fortunate that the design recognizes this because there are hundreds of CP and P2 programs worldwide that have been remarkably unsuccessful at getting industry interested in CP activities because they insist on using these phrases in their public communication. "CP" is a code phrase that is best used by people managing CP programs and who understand what it is, about but "CP" and "P2" should not be used in public communications. The design document states that an effort should be made to have local people develop a term for CP that is more user friendly, and we strongly endorse this.

The promotion of CP in a society requires a broader vision of policy and institutional development than is expressed in the design document. It requires participation by the financial sector, macroeconomic planners and managers, the education system, and public education to build demand for greener products; training of industry; and more. In general, it requires two tracks: (1) public demand for sustainable products and (2) business supply of these products. It also requires recognition that creating demand is much more important than creating supply. If the demand exists, industry will respond naturally. If no demand exists, then industry will have to be forced to supply better products and performance, and this will be unsustainable in the long run. Thus, the important policy elements include public education, economic policy rationalization, financial policy and mechanisms, and industrial capacity development. The CEPCOM design proposes to support MITINCI with policy and technical assistance on the supply side. CEPCOM also must include elements to build demand if it is to make any real difference.

Clean Production Center

Findings and Conclusions

1. In the last two years, MITINCI has initiated a program to create five technology development centers that support specific industries. It also is creating more than 30 business development centers to support small businesses with management training, access to financing sources, and other capacity development. At the same time, USAID is establishing economic service centers in 10 economic corridors. There are a number of other organizations (e.g., 2021 Club, PROMPEX, INDECOPI, ADEX) that help industry with the various components needed to achieve CP, including productivity training, quality training and ISO 9000 certification, financial analysis training, and export development.
2. Recent legislation promotes the establishment of technology innovation centers to support competitiveness through emphasis on quality, innovation, and productivity. MITINCI will elaborate bylaws in support of this legislation over the next 90 days.
3. Several universities (e.g., Lima, UNALM, Catolica, UNI) have initiated programs on the environment, and business schools (e.g., ESAN, El Pacifico) are interested in developing executive education and regular degree classes on environmental management.
4. Several leading business associations (e.g., SNI, COMEX PERU, SONAMIPE, CCL) have established environmental committees and activities that include CP activities and concepts.
5. ISO 14001 certification of industries is increasing, particularly among the larger companies and export-oriented companies.

6. There are several donor-funded programs in Peru (e.g., IDB, World Bank, COSUDE, GTZ, UNDP) helping local communities develop environmentally sustainable products for economic development. In addition, COSUDE is planning to co-fund the CPC.
7. SENREM analyzed selected CP programs to learn what has worked and has not worked in its activities.
8. The proposed CPC under CEPACOM is designed to have a staff of three people (plus short-term technical assistance), which means everything they do must have substantial leverage if they are to have the desired impact.
9. We conclude that the role of the CPC should be to support the many organizations already helping industry with various aspects needed to achieve CP. This role should be one of education and training in CP concepts; utilization of CP tools, techniques, and examples developed around the world; and creation of partnerships among business assistance organizations in order to help industry.

Recommendations

1. As the CPC is developed, the TAP should conduct a concept development focus group of qualified Peruvian nationals to determine what to call the center. It should **not** be called the "Clean Production Center" because no one knows what that represents. The actual name should clearly imply an outcome of environmentally sustainable economic development, such as resource productivity, efficiency, sustainable profits, and the like. This exercise is about brand name development, and it should be led by marketing professionals.
2. The CPC should work with individual companies only in the initial stages of the activity for demonstration purposes. The CPC can design CP promotion and assistance activities using clustering methods, either by industry sector or by geographic focus, that will get substantial numbers of companies working together with assistance from other business development organizations with coordination and facilitation by the CPC.
3. MITINCI should include CP and pollution prevention concepts in the bylaws for the technology innovation centers.
4. The CPC should make train-the-trainer its top priority. All of its activities should be done in collaboration with other organizations that want to learn about CP and how to promote it themselves.
5. A specific goal of the CPC should be to help universities create courses in CP in which the students do CP projects with local companies. There are numerous models of this approach around the world that have created outstanding results cost-effectively. CP can also be integrated into the projects of other courses, such as engineering, design, marketing, and environmental studies.

6. The staff of the CPC should be smart, creative, energetic, bilingual people who have excellent communication and facilitation skills. They will be guiding other organizations to use an integrated CP approach to help companies. CPC staff resources will be augmented by short-term consultants, both Peruvian and international.
7. The CPC should have a specific capability of guiding companies to financing resources, including the proposed loan guarantee program, but also to other sources of financing. The CPC should have a role of reviewing proposals for financing from companies and validating to banks that the proposal will have CP results if implemented properly. This will mean including the financial sector in CP education and awareness activities.
8. The CPC should have a formal media and communications plan to obtain media coverage of CP activities and successes. The staff should be trained in public relations and social marketing methods and have specific goals and targets for obtaining media coverage.
9. The CPC should establish a partnership with a business-oriented university to create, maintain, and build a CP information clearinghouse. The CPC will not have the capacity to manage such a clearinghouse itself. The partnership with a business library and business librarians is needed because CP is the result of using many different business tools and methods, and because there are thousands of examples of CP success worldwide that are documented in business and industry magazines and journals, not in environmental publications.
10. The arrangements for USAID/COSUDE cooperation on the CPC should be finalized as soon as possible to allow procurement of technical services to proceed.

Clean Production Technical Advisor

Findings and Conclusions

1. The CONAM TAP has helped MITINCI and MIPE to incorporate the prevention principle into environmental policies and regulations. However, there is no specific guidance or requirements in the implementing regulations that will lead industry into CP. The closest the regulations get is requiring that industries have a comprehensive inventory of their wastes and emissions. This alone will not push companies to pursue CP solutions.
2. MIPE has accomplished many of the foundation activities needed for the fishmeal industry to pursue CP, including demonstration assessments, policies, implementing regulations, and sanctions and incentives. There appears to be only a minimal need for further assistance to MIPE by a CP advisor.

3. MITINCI needs additional assistance in preparing detailed CP guides for industry sectors and incorporating key CP concepts into regulations that will cause industry to move toward CP—for example, requiring that regulated industries conduct a total cost of waste analysis using guidelines provided by MITINCI and prepared by competent cost analysis experts.
4. All Government of Peru ministry leaders need to understand the need for an integrated policy approach to CP promotion that includes technical assistance, regulation and enforcement, financial incentives, and building of market demand through education. The message that needs to be communicated is that CP is an approach that leads to environmentally sustainable economic development for all parts of society. MITINCI is only one of many clients for this technical assistance.
5. Because the Government of Peru needs this awareness at the highest levels, the CP advisor should be placed as high in MITINCI's hierarchy as possible so that this individual can have the status needed for access to key policy makers across ministries.

Recommendations

1. The CP advisor at MITINCI should report to and work with the Vice Minister for Industry, as well as the MITINCI environmental office.
2. The advisor should be expected to spend at least 50 percent of his or her time assisting MITINCI to establish collaborative relationships with other ministries, particularly Finance, Education, Health, and Agriculture.
3. The advisor should be the national point of contact for key CP organizations around the world, specifically including the U.S. National Pollution Prevention Roundtable (NPPR). U.S. pollution prevention organizations are trying every conceivable approach to promoting P2 and CP, and have excellent networking and sharing systems. The advisor should have specific support for attending the annual conferences of the NPPR to learn what is being done throughout the U.S. and the world to promote CP. This individual also should have specific support to attend key conferences of the UNEP Cleaner Production program, such as the Cleaner Production Summit to be held in Ontario in October 2000.
4. A key role of the advisor should be helping MITINCI, MIPE, MEM, and INRENA incorporate specific elements into environmental regulations that will lead industry to CP results. For example, EIA regulations should include analysis of the sources of pollution within proposed operations and specific suggestions for management and technology improvements to reduce potential waste. PAMAs should include requirements for conducting total cost of waste assessments and process analysis to identify where wastes are coming from and why they are happening. For guidance, the advisor should become familiar with the many facility pollution prevention planning regulations implemented by more than 30 U.S. states.

Revolving Fund

Findings and Conclusions

1. In discussions with various private sector organizations and individuals (MiBanco, Caja Primera, FOGAPE, an eco-finance specialist), it was apparent that there is no significant shortage of capital available for qualified industry in Peru. Interest rates are not exorbitant, and bankers are looking for good projects.
2. Peru has a successful microenterprise banking facility, MiBanco, so there is a full range of banking services for every size of company.
3. Access to capital in many small companies is hindered by problems with collateral, particularly with lack of land titles needed to get mortgage-based loans.
4. There is no apparent need for USAID to provide financing for CP investments. There is a need, however, for mechanisms to encourage banks to lend money to smaller firms for CP.

Recommendations

1. The proposed revolving fund for CP should be redesigned as a loan guarantee program that provides up to 90 percent guarantees for loans that have CP results. There is a loan guarantee bank already in Peru that can assist in designing or administering this program.
2. The CPC should provide letters of validation to the guarantee program to ensure that the proposed projects will have reasonable CP outcomes.
3. The loan guarantee program should have a training component that is targeted to existing business assistance organizations to train them in helping business with financial analysis of CP projects and preparation of loan proposals. It also should have a budget for marketing to make business aware of the program. This marketing should emphasize achieving business growth with less waste and fewer environmental problems.

Demonstration Projects

Findings and Conclusions

1. There is a continuing need for CP demonstration projects in Peruvian industry. The CPC can conceive and coordinate these projects using information and resources available internationally. The actual projects should be carried out in partnership with MITINCI's

technology development or business assistance centers or by universities, so they learn how to do demonstration projects themselves.

2. The CPC should use a regional risk assessment and leverage analysis approach to determine what demonstration projects to promote. Projects should be selected in cooperation with other organizations that have their own interest and capability in promoting the results to industry.
3. There is a major need in Peru for certain kinds of technologies that make CP feasible in many industries. These technologies include solvent distillation, water filtration, citrus-based solvents, and process controls. These technologies have cross-sector application and have positive paybacks for companies even in the absence of waste disposal costs, because they increase productivity and reduce worker health problems. The CPC should identify technologies appropriate to Peru and conduct feasibility analyses with appropriate organizations to determine whether the technologies can be manufactured in Peru, to propose joint ventures with U.S. suppliers, and to conduct market studies.
4. Wherever possible, demonstration projects should involve local universities, especially their business and engineering programs, in order to avail of student labor and faculty expertise.

Implementing Mechanism

CEPCOM will be implemented through a consortium that includes a business organization representing both industries and professional business associations (accounting, marketing, quality, etc.), a university with strong business development and education capacity, and a U.S. organization that can make available the many CP resources and skills in the United States. For example, the consortium could include CONFIEP, the Universidad del Pacifico, and the U.S. NPPR. The CPC should be based within the business association because the CPC's main role is to support other business assistance organizations. The university partner should provide training, research, and student support resources and maintain the information clearinghouse. The U.S. organization should provide access to CP information, best practices, and policies in the United States and identify short-term experts who can support the CPC and the CP advisor and train trainers.

Environmental Health

Activity Status

The EH activity structure and implementation mechanisms have been designed. The activity is awaiting final signatures. The implementation activities are not designed, and this creates a significant opportunity for SENREM to integrate the EH activity with continuing strengthening of CONAM and participation and use of the CEPCOM activity.

Proposed Design

The EH activity has the following design structure:

- *Geographic Focus:* Peri-urban areas in Peru with large populations, such as around Lima and other major cities;
- *Policy Development:* Strengthening EH policies with a particular focus on strengthening the capacities of DIGESA's regional offices;
- *Training:* In innovative EH tools and strategies, community action, and policy analysis for EH; and
- *Community Demonstration Projects:* Six projects will be implemented that will involve local communities in developing and implementing local EH solutions.

Targeting

A general need is to educate to DIGESA what SENREM has been doing already in public and private advocacy for ENR management. DIGESA could collaborate with SPDA and OACA under Component B to achieve synergies and leverage with policy studies, industry seminars, and the community environmental monitoring project. In particular, DIGESA needs to be informed about and work with OACA on the design of the environmental monitoring kits. We recommend that DIGESA and the SPDA consortium have a joint meeting to explore opportunities to work together. Further technical assistance to CONAM under SENREM also should be coordinated with DIGESA to help CONAM incorporate EH concepts in its policies and activities.

To integrate the EH activity with CEPCOM and continuing support for CONAM, the EH activity should include a specific focus on businesses in peri-urban areas that are creating EH problems. A risk assessment study can identify the types of businesses that should be targeted. Particular attention should be given to companies that (1) use substantial amounts of water and produce water pollution, such as electroplating firms; (2) use or produce substantial amounts of chemicals, especially petroleum-based chemicals; and (3) have substantial air emissions containing toxic chemicals, such as companies that burn waste oils or tires for energy, or that use large quantities of solvents, such as paints and coatings companies.

Once the companies have been targeted, communities around the companies should be educated in CP concepts, with an emphasis that CP can reduce pollution while improving efficiency and saving and even increasing local jobs. The communities should be educated how to talk to these companies about the mutual goals of improved resource productivity and reduced pollution. At the same time, local universities can be assisted in developing CP implementation courses for students. The students can do their course projects within the companies that need CP assistance. Many CP improvements are low cost, and the companies

can implement them relatively easily. Once the cheap things are done and the companies identify needs for technology improvement, they can be taught how to access the financing mechanism under CEPCOM. CEPCOM can provide the local university and community training needed.

To help drive the companies forward, municipalities can be trained how to write local ordinances that require polluting companies to have a CP plan that can be shown to municipal leaders. This puts pressure on the companies from communities and local governments to implement CP practices. Underlying all of this is the promotion of the philosophy that the community does not have to tolerate EH problems created by bad business practices that can be improved while retaining jobs and improving efficiency and profits.

The EH activity should include at least one demonstration project that uses this approach. It should be documented using multimedia as well as reports, so television and print media can report on successes.

Policy Development

Discussions with DIGESA revealed that there has been no significant input from DIGESA into the environmental policies and framework that CONAM has been creating. The major opportunity here is to help DIGESA communicate to CONAM and the ministries, in particular the Ministry of Finance, the economic benefits to Peru of improved environmental health, such as improved worker productivity. The EH activity should collaborate with CEPCOM to do a study of the potential economic benefits of improved environmental health and present the findings at a leadership conference. The study also should identify specific solutions in EH that will translate into measurable improvements in worker productivity.

Another environmental policy opportunity is to promote "green chemistry" in Peru industry. Tremendous health problems are created in all countries from exposure to industrial chemicals. The United Nations Environment Program recognizes this and operates a project on persistent priority pollutants that has identified the chemical categories that cause the greatest EH and environmental problems; it also is working on policies to help phase out the production and use of those chemicals. At the same time, there is work under way around the world, especially within the chemical industry itself, to develop new kinds of chemistry that helps industry while reducing problems. The U.S. EPA has a "green chemistry" program that is working on this objective.

DIGESA, CONAM, and CEPCOM can collaborate on developing policies and examples that will discourage the importation and use of problem chemicals and promote the development of alternative chemical production in Peru that can create local jobs. For example, many industrial solvents create significant health and environmental problems and they are used throughout many industrial sectors. In developed countries, the chemical industry has developed alternative solvents that are effective and much safer for industrial use. It sells these at a nice profit because Western industry is avoiding dangerous chemicals because of

high regulation and disposal costs. In developing countries, however, chemical companies do not make these existing alternatives available because there is no demand or pressure to make them available. Another example is the promotion of integrated pest management as a way to reduce pesticide use, and the use of new pesticides that are much safer for people and the environment. CONAM can develop policies to promote reduction of the use of targeted chemicals. DIGESA can articulate the public health economic benefits that will result, and CEPCOM can provide some of the technical assistance needed.

Another policy development opportunity is helping municipal governments use the national environmental framework and regulations to develop ordinances that incorporate CP as the way to implement environmental standards. The EH activity should specifically include a policy study that looks at local regulatory authority of DIGESA and municipalities to protect EH using CP approaches. Again, CEPCOM can provide assistance to this effort.

Consolidated Environmental Framework

The evaluation team feels that the proposed CONEF activity should be reconsidered. We are recommending a new general framework for USAID and SO4. Once CEPCOM and EH are under way, those activities will provide continuing support to the Government of Peru through the expiration of SENREM that will achieve many of the possible objectives that have been verbally expressed to the team by USAID. CONEF resources may be used for a simple amendment of the SEMREN and BIOFOR activities to add additional funding with the balance of CONEF resources going to support an earlier and more comprehensive design for the new framework and future USAID strategic activities. If CONEF resources are used to support a modest expansion of SENREM, then the following elements could be considered to respond to the key recommendations made in this report to capitalize on the base created by SENREM to date and provide more information and guidance for a design team that will establish the follow-on activities to SENREM:

1. Help CONAM articulate the potential economic benefits to Peru of implementing the environmental policies and regulations. Recent research in developed countries shows that environmental standards promote industry innovation and technology development when they are implemented properly, using approaches such as phased compliance schedules. The highest levels of the Government of Peru need to understand that CONAM is not creating obstacles to economic development but rather creating pressures that will push industry to innovate and invest in productivity. This element can be supported by technical assistance from appropriate local and U.S. institutions and does not require any basic research, which has already been done.
2. Create policies that really build market demand for improved environmental performance by the private sector, such as recognition programs among competitor groups, use of environmental performance criteria in government purchasing and contracting for services (for example, requiring ISO 14001 certification for infrastructure contractors as is done in Hong Kong), awards given by local communities to local companies that clean

up their operations, and public labeling of facility environmental performance (as is done in Indonesia and the Philippines).

3. Promote regulations that really drive clean production through management self-analysis, such as requiring companies to conduct a total cost of waste analysis following guidance documents, so they learn how much money they are losing now and how much they could save by clean production.
4. Ensure that CONAM conducts benchmarking studies to learn what other governments and environmental agencies are doing around the world in specific topic areas and share those best practices with client groups.
5. Conduct an inventory of Peruvian expertise in the areas CONAM is working in, especially in universities, and invite national experts to comment on and join in the development of policy and regulatory products. This will, of course, help reduce CONAM's use of U.S.-based technical assistance as well as build university capacity in environmental policy and management.
6. Develop a program with selected local governments to test how they can use the policies and regulations developed by CONAM and the ministries to enforce and promote environmental improvement. Use the results obtained through application of the policies and regulations to feed back to the national level to refine them further.

ISSUES

Institutional Development of CONAM

CONAM is a very young institution. It was created by law in 1994. SENREM assistance has been a key input during initial organization of CONAM and during the first five years of operations. During this period, CONAM has become a major actor within the public sector institutional structure involved with environmental issues. It has assumed a leadership role in environmental policy framework improvement initiatives. CONAM also has exercised leadership and, with USAID and other donor assistance, has supported promotion of environmental awareness within important production ministries (i.e., MITINCI and MIPE). As a result, a significantly greater focus and attention to environmental concerns of their respective sectors have been internalized within these ministries. In addition, CONAM has established a decentralized environmental presence in several regions of the country. This record of accomplishments in such a short period of institutional existence is truly impressive. It is a tribute to the intense efforts of CONAM leadership and staff to effectively utilize national and donor resources made available to facilitate CONAM's institutional development and to modernize the national environmental policy framework.

A forward-looking conceptual framework for CONAM's institutional philosophy has been elaborated and recently adopted by CONAM to guide its planning and implementation activities and its relationships with other environmental actors and stakeholders. The

evaluation team appreciates the excellent and articulate presentation of this conceptual framework that was made for the team by the Executive Secretary of CONAM. Full internalization of this institutional philosophy into planning and implementation operations of CONAM can be central to defining and facilitating the course and speed of future improvements in environmental policy and management in Peru. Likewise, the philosophy expressed can serve the broader environmental community, both public and private sectors, to orient and guide environmental policy formulation and application, to guide environmental institutions in planning and implementing their respective activities, and to define inter-institutional relationships and commonalities.

The team has proposed an evolution of the SO4 strategy for assistance to improve environmental management that is fully compatible with the conceptual framework adopted by CONAM. A continuing challenge for CONAM is to ensure that this conceptual framework and its program implications and emphases become fully internalized into all of its operations and relationships. The framework is based on a model of consensus building and generalization of awareness of environmental problems and ways to address them. It is participatory in approach and conciliatory in language.

In specific terms, the team interprets the CONAM conceptual framework as being consistent with conflict resolution and voluntary compliance, and in rejection of a primary focus on command-and-control approaches. This approach implicitly recognizes the need for creating awareness and demand for environmental management improvement at all levels of the Peruvian society, public as well as private sectors, and individual as well as institutional.

USAID should continue to support internalization of the CONAM conceptual framework that guides its institutional purpose and actions. Although progress has been made, this is an ongoing process that requires continuing reinforcement. Two examples of this need are:

1. The objection in writing by the UEP manager to the recommendation by the team to shift the emphasis from design of management instruments to give greater emphasis in the future to demand generation and enhancement at all levels of the environmental system. The team has attempted in the overall evaluation report to provide a more cogent explanation of the consistency of a more demand-oriented approach with consensus-building and participatory approaches enunciated in the CONAM institutional philosophy.
2. CAR presidents are CONAM personnel, and technical secretaries are contracted and paid directly by CONAM. CONAM fully understands that true decentralization will require that non-CONAM personnel preside over the CARs and that technical secretaries need to be contracted directly by the CARs. We encourage CONAM to continue to seek ways in which this can occur as soon as possible.

Leadership Education for Sustainable Development

Real support for CONAM from the highest levels of the Government of Peru will only happen when ministers and the President develop personal commitments to the concept of sustainable development. Many government leaders around the world have embraced this concept and have used their authority to ensure that environmental agencies and programs have significant support and resources. It appears that most leaders develop such commitment by talking with other leaders who have the status and knowledge to be effective communicators about sustainability. USAID might consider an analysis of the participation of top Government of Peru leaders in international discussions about sustainability and how to show them examples of environmentally sustainable economic development through information channels they trust and use. An influence-mapping exercise might reveal new ways to provide the right information to the right people. USAID also might consider sponsoring a leadership summit on relevant topics, bringing high-level officials such as U.S. state governors and CEOs of U.S. multinational companies to Peru so they can explain to their peers why they are personally committed to sustainability.

Role of Universities

All universities in Peru are now linked to each other and internationally through the Internet, and their capacities for state-of-the-art thinking to problems have greatly increased. There are many new environmental activities in Peru universities and great interest in collaboration and application to environmental problems. The potential role of universities should be given special consideration in USAID's ENR activities. The universities also should be enlisted to increase CONAM's intellectual capacity and capabilities as a strategy to help CONAM use less foreign technical assistance.

Role of Local Governments

Compliance with Peru's new environmental standards must occur at the local level. There are major political issues and conflicts between the national and local governments. A comprehensive analysis of the capabilities and authorities of local governments may reveal many new opportunities for promoting ENR and clean production, including ones that are not discussed or suggested in this report. The possibilities of action are enhanced by growing public awareness and concern about the environment, new frameworks and channels for citizen use of the law, information sharing via the Internet, and increasing needs for local governments to supply water and environmental services, such as garbage removal, to citizens. This could be a cross-SO activity for USAID and lead to focused interventions that help test whether the support provided by SENREM to the Government of Peru so far can really make a difference.

LESSONS LEARNED

Activity Design

- Create demand for products before supplying them. There are numerous examples in SENREM of products created without an obvious market; in some cases, the customers desire the product—e.g., a policy product—but do not have the capacity to use it. If demand is created for good industrial environmental performance, industry will find ways to respond cost-effectively.
- Conduct a comprehensive analysis of all relevant institutions, not just an analysis of an institution targeted for strengthening. Once this is done, use the results to identify and cultivate high-level political allies.
- Set objectives based on the things that should be accomplished, not on the capacities of partners to achieve them. If the real objective cannot be reached with current capacities, then that provides opportunities for mid-term strengthening instead of lowering the standards.
- Benchmark globally for ideas. Efforts are under way around the world to achieve goals similar to those of SENREM. The Internet makes it possible to find examples and resources very efficiently. Of course, this requires competent skills in using the Internet; these should be provided to all partners.

Activity Management

- Ensure that management capacity is equal to project complexity and do not over-task management by adding new activities mid-term. If management capacity will be stretched, cut back on activities.
- Ensure that projects have competent, independent, and objective groups of advisors representing both experts in the relevant topics and representatives of customer groups who can provide strategic oversight, identify needs for management strengthening and provide needed skills, and review draft designs and products for quality assurance. Include this requirement in the terms of reference for contracts.
- Ensure stakeholder participation in the design and implementation of projects and reinforce transparency and real review and input to draft products.
- Build the management capacities of partners in key areas such as business plan development, communication skills, Internet use, social marketing, financial analysis and accounting, and change management.

ANNEX G
BIOFOR ACTIVITY EVALUATION REPORT

I. INTRODUCTION

A. BACKGROUND

An unusually important share of the world's biodiversity and intact natural tropical forests is concentrated in Peru. Sustainable utilization and management of these fragile ecosystems are by no means assured. The key to combating the loss of biological diversity in Peru is sustainable utilization and conservation consistent with maintenance of the integrity of forest cover and other natural conditions. Maintenance of forest cover also will contribute significantly to climate change mitigation.

An inadequate policy framework, weak institutional structures, and ongoing widespread site-specific degradation threaten Peru's diverse biologically rich ecosystems. Divided environmental authority, limited institutional capacities, misconceptions about the economic value of conserving biodiversity and forest cover, inadequate legal norms and policies, lack of local participation in active management of protected areas, unsustainable land and natural resource uses, uncontrolled mining and petroleum exploration in protected areas, unregulated tourism expansion and persistent deforestation, among other threats, all contribute to loss of biological diversity and reductions in intact natural forest areas.

Improved management of extant biological diversity and forest resources and generation of sustainable economic activities for local communities living in and around threatened ecosystems are necessary and appropriate responses to maintain Peru's renewable natural resources, which in turn contribute to the future health of the planet. This is a formidable challenge to Peru's public and private sectors, assisted by the international environmental community. Appropriately targeted donor assistance to improve policy formulation and application, to strengthen relevant institutional structures and capacities, and to address site-specific environmental management weaknesses is essential if Peru is to be successful in ameliorating the environmental threats enumerated above.

USAID is only one of many donors investing resources to assist Peru in improving environmental management. The diversity and levels of outside assistance are considerable and often strain coordination and absorptive capacities of Peruvian public and private sector environmental institutions. USAID can and has been playing a critical role in strategically targeting inputs that facilitate more effective utilization of both Peruvian and other donor environment-related resources. In addition, USAID is mandated by the U.S. Congress to address specific environmental concerns related to tropical forests and tree cover, endangered species, and climate change initiatives. These mandates are described in more detail in Attachment 1.

B. ACTIVITY DYNAMICS & SETTING

1. Environmental and Natural Resources Conditions

Environmental policy considerations related to regulation and sustainable utilization and management of renewable natural resources in Peru have changed significantly during the last decade, particularly since 1990. The environmental policy framework, however, still suffers from significant gaps when measured against international or even regional trends and standards. Likewise, during the past decade, severe negative impacts on the environment have been increasing at an alarming rate as the result of rapidly expanding exploitation of "green" natural resources, industrial expansion that generally has ignored environmental concerns, and continued high population growth.

Examples of these negative impacts are abundant in all parts of the country—that is, the tropical forests of the Amazon, the Sierra of the Andes Mountains, and the coastal plains along the Pacific Ocean:

- In the extensive rain forests on the eastern side of the Andes Mountains, both piedmont and lowlands, deforestation continues unabated; land with permanent vegetative cover is being deforested and converted to unsustainable uses. This includes unsustainable agriculture on soils deficient in nutrients and high in toxic compounds such as aluminum. This situation is worsened by rainfall that can exceed three meters annually, which quickly leaches nutrients and erodes exposed soils. This results in continuing and growing losses of exceptionally high biological diversity, including forests and other habitats of endangered animal species. In the eastern piedmont, with moderate to very steep slopes, removal of forest and other vegetative cover is causing devastating erosion, which in turn destroys river and other downstream aquatic ecosystems.
- In the semi-arid Sierra of the Andes Mountains (with significant climate variations, steep topography, excess populations, and subsistence agriculture on poor soils), the principal problems are destruction of fragile soils on steep slopes highly susceptible to water erosion, loss of biological diversity in all ecosystems, degradation of natural pastures, and contamination of water bodies from mining wastes.
- In the semi-arid to desert areas of the coastal piedmont and plains, burgeoning urbanization, expanding industrialization that largely ignores environmental concerns, and irrigated agriculture are concentrated around river valleys. These valley lands suffer from extensive salinization because of the misuse of water on formerly productive agricultural areas, frequent contamination of potable waters by industrial and agricultural wastes and runoff, and severe atmospheric pollution in congested urban and peri-urban areas. The few coastal areas with woody plants, particularly along rivers and Andean valleys, and the unique vegetation on coastal *lomas* (watered by fog precipitation) are disappearing as a result of unsustainable firewood use and other human encroachments.

Designation of parks and other conservation units in the major ecosystems of Peru (e.g., protected natural areas [PNAs]) has had positive results, but few of the severe problems of ecosystem degradation listed above have been significantly ameliorated either at the national (policy, institutional) or local (site-specific) levels. In addition to the problems listed above that are of human origin, Peru periodically suffers from severe natural disasters, such as earthquakes and anomalous precipitation caused by El Niño climatic oscillations. These appear to have intensified in the last few decades, ostensibly because of the cumulative effects of global climate change, which in turn has been attributed to anthropogenic causes.

2. Political and Economic Conditions

Terrorism and hyperinflation of the 1980s largely have been eliminated during the 1990s, thus removing two critical limiting factors for effective environmental management improvement. This has permitted increased attention to environmental problems. At the same time, austere monetary and fiscal measures that brought macroeconomic stability have exacerbated poverty in and around many biodiverse and forested areas, thereby exerting new pressures on natural resources as local populations pursue short-term survival strategies.

The current national government, in power since 1990, has focused increased attention on compliance with international environmental treaties and agreements related to exploitation of natural resources and related services. But sustainable development and environmental stability considerations have not yet been incorporated significantly into these initiatives. Increasing centralization of government decision making and the highly centralized control of public sector institutional and financial resources during the 1990s have hampered local initiatives in dealing with environmental matters by national public and private sector institutions, as well as by local governments and locally organized community and private sector groups.

Since the late 1980s, increased international attention to worldwide environmental problems (including important international environment-related agreements to which Peru is a signatory) and expanded donor focus in Peru on environmental issues have combined to encourage the Government of Peru to approve several legal and policy initiatives. The Environment and Natural Resources Code (Codigo del Medio Ambiente y de los Recursos Naturales) became law in 1990. For the first time in Peru, natural resources management was integrated with environmental considerations. That law also incorporated important concepts and mechanisms for environmental management such as (1) prevention of negative impacts, (2) polluter payment for negative impacts, (3) comprehensive guidelines for environmental policy, (4) mandatory environmental impact evaluation, (5) requirements for environmental regulations, and (6) environmental management systems. Regrettably, some essential elements of this law were neutralized in 1991 through new legal provisions intended to encourage private investment in Peru. These changes and subsequent environmental legal and policy changes (or lack thereof) are discussed in more detail in Attachment 2.

3. Institutional Conditions, Management and Implementation Arrangements

The various production ministries and other government offices directly or indirectly involved in environmental management and regulation—including CONAM, which was created in late 1994—are reviewed elsewhere.

Before the 1995 MES, USAID development assistance on environmental matters was limited primarily to so-called “green” aspects of the environment (i.e., biological and other renewable natural resources) and the ecosystems of which they are parts. This assistance was largely within the context of agriculture-related conservation interventions, except for a major activity in the Pacaya-Samiria National Reserve. Upon approval of the MES, USAID focus shifted to “brown” aspects of the environment, with the expectation of continuing limited activities related to “green” matters not directly related to agriculture (i.e., improved management of PNAs and fragile ecosystems). The 1995 SENREM project, with CONAM as the primary partner institution, focused on major initiatives in “brown” activities. “Green” activities were limited, for example, to participatory management of national parks and other conservation units. SENREM also provided funds to small demonstration projects related to “green” environmental matters. Once BIOFOR was approved, most “green” activities fell under BIOFOR, except to the extent that the scope of SENREM policy improvement assistance is crosscutting. (SENREM Component C pilot projects continue to include “green” activities.)

The BIOFOR activity was approved for funding in FY1998. In the absence of a bilateral agreement under which BIOFOR funds could be obligated, USAID opted to obligate funds through an EPIQ IQC contract with the International Resources Group (IRG). Thus, initially, there was no formal host country partner institution. To facilitate future establishment of a formal host country partner relationship, IRG was charged with assisting USAID to develop and arrange for a Strategic Objective Grant Agreement (SOAG) for SO4 and a companion activity implementation letter (AIL) for implementing BIOFOR. The EPIQ IQC contract with IRG was signed in September 1998, the SO4 SOAG was signed in August 1999, and the BIOFOR AIL was signed in March 2000.

The National Natural Resources Institute (Instituto Nacional de Recursos Naturales [INRENA]), established in 1992, is the national governmental institution most directly related to the activities of BIOFOR. INRENA is responsible for management and conservation of “green” components of the environment (biological and other renewable natural resources and their respective ecosystems). CONAM, on the other hand, is responsible for overall national environmental policies and for “brown” components of the environment (perturbations to the natural physical and biological environment caused by contaminating or damaging human activities, particularly those of industrial and urban origin). With initiation of BIOFOR activities in October 1998, IRG established interim informal working relationships with INRENA and with appropriate nongovernmental and donor organizations to facilitate BIOFOR implementation.

Another important dependency of the Ministry of Agriculture in terms of "green" environmental activities is the National Project for Watershed Management and Soil Conservation (Proyecto Nacional de Manejo de Cuencas Hidrográficas y Conservación de Suelos [PRONAMACHS]), especially because of its role in reforestation in the Sierra and in piedmont valleys. USAID does not consider PRONAMACHS to be an appropriate BIOFOR partner institution, based on the conclusion that it is politically, not technically, oriented. In addition, PRONAMACHS is concentrated in the Sierra while BIOFOR, with the exception of the Huascarán, is not active in the Sierra.

To understand the current institutional conditions for BIOFOR, it is necessary to describe the relationship of CONAM and INRENA. CONAM is a new institution, established in 1995 under the Prime Minister's Office, to coordinate, formulate, and direct national environmental policies. CONAM was intended to serve as an integrating institutional mechanism for (1) resolving policy and institutional issues related to management and utilization of renewable natural resources ("green" issues), (2) promotion of environmental quality ("brown" issues) and public awareness, and (3) provision of coordination and leadership in environmental awareness and education ("blue" issues). As a practical matter, and because of the inherent limitations in a new institution, CONAM has been active primarily in industrial and urban pollution/contamination issues and, to a lesser extent, in environmental awareness activities. The professional staff of CONAM is composed largely of lawyers and economists, with very few professionals trained in the natural sciences. CONAM has been the official representative of the Government of Peru in most international and intergovernmental environmental conferences.

In contrast to the newness of CONAM, INRENA's roots have a long history. INRENA came into being with the fusion in 1992 of several agencies, primarily the National Office for Evaluation of Natural Resources (ONERN), which was established in the 1960s, and the National General Directorate for Forestry and Fauna (DGFF), which was established in the 1970s. INRENA's mandate included expanded roles and responsibilities into other "green" areas. INRENA is a semi-autonomous institution, operating within the budget framework of the Ministry of Agriculture (although for a short time it was placed under the Office of the Prime Minister). Until recently, INRENA had limited field presence (because of government austerity and centralization policies, as well as to terrorist occupation of many forested areas). Since 1997, INRENA has significantly increased its personnel in the field. However, decision making is still strongly centralized in Lima. A serious policy-related impediment to INRENA's present and projected activities is the lack of congressional approval of a modernized forestry and wildlife law and of a comprehensive water law (Ley Forestal y de Fauna Silvestre, and Ley General de Aguas) (See discussion in Annex 2).

CONAM and INRENA neither have been able to come to terms with their respective roles and functions, nor have they been able to coordinate and collaborate meaningfully. Failure to clarify and resolve their institutional relationships results in an almost total lack of institutional complementarities.

INRENA is the logical host country partner institution for BIOFOR. This now has been formalized in the BIOFOR AIL, signed by INRENA. Nongovernmental organizations and

universities, including some with national or international areas of influence, also are participating in BIOFOR implementation.

Until the signing of the SOAG, all USAID funds for BIOFOR activity implementation had been obligated to and managed directly by IRG under the EPIQ IQC contract. Now, all SO4 funds are obligated under the SOAG for subsequent commitment under implementation instruments (e.g., the IRG agreement). Under the BIOFOR AIL, some funds obligated under the SOAG are committed to INRENA to assist in coordinating selected BIOFOR activities. However, since the AIL was signed only in March 2000, these arrangements have not yet become operational.

II. BRIEF ACTIVITY DESCRIPTION

Title: Biodiversity and Fragile Ecosystems Conservation and Management (BIOFOR) Activity

Biofor Activity Goal (from activity design paper): "To protect biological diversity and forests and to mitigate climate change"

BIOFOR Activity Purpose (from activity design paper): "To improved the management of Peru's biodiversity and carbon stocks"

As indicated above, since the initiation of BIOFOR implementation in October 1998, the principal implementing partner institution has been IRG under its EPIQ IQC Task Order. USAID, through the SO4/BIOFOR Activity Manager, also has participated actively in direct support of BIOFOR expected results. As detailed later, now that BIOFOR AILs have been signed, INRENA will assume a more active role in implementing some planned BIOFOR sub-activities. Given that IRG has been the primary (and only formal) partner institution to USAID/SO4 for BIOFOR management and implementation during the implementation period being evaluated, only the IRG tasks are summarized in Table 1 within the context of the expected results for BIOFOR.

Table 1: IRG Tasks Related to BIOFOR Expected Results

Result 1: Improved management of up to six fragile ecosystems	Result 2: Improved management of forests	Result 3: Strengthened local and national institutions engaged in the conservation and management of biological diversity and fragile ecosystems	Result 4: Development and improved implementation of selected policies to strengthen conservation of Peru's biological diversity and protected carbon stocks
Task 2: Develop joint work plan for Paracas National Reserve	Task 7: Implement site-based institutional training	Task 2: Develop joint work plan for Paracas National Reserve	Task 4: Assist Mission in MOU negotiations
Task 7: Implement site-based institutional training	Task 8: Conduct site-based intervention grants	Task 5: Provide policy assistance	Task 5: Provide policy assistance
Task 8: Conduct site-based intervention grants		Task 6: Provide policy research and training	Task 6: Provide policy research and training
Task 11: Convene Technical Advisory Committees (TACs)		Task 7: Implement site-based institutional training	Task 7: Implement site-based institutional training
		Task 10: Convene Activity Coordinating Committee (ACC)	Task 15: Organize workshops and seminars

For purposes of this evaluation, the expected results, and the specific tasks assigned for achieving those results, have been grouped into five sub-activity groups (with approximate relations to expected **results and tasks**), as follows:

Sub-Activity Group 1. Train local NGOs in selected areas to prepare proposals for pilot projects for sustainably utilizing or protecting biodiversity and other renewable natural resources near, or in, up to six protected natural areas (PNAs) (**Results 1, 2, 3; Tasks 7, 8, 10, 11**).

Sub-Activity Group 2. Encourage improved management of forests for sustainable wood production and carbon sequestration (through harvesting wood and assuring continuous woody vegetation cover) to mitigate impacts of global climate change (**Results 2, 3, 4; Tasks 5, 7, 8, 11, 15**).

Sub-Activity Group 3. Improve policies affecting biodiversity and carbon release (as CO₂) and sequestration (as carbon compounds in standing timber) (**Results 2, 3; Tasks 5, 6, 15**).

Sub-Activity Group 4. Assist in the participatory preparation of management plans for selected PNAs to protect specified ecosystems (**Result 3; Task 2**).

Sub-Activity Group 5. Other supporting actions (**Result 4; Tasks 4, 5, 6, 15**), including:

- Formation of an Activity Coordination Committee (ACC);
- Other policy research and training;
- Development of criteria for economic valuation of biological diversity and carbon sequestration, followed by short-term training and investigation;
- Delimitation of boundaries of Tingo María National Park;
- Definition of a "conservation corridor" linking protected areas in Bolivia and Peru;
- Workshops and seminars about indigenous territories in the Santiago Comaina Reserved Zone on the Ecuador frontier, and consultation with local communities in the Biabo-Cordillera Azul Permanent Production Forest Zone; and
- Several actions of priority interest to INRENA (as detailed in the AIL, and in Result 3, Task 5, of the BIOFOR annual operating plan for 2000).

III. FINDINGS/CONCLUSIONS AND RECOMMENDATIONS

A. RELATED TO SIGNIFICANT CHANGES IN ORIGINAL IMPLEMENTATION ARRANGEMENTS

There have been no significant changes in the implementation arrangements as originally planned at the initiation of the BIOFOR activity in October 1998. As described in another section, with the signing of the SO4 SOAG (the first SOAG to be signed by USAID/Peru) on August 25, 1999, and the initial BIOFOR AIL on March 20, 2000, SO4 became the first SO in Peru to follow re-engineered funding obligation and commitment procedures. Start-up dates of some activity tasks to be implemented with INRENA could not become official until the signing of these bilateral agreements. Nevertheless, limited assistance and cooperation were being informally provided to INRENA before signing of these agreements. Since March 2000, the primary Government of Peru partner institution, both officially and in practice, has been INRENA, as originally planned for this activity. Most tasks and sub-activities, including those being implemented with INRENA, are within the original implementation chronology.

B. RELATED TO OVERALL ACTIVITY MANAGEMENT

Overall management responsibility for BIOFOR implementation rests with the USAID/SO4 BIOFOR Activity Manager. Under the EPIQ IQC task order contract, IRG has been the primary partner institution for BIOFOR management and implementation. Signing of the SOAG and the BIOFOR AIL, whereby INRENA is formally designated as the primary host country partner institution, authorizes limited funding to be provided directly to INRENA for various activities being coordinated with IRG and USAID/Peru. These activities are primarily related to formulation of policies and regulations, and to management plans for national production and protected forests and PNAs, including training in analysis and management for INRENA officials. Public participation in decision making on management of forests and PNAs is to be included in the recommended policies.

The USAID/SO4 BIOFOR Activity Manager has applied a refreshing participatory mode of overall activity management, yet without usurping implementation management responsibilities assigned to the primary partner institution. IRG has done an excellent of managing BIOFOR, both technically and financially, with completed and planned activities generally remaining within the original illustrative financial plan. Quarterly and annual reports, and other required documentation, have been complete and presented on time. Excellent rapport has been established between BIOFOR (by both USAID and IRG managers) and the public and private institutions participating in this activity. This is an essential factor for success in an activity that requires a substantial emphasis on participation and cooperation of diverse of actors from both public and private sectors, including international donors and other groups.

The current IRG contract will terminate in September 2001, whereas under the SOAG, BIOFOR is programmed to continue until the end of FY2002 or FY2003.

Recommendation: The overall evaluation report provides recommendations for changes in SO4 (including BIOFOR) implementation arrangements, beginning with FY2002.

C. RELATED TO RESULTS, INDICATORS, ACTIVITIES, AND TASKS

Findings/conclusions and recommendations related to results, indicators, sub-activities, and tasks are discussed below under the five sub-activity groups specified in the previous section.

Sub-Activity Group 1

Training of local NGOs in selected areas to prepare proposals for pilot projects for sustainably utilizing and protecting biodiversity and other renewable natural resources near, or in, up to six PNAs (**Results 1, 2, 3; Tasks 7, 8, 10, 11**).

a. Finding/Conclusion: Selected NGOs are being trained to effectively manage their organization and to join with other private or public institutions to prepare coherent proposals for grant-funded pilot projects. A limited number of these proposed projects will be funded by BIOFOR; those not funded will be circulated to other donors or institutions with recommendations for funding.

Site-based training has been successful in preparing local NGOs and other institutions to prepare proposals for projects with goals of sustainable management of renewable biological resources. These improved institutions should be able to continue such activities after termination of BIOFOR assistance, whereas the public sector agencies of the Government of Peru that are to manage such national resources historically have not shown continuities in policies, laws, or enforcement. Few of the selected NGOs have personnel trained in ecology, forest management, or related topics.

Recommendation: A useful addition to the training of these NGOs would be an introduction to the basic concepts of biological diversity, forest management for production and for protection, and the relationships of these concepts with global climate change and the role of carbon/CO₂ in the atmosphere and in forested or other ecosystems.

b. Finding/Conclusion: BIOFOR has formed technical advisory committees (TACs) to "meet regularly and define work plans in support of environmental management in their zone while also furthering the impact of BIOFOR," and it has identified organizations and institutions for inclusion in the training programs. The TACs are composed of "local professionals and technicians who have gained prestige in their work areas" and appear to be accomplishing their intended purpose.

Recommendation: We suggest that TACs be included in, or serve as technical advisors to, the permanent Comites de Gestion that are being included by INRENA in every PNA. This could lead to a continuing useful role for the TACs after termination of USAID/BIOFOR support. The USAID/BIOFOR Activity Manager feels that the function of TACs is very different from the Comites de Gestion and that an advisory role by TACs is a decision for INRENA, not for BIOFOR.

c. Finding/Conclusion: BIOFOR site-specific activities focus on six geographic areas or regions that have PNAs. Each region includes numerous ecosystems, many of which may be threatened by unsustainable management practices that can lead to the loss of ecosystem structure and composition.

Ecosystems in the selected regions are all "fragile" if management practices or other factors can lead to a collapse of the present ecosystem and its replacement by another, as in harvesting of timber leading to replacement of an intact natural forest of mature trees with secondary growth or agricultural ecosystems, or a landslide removing the forest. The ecosystems of the world all are threatened, to greater or lesser extents, by the impact of global climate change, as well as by the long-recognized threats of population growth, expanding agricultural frontiers, and unsustainable exploitation of potentially renewable natural resources. The fragility or threatened status of any ecosystem is dependent on external factors, anthropogenic or natural, which significantly alter the biological or physical components that define the ecosystem.

Some of the national reserves and parks, such as Paracas and Pacaya-Samiria, have many national and international groups and donors assisting INRENA in many aspects of resource management, and have had prior USAID assistance (e.g., Pacaya-Samiria) that was terminated. With active involvement by the USAID Activity Manager, IRG, and INRENA, BIOFOR has successfully assumed a leadership role in the development of a master plan for Pacaya-Samiria National Reserve. The master plan, which has been coordinated with all donors and nongovernmental organizations operating in the area, has received significant support from BIOFOR. The completed plan is expected to be approved soon by INRENA. USAID expects that this master plan will contribute significantly to helping protect biological diversity, forests, and land, and—at the least—will help combat deforestation.

d. Recommendation: The wording of Result 1, "Improved management of up to six threatened ecosystems," should be changed to reflect the fact that it refers to numerous potentially threatened ecosystems in up to six geographic regions that include PNAs. In addition, given current and expected funding limitations, beyond FY2002, the six selected national conservation areas should be reduced to perhaps four, with emphasis on combining both "green" and "brown" aspects of the Mission environmental portfolio in a few geographical/ecological areas, as described in more detail in the overall evaluation report.

In the case of Pacaya-Samiria, after ensuring that the major actors in these two sites have participated in development of a master plan and that the plan has been approved by INRENA, BIOFOR could best allocate its scarce resources to working only in the training and improvement of local nongovernmental organizations in a few geographic areas of future

activity focus. For Paracas, in order to comply with the counterpart requirements to Parks in Peril, BIOFOR could continue to work along the coast of the Ica region as it has been doing, and not specifically in Paracas National Reserve, to ensure that there is some indicator of conservation of biological resources (e.g., fish, marine mammal nesting areas, desert flora and fauna) that are being harmed by urban and industrial activities and by tourism. In addition, since BIOFOR is not otherwise active in the Sierra, Huascarán could be a candidate for elimination. There also may be compelling reasons to remain in Rio Abiseo because of the particularly good response from local nongovernmental organizations. Likewise, for a number of reasons, Madre de Dios will likely remain a high USAID priority. Tingo María is particularly important to INRENA and USAID because of alternative development activities there. The option of alternative development funding for continued SO4 presence in that area should receive high-level USAID management attention.

In any event, we re-emphasize the need to focus on fewer areas in order not to dilute limited funding to the point where it does not constitute a "minimum mass" of resources for leveraging, or has little prospect of leading to sustainable changes.

Sub-Activity Group 2

Encourage improved management of forests for sustainable wood production and carbon sequestration (through harvesting wood and assuring continuous woody vegetation cover) to mitigate impacts of global climate change (**Results 2, 3, 4; Tasks 5, 7, 8, 11, 15**).

a. Finding/Conclusion: Assistance to INRENA will contribute to preparation of requirements for forest concession management plans. Assistance also is to be provided to NGOs for planning and developing programs for voluntary forest management certification ("green seal" for wood and other forest products). BIOFOR quarterly reports and annual operating plans (1999, 2000) indicate that the forest management activities (**Result 2**) are primarily those to be funded under the NGO training and grants for pilot projects, which are included in **Result 1 as Tasks 7 and 8**.

The USAID/SO4 management team has clarified that what is intended under Intermediate Result 2 is improved forest management, broadly defined, rather than in the narrower sense of "improved timber management or sustainable management of commercial wood resources." Thus, "improved forest management," as used in Result 2, is intended to encompass biodiversity protection within forests, wild game and fish management, sustainable harvest of non-timber products, agro-forestry, pasture management, and sound ecotourism, as well as sustainable management of commercial wood resources.

There are sub-activities in the 2000 annual operating plan related to some aspects of forest management improvement, but these are grouped under other expected results, and there is no comprehensive activity dedicated solely to that result. Thus, accomplishment of Result 2 appears to be a derived accomplishment—that is, secondary to the primary purpose related to a different result.

Forest certification assistance is through a grant to the World Wildlife Fund (which also receives support from the World Bank) for specific aspects of this program, including certification for brazil nuts. As such, it may serve as leverage to influence the WWF approach and outcomes. Another grant being considered would be to help small-holders develop and implement management plans for timber extraction oriented toward sustainability within small areas and with technologies appropriate to their limited capital and technological capacity. Such approaches can be important to improved management, and this is a high priority for INRENA.

The timber concessions work is a policy application type of intervention that is intended to assist COPRI (i.e., CEPRI-BIABO) to develop criteria for contracts with new timber and other concessions in the area. The focus here is on ensuring consideration of the interests of indigenous peoples and the needs of wildlife habitats, as well as for recognizing appropriate commercial possibilities. These efforts obviously are not intended to deal with comprehensive environmental and social issues, nor are they intended to develop comprehensive timber management plans in the area.

In conclusion, the evaluators have some difficulty in identifying significant benefits to retaining a specific expected result for improved management of forests. It appears that Expected Result 1—which expressly refers to “fragile ecosystems” and not just to “biodiverse PNAs”—is sufficiently broad to encompass anything now under way or planned for accomplishing Result 2. This is especially true when viewed within the context of Results 3 and 4. In fact, adding Result 2 may do more to confuse the objective and purposes of BIOFOR than to clarify them. The tasks and actions intended to lead to Result 2 have little apparent relation to improved or sustainable management of tropical forests for utilization of wood or other forest products, but they have easily understandable relationships to fragile ecosystems based on natural forest cover. Also, most of the NGO proposals are not for management of forests, and none are sufficiently long term (30 to 60 years) to test the actual sustainability of any management plans for timber extraction from natural forests.

Worldwide, there are no examples of tropical forests that have been sustainably managed (profits exceeding investments) for wood production through the second rotation of timber extraction, with recuperation of forest ecosystem structure and functions. More than 20 years ago, USAID/Peru funded one of the most promising pilot projects in this area, through the Central Selva Resources Management Project in the Palcazu Valley, but continuity was interrupted. Non-extractive forest “management,” such as ecotourism, watershed protection, non-timber extractions, and related activities in PNAs and/or protected forests will contribute to achieving similar results.

Indicators specified are not, even indirectly, measuring impacts of the pilot projects of the selected NGOs. For example, Indicator 1 requires the implementation of “sustainable” forest management plans, but there is no way to show that such plans are actually sustainable.

We have been made aware that the USAID/BIOFOR Activity Manager strongly disagrees with our findings and conclusions relating to Result 2. He feels that they are a misrepresentation because “BIOFOR contemplates many forms for managing forests from

strict protections through sustainable use of non-timber forest products and other less depredatory economic activities such as properly managed tourism, agroforestry improvement, and enrichment of secondary forests for timber extraction purposes and also sustained yield from natural primary forests." The position of the USAID/BIOFOR Activity Manager is that "most of the grants relate to forest management in one form or another." Although we appreciate the position as stated, we do not feel that it obviates the validity of our findings and conclusions above or the recommendation below that flows therefrom. The "many forms for managing forests" enumerated can be equally accommodated under Result 1, since they do relate to "fragile ecosystems." This avoids the current obvious confusion of activity implementation partners in determining how to divide sub-activities, tasks, and actions between Result 1 and Result 2.

Recommendation: We suggest that Result 2 be removed from the BIOFOR project and from the Mission environmental portfolio. Instead, pilot activities leading to conservation of renewable natural resources in forests and other fragile ecosystems can be included under Result 1. If SO4 decides to retain Result 2, it should at least be reworded to more accurately reflect its intended meaning and scope and to more clearly distinguish it from Result 1.

b. Finding/Conclusion: BIOFOR is to assist INRENA in incorporating the obligation to carry out management plans with environmental and social criteria into proposed contracts for forest concessions in the Biabo-Cordillera Azul Permanent Production Forest Area. Forest management plans *are* environmental management plans for sustainable timber production.

Recommendation: Presumably, what is meant in this BIOFOR activity is to incorporate environmental criteria, including the protection of biodiversity or the assurance of continuous cover of vegetation during and after timber extraction, but this should be clearly stated in the BIOFOR tasks and activities with INRENA.

Sub-Activity Group 3

Improve policies affecting biodiversity and carbon release (as CO₂) and sequestration (as carbon compounds in standing timber) (**Results 2, 3**).

a. Finding/Conclusion: BIOFOR is to assist INRENA in developing policies, laws, and regulations regarding PNAs and national forests (production and protection categories), and in policies for forest concession management plans. BIOFOR has informally assisted INRENA in developing regulations for the proposed National Forestry Law (Ley Forestal), but this revised Ley Forestal is still in draft after about eight years of preparation (various drafts, with different emphases, are circulating). The Inter-American Development Bank previously provided assistance to develop these regulations. BIOFOR also has informally assisted in developing other policy areas as detailed in Attachment 3. Now that the AIL has been signed, direct formal assistance is to be provided.

Recommendation: IRG and INRENA should develop an interim policy improvement work plan through FY2001. Plans for policy improvement assistance beyond FY2001 should await USAID decisions on changes to be made in the SO4 strategy and program for FY2002-2006.

Sub-Activity Group 4

Assist in the participatory preparation of management plans for selected PNAs to protect specified ecosystems (**Result 3; Task 2**)

a. Finding/Conclusion: "Participatory" here includes INRENA; BIOFOR; national and international NGOs (some with other USAID funding, such as the Parks in Peril assistance in Paracas); donor projects operating in the PNAs; and local communities. BIOFOR has served to bring together the most interested actors in Paracas and Pacaya Samiria, where management plans are expected to be produced and approved during 2000.

One vehicle intended to help achieve participation and coordination with other donors and related groups was the establishment of the Activity Coordinating Committee (ACC). The ACC was intended to help avoid duplication of efforts and to complement activities among donors. The ACC has met regularly, with some interruptions, and has apparently been effective in donor coordination in BIOFOR-related activities. A similar initiative, the UNDP-sponsored Issue Group of the Environment (which includes a BIOFOR representative), has been formed and has been supported by BIOFOR. USAID/BIOFOR management does not believe these two groups are substitutes.

Recommendation: SO4 should re-examine possible substitution or merger of the ACC and the Issue Group of the Environment.

Sub-Activity Group 5

Other supporting actions (**Result 4; Tasks 4, 5, 6, 15**):

- Formation of an ACC. (Note: The ACC was discussed in the previous paragraph.)
- Other policy research/training. (Note: Covered under Sub-Activity Group 3.)
- Development of criteria for economic valuation of biological diversity and carbon sequestration, to include short-term training and research funding.

Finding/Conclusion: This subject is quite complex and not yet fully developed within the profession.

Recommendation: Current plans to limited this activity are appropriate—i.e., a few short-term training courses for high-level decision makers, and research by well-trained Peruvian economists doing guided dissertation research or similar refereed research.

- Delimitation of boundaries of Tingo María National Park.

Finding/Conclusion: This is a high priority concern, especially since the alternative development SO is quite active in the Tingo María area and there appears to be significant encroachment into the park for agricultural purposes.

Recommendation: Because of the relative scarcity of SO4 financial resources, agreement should be reached between SO5 and SO4 for SO4 implementation of this activity with financial support from SO5.

- Definition of a "conservation corridor" linking protected areas in Bolivia and Peru; development and application of "a strategy for planning and management of a bi-national geographic area, integrating protected natural areas and buffer zones, to achieve sustainable development."

Finding/Conclusion: Although this activity is outside the geographic focus of BIOFOR, there likely are other important reasons for including it.

- Workshops and seminars about indigenous territories in the Santiago Comaina Reserved Zone on the Ecuador frontier, and consultation with local communities in the Biabo-Cordillera Azul Permanent Production Forest Zone.

Finding/Conclusion: Although this activity is outside the geographic focus of BIOFOR, there likely are other important reasons for including it.

IV. LESSONS LEARNED AND MAJOR ISSUES

BIOFOR implementation was initiated in October 1998. Thus, it is premature to draw conclusions about lessons learned. However, some general observations are appropriate:

- The quality of pilot project proposals appears to be generally good. This likely reflects the appropriateness and quality of the training provided before proposal preparation.
- Focusing of activities and pilot projects in a limited number of prioritized areas appears to have led to more active local participation and can be expected to result in improved synergies and more effective monitoring.
- Using PNAs as an initial entry point appears to have been an effective approach to eventual incorporation of expanded areas of influence and buffer zones into BIOFOR environmental management improvement activities.
- BIOFOR appears to be effectively integrating resource management activities in forested areas, in recognition of interactions among multiple forest products and services as determinants of the real value of forest areas.
- BIOFOR implementation managers have been successful in developing effective working relationships, in facilitating inter-institutional cooperation, and in generating a positive image for BIOFOR activities. With the recent approval of the BIOFOR AIL, greater interaction with and participation by INRENA in BIOFOR activities can be expected.

Major issues discussed in the overall evaluation report also are relevant to the BIOFOR activity.

V. GENDER AND DISADVANTAGED POPULATIONS CONSIDERATIONS

BIOFOR design identifies women and indigenous peoples as populations that should receive special consideration. These concerns are carried expressly into activity implementation. For example, there is an express indicator of women being actively engaged as central actors in activities supported in local ecosystems, including (1) development of management plans, (2) ecological-economic zoning, (3) forest certification, and (4) all other activities where appropriate. As a target value, evidence is to exist to demonstrate that women's roles have increased in at least half of BIOFOR-assisted field activities. Similarly, in 1999, BIOFOR sponsored a social and cultural impact assessment to provide recommendations and proposals to achieve sustainable management of production forests in the Biabo by incorporating local indigenous communities and settlers into the process, thereby minimizing negative impacts on these populations. This assessment and recommendations were officially approved by CEPRI-Biabo. Also, the Peru-Ecuador environmental focus is on the interests of indigenous populations.

In conclusion, it appears that gender and disadvantaged population considerations have been appropriately recognized in the BIOFOR design and that implementation and reporting have responded to design parameters.

VI. DEFINITIONS OF TERMS USED IN BIOFOR DOCUMENTS

A number of terms used in written material related to "green" environmental matters have come to have precise meanings. BIOFOR documents have not been consistent in using these terms according to acceptable definitions. Attachment 4 provides a discussion of acceptable definitions of some of the more important of these terms.

VII. ACTIVITIES AND PILOT PROJECT SELECTION AND CLASSIFICATION

A number of suggestions are offered in terms of selection and classification of BIOFOR activities to be assisted, especially pilot projects. These are included as Annex 5.

Attachment 6 includes information related to pilot projects for 2000.

ATTACHMENTS

ATTACHMENT I. CONGRESSIONAL ENVIRONMENTAL MANDATES TO USAID: U.S. FOREIGN ASSISTANCE ACT (FAA) SECTIONS

Sec. 118 "Tropical Forests and Tree Cover."

Congress recognizes the importance of forests and tree cover to the developing countries, and is particularly concerned about the continuing and accelerating alteration, destruction, and loss of tropical forests in developing countries, which pose a serious threat to development and the environment.

In providing assistance to developing countries, place a high priority on conservation and sustainable management of tropical forests. To the fullest extent feasible, engage in dialogues and exchanges of information with recipient countries which stress the importance of conserving and sustainably managing forest resources for the long-term economic benefit of those countries as well as the irreversible losses associated with forest destruction, and which identify and focus on policies of those countries which directly or indirectly contribute to deforestation. To the fullest extent feasible, support training programs, educational efforts, and the establishment or strengthening of institutions which increase the capacity of developing countries to formulate forest policies, engage in relevant land-use planning, and otherwise improve the management of their forests. Support projects and other activities to conserve forested watersheds and rehabilitate those, which have been deforested, making sure that local people are involved at all stages of project design and implementation.

Support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing, including reforestation, soil conservation, and other activities to rehabilitate degraded forest lands. Support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation, including research in agro-forestry, sustainable management of natural forests, small-scale farms and gardens, small-scale animal husbandry, wider application of adopted traditional practices, and suitable crops and crop combinations.

Conserve biological diversity in forest areas by:

- Supporting and cooperating with United States Government agencies, other donors (both bilateral and multilateral), and other appropriate governmental, intergovernmental, and nongovernmental organizations in efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis; and
- Helping developing countries identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas.

Sec. 119 "Endangered Species."

Congress further finds that the extinction of animal and plant species is an irreparable loss with potentially serious environmental and economic consequences for developing and developed countries alike. Accordingly, the preservation of animal and plant species through the regulation of the hunting and trade in endangered species, through limitations on the pollution of natural ecosystems, and through the protection of wildlife habitats should be an important objective of the United States development assistance.

In order to preserve biological diversity, the President is authorized aid furnish assistance under this part to assist countries in protecting and maintaining wildlife habitats and in developing sound wildlife management and plant conservation programs. Special efforts should be made to establish and maintain wildlife sanctuaries, reserves, and parks; to enact and enforce anti-poaching measures; and to identify, study, and catalog animal and plant species, especially in tropical environments.

The Administrator of the Agency for International Development shall:

- Cooperate with appropriate international organizations, both governmental and nongovernmental;
- Engage in dialogues and exchanges of information with recipient countries which stress the importance of conserving biological diversity for the long-term economic benefit of those countries and which identify and focus on policies of those countries which directly or indirectly contribute to loss of biological diversity;
- Support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity;
- Whenever possible, enter into long-term agreements in which the recipient country agrees to protect ecosystems or other wildlife habitats recommended for protection by relevant governmental or nongovernmental organizations or as a result of activities undertaken pursuant to paragraph (6), and the United States agrees to provide, subject to obtaining the necessary appropriations, additional assistance necessary for the establishment and maintenance of such protected areas; and
- Support, as necessary and in cooperation with the appropriate governmental and nongovernmental organizations, efforts to identify and survey ecosystems in recipient countries worthy of protection.

Sec. 810 "Tropical Forest Conservation Act of 1998." (Public Law 105-214).

Peru was the first country to be able to take advantage of this new program, just as it was the first country to participate in the Enterprise for the Americas Initiative buyback/swap program (Geithner 1999). A purpose of this Act is to facilitate greater protection of tropical

forests, and to give priority to protecting tropical forests with the highest levels of biodiversity and which are under the most severe threat, through reduction of debts to the USG. This facility can substantially leverage the funds utilized in USAID/Peru environmental activities. BIOFOR's training activities with selected NGOs, for pilot projects in utilization and protection of biological diversity and of forest ecosystems, may serve as guidelines for some of the Sec. 810 programs in the future.

Climate Change Initiative

"Global climate change poses profound threats to international economic development and ecological balance. If greenhouse gas emissions continue to grow unabated, all sectors of the global economy, all sectors of the global environment, all realms of the natural environment and all countries of the world will be affected. The greatest costs, however, will be felt by developing and transition countries, the countries least able to cope with crisis and adapt to change" (Climate Change Initiative 1997; www.usaid.gov/EE/EEST/ENR/GCC/gccilet.htm).

In 1997, USAID was charged with defining the approach to be used for the USG's commitment to provide assistance to developing nations and countries with economies in transition to reduce the threat of climate change. USAID presented the Climate Change Initiative as part of the effort to help mitigate global climate change. It was determined that a comprehensive program would be critical in promoting long-term sustainable development. The Initiative will ensure a substantial financial commitment to climate change-related programs in developing nations over the next five years, enhance U.S. leadership of the donor community in collaborating with developing nations to combat climate change, and fulfill U.S. obligations to assist developing nations under the Framework Convention on Climate Change. The overarching objective of the Initiative will be to promote sustainable development that minimizes the associated growth in greenhouse gas emissions and reduces vulnerability to climate change.

Forests serve as a major store of carbon and thus play an important role in the planet's carbon cycle. As they grow, forests withdraw carbon dioxide (CO₂) from the atmosphere and store it in trees and soil, as wood and other organic material, acting as large "sinks" for carbon. When forests are destroyed, carbon stored in trees and soils is oxidized and released into the atmosphere—either slowly through the decay of organic matter or very quickly through fires. USAID will pursue activities that either increase the storage of carbon in ecosystems or land use systems (act as carbon "sinks), or decrease the release of carbon stored in biomass due to human activities, including (among others) the preservation, re-establishment or more sustainable management and use of forests, trees and denuded lands; decreased burning of forest lands, and the maintenance and preservation of wetlands and mangroves.

Climate change will almost certainly decrease biological diversity over the next century. Many species will have to migrate or shift their ranges, generally very long processes, in response to changes in climate. Ultimately, many species may not be able to keep pace with local climate change.

Recent data (March 2000) from the Intergovernmental Panel on Climate Change (IPCC 2000, "Informal Review Draft") indicate the following changes (of relevance to Peru and the USAID Initiative) are apparent in the global climate:

- The current estimate is that the global average surface air temperatures over both land and oceans have increased by between 0.4 and 0.6°C since 1861.
- We now know that the global warming of the 20th century was very likely unprecedented during the otherwise relatively stable past 1000 years, that the 1990s were the warmest decade of that millennium, and that 1998 was the warmest year.
- New record highs for the minimum temperatures during the night are lengthening the freeze-free season in many mid- and high-latitude regions.
- Warm (El Niño) episodes of the cyclic El Niño/Southern Oscillation (ENSO) phenomenon have been relatively more frequent and persistent since the mid-1970s. El Niño is associated with lower rainfall over the tropical Pacific, and its effects can extend around the world, producing local variations in weather and climate. It has been postulated that climate change may first be expressed in changes in preferred patterns of atmospheric circulation, such as those arising from ENSO and the North Atlantic Oscillation/Arctic Oscillation.
- Coupled ocean-atmosphere climate models calculate that the equilibrium global mean temperature increase for a doubling of the atmospheric CO₂ concentration lies in the range of 1.5 to 4.5°C.

ATTACHMENT 2. ENVIRONMENTAL AND RELATED LAWS

La relativa estabilidad económica y tranquilidad social en el Perú a partir de fines del año 1994 e inicios de 1995 se vio afectada luego por otro tipo de situaciones de orden político-social que persisten hasta el presente, tales como el fortalecimiento del Gobierno; cierta recuperación de la administración pública, cambios en su organización y surgimiento de nuevas instituciones; atención renovada a compromisos internacionales ambientales; y un aparente mantenimiento y reforzamiento del criterio de prioridad de la inversión para la explotación de recursos u oferta de servicios sobre el tema ambiental y de desarrollo sostenible.

Una breve observación cronológica de las principales disposiciones legales relacionadas al ambiente y a los recursos naturales vigentes en los 90 o que surgen en este período, nos permite apreciar mejor el escenario político-económico. Este, por otro lado, fue influenciado de manera importante por los acontecimientos previos y posteriores (propuestas y suscripciones de numerosos tratados ambientales internacionales) de la Conferencia de la Naciones Unidas para el Medio Ambiente y el Desarrollo (CNUMAD), ocurrida en Río de Janeiro en junio de 1992. Coincidentemente a partir de ese año se inicia en los diversos sectores de la producción del país un proceso de adecuación hacia la gestión ambiental moderna. Es importante señalar que especialmente en el caso de las leyes que regulan el aprovechamiento de los recursos naturales, sus reglamentos vigentes permiten enfocar mas claramente los criterios de uso y manejo de tales recursos. De igual forma, es posible observar a través de los reglamentos de las leyes de mayor tiempo de aplicación, la necesidad de plantear cambios en sus normas que permitan mejores condiciones para enfrentar los problemas actuales en el nuevo escenario nacional y global surgido en la década de los noventas, al inicio del siglo veintiuno.

Código del Medio Ambiente y los recursos Naturales (1990)

El Código (CMA) es la primera norma legal peruana que pretende dar al tema un tratamiento integral y que introduce importantes principios ambientales y herramientas de gestión ambiental tales como el principio de prevención, el principio contaminador-pagador, los lineamientos de política ambiental, la evaluación de impacto ambiental, el ordenamiento ambiental, el sistema de gestión ambiental. Sin embargo, los contenidos básicos del CMA fueron desvirtuados parcialmente debido a la fuerza de las normas para el fomento de la inversión privada promulgada en el Perú en 1991, debido a tres razones básicas:

Derogó el Sistema Nacional del Ambiente como mecanismo de coordinación para la ejecución de la política nacional del ambiente y encargado de garantizar el cumplimiento de las funciones que el CMA le asigne a cada una de las dependencias de los gobiernos nacionales, regionales y locales.

Le otorgó las facultades de “autoridad ambiental” a cada uno de los ministerios de los sectores correspondientes, con lo cual éstos se constituyeron en juez y parte del control y evaluación de su gestión ambiental.

Condicionó la ejecución de Estudios de Impacto Ambiental (EIA) al hecho de que las actividades pueden exceder los niveles o estándares tolerables de contaminación o deterioro ambiental, cuando en el Perú no existen estándares de tolerancia ambiental, o existen para muy pocos casos.

Ley Orgánica del Ministerio de Agricultura (1992)

Dispone los cambios en la nueva administración agraria y de los recursos naturales del país que llevaron a la conformación del INRENA.

Ley General de Pesca (1992)

El pesquero es uno de los sectores productivos más importantes del país y es también uno de los que enfrenta mayores problemas ambientales: como la sobrepesca, que en el pasado tuvo serias consecuencias no sólo ambientales sino también económicas; y la contaminación derivada de sus actividades de procesamiento, cuyo efecto se busca que sea amenguado a través de estrictas disposiciones sobre EIA, programas de adecuación y manejo ambiental (PAMA) y estándares ambientales.

Las actividades pesqueras, incluyen la extracción, el procesamiento, la comercialización, servicios de control y certificación de calidad comercial de los productos pesqueros, la acuicultura e investigación científica.

Ley General de Minería (1992)

La actividad minera comprende el aprovechamiento de las sustancias minerales del suelo y del subsuelo del territorio nacional, así como el dominio marítimo.

Esta ley indica que los titulares de las concesiones mineras deben cumplir con las EIA y los PAMA, así como con los límites máximos permisibles que se desarrollan en el punto correspondiente a la contaminación ambiental. Dentro de esta ley se encuentra el tema de la servidumbre minera, figura muy cuestionada por favorecer a la actividad minera sobre el derecho de propiedad sobre la tierra que tienen los particulares.

Constitución Política del Perú (1993)

La actual Constitución, contiene un Capítulo denominado “Del Ambiente y los Recursos Naturales” e incluye entre los derechos de toda persona el de “gozar de un medio ambiente

equilibrado y adecuado para el desarrollo de su vida". El artículo 66 de la Constitución establece que los recursos naturales son Patrimonio de la Nación y que por ley orgánica se fijan las condiciones de su utilización y de su otorgamiento a los particulares.

Ley Orgánica de Hidrocarburos (1993)

Esta ley define a los hidrocarburos como todo compuesto orgánico, gaseoso, líquido o sólido que consiste principalmente de carbono e hidrógeno, es decir, comprende al petróleo, al gas y sus derivados. Señala que todas las personas que desarrollen actividades de hidrocarburos deben cumplir con las disposiciones sobre protección ambiental contenidas en el Reglamento para la Protección Ambiental en las Actividades de Hidrocarburos. En caso de incumplimiento, el Ministerio de Energía y Minas (MEM) dictará las sanciones correspondientes, incluyendo la terminación del contrato.

Ley del Consejo Nacional del Ambiente (1994)

Crea el CONAM cuya finalidad es la de promover el desarrollo sostenible propiciando el equilibrio entre el desarrollo económico, la utilización de los recursos naturales y la conservación del ambiente.

Ley de la Inversión Privada en el Desarrollo de las Actividades Económicas en las Tierras del Territorio Nacional y de las Comunidades Campesinas y Nativas (1995)

Conocida como "Ley de Tierras", define el concepto constitucional "tierras" en el régimen agrario como todo predio susceptible de tener uso agrario. Es decir, las tierras de uso agrícola, de pastoreo, las tierras con recursos forestales y de fauna, las tierras eriazas, así como las riberas y márgenes de álveos y cauces de ríos; y en general, cualquier otra denominación legal que reciba el suelo del territorio peruano. Desde la perspectiva ambiental, son tres los temas claves en esta ley en cuanto a los suelos: su tenencia, su ordenamiento y su conservación (contaminación y erosión).

Introduce la categoría de Zonas de Protección Ecológica en la Amazonia, definidas como aquellas áreas geográficas con especiales características ambientales de suelos, aguas, diversidad biológica, valores escénicos, culturales, científicos y recreativos, sujetos exclusivamente al uso compatible con su naturaleza. Sin embargo, existe el problema de que otros sectores también tienen sus propios planes de ordenamiento del territorio como es el caso del sub-sector de hidrocarburos, que define lotes petroleros; el sub-sector de turismo que tiene tres categorías de ordenamiento; y los gobiernos central, regionales y locales responsables de los planes de acondicionamiento territorial, los planos urbanos y los planes integrales de desarrollo provincial.

Ley orgánica de Aprovechamiento de los Recursos Naturales (1997)

Define el marco legal general para todos los recursos naturales, sin perjuicio del desarrollo de legislación específica para cada uno de los recursos naturales.

Ley sobre la Conservación y Aprovechamiento Sostenible de la Diversidad Biológica (1997)

Esta ley tiene como principal objetivo la adopción en el Perú del Convenio sobre Diversidad Biológica. Define lo que debe entenderse por conservación y utilización sostenible de la diversidad biológica como el uso sostenible de los recursos naturales implica aprovechar los recursos en una forma y a un ritmo que no conduzcan a la pérdida del recurso en el largo plazo, manteniendo de esta forma su potencial para satisfacer las necesidades y aspiraciones de las actuales y futuras generaciones. En el caso de los recursos no renovables, debe entenderse que su utilización debe realizarse sin ocasionar efectos adversos a la salud humana, al medio ambiente o a los demás recursos naturales; así como a un ritmo que permita lograr que el recurso no se agote hasta que hayan podido desarrollarse recursos alternativos que los sustituyan.

Ley de Areas Naturales Protegidas (1997)

Esta ley regula el marco general para la gestión y conservación de las áreas naturales protegidas en el país. Las principales disposiciones contenidas en ella son: la gestión del Sistema Nacional de Areas Naturales Protegidas por el Estado (SINAMPE) y la incorporación de elementos tales como los Comités Locales de Gestión y el Plan Director. Establece que las ANP pueden ser administradas a nivel nacional, regional y municipal. Indica asimismo la posibilidad de contar con ANP privadas.

Las leyes aún esperadas: la forestal y la de aguas

Es interesante y sintomático anotar que desde 1990 se vienen discutiendo, replanteando y postergando por diversos motivos mayormente de trasfondo político, estas dos leyes fundamentales para el uso de los recursos naturales y el ambiente del Perú.

Ley Forestal y de Fauna Silvestre (1975)

A pesar de que dos terceras partes del territorio peruano están bajo cubierta forestal, el aporte de este sector al producto bruto interno del país y el volumen de exportaciones forestales es mínimo. Esta Ley regula los temas de ordenamiento forestal, conservación de la flora y fauna silvestre, la extracción y la transformación forestal.

Ley General de Aguas (1969)

La Ley General de Aguas vigente es la norma principal referida al agua; regula de manera integral los temas de administración, tenencia, usos, conservación y preservación de las aguas. Lo primero que establece esta ley es que las aguas, sin excepción alguna, son de propiedad del Estado y su dominio es inalienable e imprescriptible. Las aguas son administradas por la autoridad de aguas, es decir, el Ministerio de Agricultura, salvo las aguas minero-medicinales, y los temas sanitarios relativos a las aguas son competencia de la autoridad sanitaria, es decir, el Ministerio de Salud.

ATTACHMENT 3. BIO FOR POLICY IMPROVEMENT ACTIVITIES

A. BACKGROUND

USAID approved the BIOFOR activity paper in 1998. At the time, there was no bilateral agreement under which funds could be obligated for BIOFOR activity implementation. Thus, USAID initially obligated funds for BIOFOR implementation under an EPIQ IQC contract with IRG, signed in September 1998. IRG began implementation in October 1998. In the absence of a bilateral agreement for BIOFOR to formalize a host country partner institutional relationship, IRG established informal working relationships with INRENA (described elsewhere in this evaluation) and with several national and international NGOs working in matters related to biodiversity and fragile ecosystems in Peru.

At least two BIOFOR Expected Results and several defined tasks under the IRG IQC contract relate to assistance intended to improve environmental policies impacting on conservation of biodiversity and fragile ecosystems, and on carbon release (as CO₂) and sequestration (as carbon compounds in standing timber).

B. BASIC PREMISES FOR BIOFOR POLICY IMPROVEMENT ASSISTANCE

The purpose of BIOFOR is to improve environmental management in conservation of biological diversity and fragile ecosystems. Two basic premises guide the selection and implementation of policy improvement activities to accomplish this purpose:

1. Promote and facilitate synergies and levels of coordination and collaboration among public and private sector institutions involved in such conservation by avoiding duplication and facilitating achievement of common objectives; and
2. Provide supporting inputs (technical assistance, orientation, training, and other complementary inputs) to facilitate and make more effective collaborative efforts of public and private sector institutions directly involved in BIOFOR-related policy improvement and/or site-specific activities.

C. FINDINGS AND CONCLUSIONS RELATED TO BIOFOR POLICY IMPROVEMENT ACCOMPLISHMENTS

1. Incorporation of SO4 Strategy into Peruvian Environmental Policy Framework

An initial policy-related responsibility of IRG was to assist USAID/SO4 to develop and obtain approval of an overall SO4 SOAG as the bilateral agreement between USAID and the Government of Peru. The purpose of this bilateral agreement was to secure the Government of Peru's endorsement of the MES, SO, and IRs as a part of Peru's environmental management improvement policy framework. The SOAG also would serve as the obligating document for all SO4 program funding, including funding obligations for BIOFOR. Similarly, IRG was to assist USAID/SO4 in developing and obtaining approval of a BIOFOR AIL. This AIL would commit funds and partner institutions (under the framework of the SOAG) for implementation of BIOFOR.

In December 1998, IRG initiated work for developing and approving the planned SOAG and BIOFOR AIL. This work was largely completed and ready for formal USAID negotiations with the Government of Peru and INRENA by the end of April 1999. The SOAG was signed in August 1999, and the BIOFOR AIL was signed in March 2000. On the Peruvian side, the SOAG was signed by the Minister of Foreign Relations as the representative of the Government of Peru and by the three primary Peruvian SO4 partner institutions, CONAM, INRENA, and the Ministry of Health (MS/DIGESA). Thus, by this SOAG, the Government of Peru and three major public sector national environmental management institutions committed to the USAID/SO4 MES, SO, and IRs as an integral part of Peru's environmental policy framework. This was the first SOAG to be negotiated and approved in Peru.

2. Other Policy-Related Assistance

Formal agreement with INRENA on policy-related assistance was reached on signing the BIOFOR AIL in March 2000. However, informally and in anticipation of the eventual signing of the AIL, several activities have been carried out. These relate to the following:

- a) Assistance in the development of model forestry concessions with CEPRI-Biabo;
- b) Assistance in the development of model ecological/economic zoning in Madre de Dios;
- c) Assistance in developing elements of the master environmental plan for the Pacaya Samitiar National Reserve;
- d) Assistance in the application of conservation and local participation policies in the management of the Santiago-Comaina Reserve Zone;
- e) Initiation of policy application support to the bi-national Vilcabamba (Peru)-Amboro (Bolivia) Conservation Corridor;

- f) Participation in the INRENA Forestry Consultative Council, which discusses forestry policy options;
- g) Participation with INRENA in development of proposed regulation for the recently adopted Protected Natural Areas Law.

Specific accomplishments to date in these areas of policy assistance have been summarized by IRG as indicated in Matrix A.

Matrix A: BIOFOR Policy Improvement Assistance Accomplishments, April 30, 2000

.Proceso de Concesiones Forestales - CEPRI Biabo*	• <i>Mayor logro:</i> lo aplicado y aprendido durante el proceso Biabo servirá como modelo a los demás procesos de concesiones que se den en el Perú, sea que se aplique directamente por COPRI, a través de la CEPRI-Biabo, o por la institución que tiene el mandato legal para conducir la política forestal nacional, INRENA. • La incorporación de IRG/BIOFOR al proceso conducido por CEPRI-Biabo, permitió que los responsables técnicos y políticos del proceso entendieran la necesidad de incorporar criterios de conservación (en especial de las zonas de protección) de los bosques y criterios sociales/culturales acerca de las poblaciones nativas y mestizas de la zona. Estos criterios no habían sido contemplados hasta nuestra participación. • La visita del Director Técnico de CEPRI-Biabo a BOLFOR, que fuera financiada por BIOFOR, sirvió para que los planteamientos sociales y de conservación, así como los beneficios del manejo de bosques fueran comprobados a través de los resultados que se vienen generando en Bolivia. • Conjuntamente con UNDP (quien venía ya apoyando a la CEPRI) se logró que la Alianza WWF-WB se incorporara al grupo de cooperantes que financiaron y brindaron asistencia técnica al proceso. • Las recomendaciones brindadas en los cuatro estudios desarrollados por IRG/BIOFOR han servido para que las instancias técnicas y políticas puedan contar con elementos para la toma de decisiones, en cuanto a: a. La necesidad de incorporar en el proceso la participación activa de las poblaciones nativas y mestizas de la zona. b. Considerar que las Zonas de Protección (dos terceras partes de la unidad forestal) no pueden ser manejadas y tratadas aisladamente, sino que son parte de una unidad de manejo integral, así como que poseen una gran diversidad biológica la cual debe ser atendida técnica y científicamente. c. El análisis de las experiencias de otros países en donde se han realizado similares procesos, ha permitido que CEPRI cuente con elementos de juicio sobre las lecciones aprendidas en otras partes del mundo. d. El potencial de uso industrial de los lotes asignados para las concesiones es mayor que los criterios utilizados tradicionalmente. Esta información ha sido compartida con los postores, con la finalidad de crear mejores condiciones de compromiso financiero a favor del Estado peruano. Se tiene conocimiento que, todos estos aspectos, han sido incorporados en el Contrato de Ley que se firmará con los adjudicatarios de los lotes. De esta manera se sientan las bases para cuando el INRENA "tome la posta" para la supervisión y control de las actividades de los concesionarios. Así mismo, se incorporarán en los próximos procesos de concesiones que se realicen en el Perú. <i>Negotiations Starting Date:</i> 10/98 <i>IRG/BIOFOR Completion Date:</i> 11/99

ZONIFICACIÓN ECOLÓGICA ECONÓMICA DE MADRE DE DIOS (ZEE- MDD)	• Se ha generado conocimiento e información para la toma de decisiones en cuanto a: 1) zonas donde se orientarán las actividades productivas; 2) zonas que deben protegerse; 3) zonas de tratamiento especial (p.e. zonas de poblaciones indígenas aisladas voluntariamente). De esta manera se ha evidenciado el potencial de MDD con relación a nuevas opciones de desarrollo para la región, fundamentado en la visión de sostenibilidad de los recursos naturales. • El "mapa de diversidad humana" ha generado información y conocimiento que puede llevar a los tomadores de decisiones a: 1) respetar los espacios ocupados; 2) plantear alternativas de solución de conflictos por superposición de derechos (p.e. concesiones vs comunidades nativas). • El proceso ha generado un reconocimiento acerca de la necesidad de conducir procesos participativos para la toma de decisiones cuando se trata de los recursos naturales. • Se ha logrado el compromiso (inclusive financiero) del Gobierno Regional-MDD el cual está siendo visto con interés por otros gobiernos y ha generado una manifiesta voluntad de replicar tal experiencia en sus regiones. Negotiations Starting Date: 01/99 IRG/BIOFOR Completion Date: 05/2000
PLAN MAESTRO PARA LA RESERVA NACIONAL PACAYA-SAMIRIA (RNPS)*	• Se ha podido difundir e involucrar activamente en el proceso de elaboración del Plan Maestro a la todas las instancias de la sociedad relacionadas con la RNPS, tanto al nivel de instituciones de carácter regional y nacional, como a la misma población organizada del ámbito de la Reserva. • El proceso ha demostrado su utilidad, por lo que el INRENA ha manifestado su decisión de replicarla en otras áreas naturales protegidas del SINANPE. • BIOFOR en representación de USAID ha dado un paso fundamental en el proceso, generando un clima de confianza con la cooperación para que aporte en un proceso innovador de toma de decisiones sobre un área protegida. BIOFOR logró involucrar a la Agencia de Cooperación Española (AECI), al Servicio Holandés de Voluntarios (SNV), entre otros, quienes han comprometido recursos humanos y económicos para el proceso. • Las autoridades responsables (INRENA) han liderado un proceso de generación de compromisos entre cooperantes para obtener un producto común. • El proceso para la elaboración del Plan Maestro está incorporando nuevas políticas para el manejo de las ANP basándose en el nuevo marco legal. Este marco legal hace especial énfasis en generar participación activa de la población afectada por las decisiones políticas con relación a las ANP. • Es así que el proceso ha producido un sentimiento de "pertenencia" por parte de todas las instituciones participantes del mismo. De esto se deduce que el Plan Maestro ha nacido fortalecido, ya que los participantes vienen "apostando" a que este plan se apoye y se ejecute. De tal manera se ha democratizado las decisiones en cuanto a la conservación de los recursos naturales del ANP. Negotiations Starting Date: 12/98 IRG/BIOFOR Completion Date: 04/2000

ZONA RESERVADA SANTIAGO-COMAINA (ZRSC)*	- La asistencia técnica brindada por IRG/BIOFOR permitió que la Jefatura del INRENA considerara la necesidad de incorporar a la población indígena en el proceso de definición del futuro de la ZRSC. (La ZRSC nace como producto del Tratado de Paz entre Ecuador y Bolivia, y dada su prioridad las instancias políticas no habían considerado definiciones "participativas" sobre el área.) - IRG/BIOFOR ha entregado al INRENA una propuesta de categorización de la ZRSC, como resultado de un proceso de consulta con las organizaciones indígenas del ámbito. Esta propuesta servirá de base para que INRENA elabore los dispositivos legales pertinente. - La propuesta justifica la ampliación de la ZRSC y la posterior creación de tres ANP. <i>Negotiations Starting Date: 04/99</i> <i>IRG/BIOFOR Completion Date: 11/99</i>
CORREDOR DE CONSERVACION VILCABAMBA (PERU) – AMBORO (BOLIVIA)*	- El esfuerzo de apoyo conjunto de IRG/BIOFOR y CONSERVATION INTERNATIONAL (CI) se origina como una voluntad de soporte a las instituciones responsables de las áreas naturales protegidas del Perú y Bolivia, quienes se han comprometido en aunar esfuerzos para el manejo integral de una de las regiones de mayor diversidad biológica del mundo, la cual trasciende los límites políticos de ambos países. - BIOFOR y CI han entregado al INRENA un conjunto de mapas como propuesta técnica de definición del ámbito del Corredor de Conservación Perú-Bolivia. <i>Negotiations Starting Date: 03/99</i> <i>IRG/BIOFOR Completion Date: 01/2000</i> <i>Following Efforts proposed Starting Date: 06/2000¹</i>
SECTOR FORESTAL*	- Desde el pasado mes de abril, IRG/BIOFOR viene participando en el Consejo Consultivo de la Dirección General Forestal (DGF) del INRENA. Este Consejo es una instancia que agrupa a los gremios de las empresas del sector forestal, así como instancias académicas, ONGs y, con la presencia de BIOFOR, también a la cooperación internacional. Las instituciones participantes, han sido convocadas por la DGF con la finalidad de contar con un espacio de reflexión y opinión acerca de los temas de interés político para el sector. Los temas que se han priorizado son: 1. Canon de Reforestación 2. Definición del Valor de la Madera en Pie 3. Plan Nacional de Reforestación 4. Apoyar a la DGF en cuanto a sus aportes en la Estrategia Nacional Forestal 5. Determinar aspectos que podrían orientar la nueva Ley Forestal <i>Starting Date: 04/99</i> <i>IRG/BIOFOR Completion Date: será una actividad permanente durante LOA</i>
REGLAMENTO DE LA LEY DE AREAS NATURALES PROTEGIDAS*	IRG/BIOFOR participa en las discusiones que se vienen dando en relación con el Reglamento de la Ley de ANPES, la cual se ha convertido en una prioridad política para el Sector. Se espera muy pronto su promulgación. <i>Negotiations Starting Date: 04/99</i> <i>IRG/BIOFOR Completion Date: 05/2000</i>

* Actividades contempladas por el AIL en apoyo directo.

Recommendation: In light of the signing of the AIL in March 2000, IRG and INRENA should develop an updated interim policy improvement work plan through FY2001. Plans for policy improvement assistance beyond FY2001 should await USAID decisions on changes to be made in the SO4 strategy and program for the period of FY2002-2006.

¹ IRG/BIOFOR y CI han comprometido sus esfuerzos en apoyar la iniciativa de ambos gobiernos para reunirse en Julio del 2000 para discutir propuesta del ámbito del Corredor y establecer los pasos para el manejo integral del mismo.

ATTACHMENT 4. DEFINITIONS OF GREEN ENVIRONMENTAL TERMS

The term "biological diversity," often shortened to "biodiversity," refers to all of the living components (organisms, genetic diversity, interactions of organisms within ecosystems, etc.) of any environment. This includes all ecosystems on earth, from the Antarctic (where the only living components may be algae and other micro-organisms growing in snow or on rocks) to the Amazon River watershed (trees and lichens and parrots in rainforest ecosystems, or the fishes and algae in aquatic ecosystems). Humans and human societies are usually integral parts of the diversity of these ecosystems.

The BIOFOR activity objective to "Protect biological diversity and forests . . ." implies that "forests" are somehow separate from biodiversity and that forests could be protected without considering biodiversity. Forests are simply one of many types of ecosystems, the principal difference being the presence of woody vegetation (trees and shrubs). If the BIOFOR activity protects "biological diversity" in Peru, then forests are one of the principal ecosystems that can be protected. Presumably, what was intended in the activity objective wording was that particular attention would be directed to forested ecosystems or that forests would be the focus of a different sort of "protection." There are no forests on the arid coast of Peru near Paracas and Ica, and virtually none in the sierra ecosystems of Huascarán National Park, although these are areas of major BIOFOR activities.

For those unfamiliar with green environmental terminology, some quick definitions will be useful. "Protection" indicates that biological resources will not be utilized or disturbed, but only protected for possible future use or for intrinsic passive use as parts of intact ecosystems (e.g., vegetation cover reducing soil erosion; forests serving as habitats for protected species of plants or animals or as corridors connecting protected animal habitats). "Conservation" is generally intended to include rational use of naturally renewable resources, with utilization not exceeding production of the resource and not significantly degrading the structure or functioning of the ecosystems in which the resources occur, for a sustainable utilization for the foreseeable future. Examples of conservation of resources include limited grazing of natural pastures, low-intensity fishing, tourism, hunting of game, and harvesting of fruits or other biological products. The critical difference between "conservation" of utilized biological resources and "mining" of these renewable resources (e.g., clear-cutting of a forest without replanting or management to ensure natural succession to forest) is that utilization of the resource does not exceed the natural production rate of the resource (wood removed from a forest does not exceed the natural replacement of trees, or complete harvesting of fruits does not allow reproduction of the plant species).

A distinction must be made between activities or projects designed to directly *protect biodiversity* (i.e., species, habitats, ecosystems, genetic variations) and those designed to sustainably harvest and *utilize renewable resources* (e.g., marketing of wood, brazil nuts, game for pets or meat, anchovies for fishmeal). Although resource utilization projects may also help to protect biological diversity locally, they do not necessarily do so. Activities that directly "protect biodiversity" will generally be judged "excellent" as they usually will involve little risk of environmental damage. On the other hand, *sustainably utilizing* (i.e.,

conserving) biological resources can involve considerable risk of environmental damage if the activities are not carried out with care.

As the BIOFOR title—Biodiversity and Fragile Ecosystems Conservation and Management—indicates, the term “protection” should not be used in the objective, or should be used with “conservation” to indicate that both management options are included. We suggest that the SO4 team reword the activity objective to more clearly indicate the nature and goals of the activity, in concordance with the title, as in: “Protect or conserve biological diversity, sustainably manage forests, and mitigate climate change.”

ATTACHMENT 5. SUGGESTIONS FOR ACTIVITY & PILOT PROJECTS SELECTION FOR BIOFOR

The following suggestions/caveats should be considered in all planned tasks and activities of BIOFOR, particularly in the selection of NGO pilot projects designed to sustainably utilize or to protect biological diversity and forested ecosystems. These considerations should be part of the training to NGOs in the basic principles of ecology, biodiversity, and forest management that we recommend be included in the BIOFOR training program.

- a. "Environmental" activities, particularly in the fragile ecosystems of some parks and reserves, can have significant detrimental environmental impacts. An example of this is the soil erosion caused on trails used by "ecotourists" and researcher/ecologists at two biological reserves in Ecuador and Costa Rica, as reported by Wallin and Harden (1996). Conservation or environmental activities designed to protect or sustainably utilize biological resources are not immune from mistakes (such as the introduction of exotic species in agro-forestry) that can lead to the destruction or reduction of biodiversity. Mitigation or avoidance of such impacts is required by U.S. laws under the USAID Environmental Regulations in the Foreign Assistance Act.
- b. The common assumption in many conservation and development projects that improvement in local incomes, combined with environmental education, will result in reduced pressures on biological resources in nearby parks or reserves is **not** proven and should not be used as an assumption on which the success of project activities is based.
- c. What reason is there to expect that this activity will continue after ending USAID funding? Will the target population return to unsustainable practices leading to loss of biodiversity or to other negative environmental impacts?
- d. What subsidies or cost reductions are indirectly or directly provided by the USAID assistance (e.g., training or materials for park guards, preparation or implementation of park or forest management plans, cages or food for reared animals, transport of wood or forest products to markets or processing centers)? Are there possible future sources of funding to replace USAID funds after project or activity termination, or will the activity lead to economic self-sufficiency?
- e. Is the activity part of a more comprehensive result not directly related to the specific activity (e.g., environmental education on the local relevance of endangered species protection, and training of parabiologists, as part of the another donor-funded project)?
- f. What non-biological component of the ecosystem is positively or negatively affected (e.g., hydrologic resources and air temperature fluctuations regulated by keeping forest cover intact, tourist wastes polluting stream water, soil erosion increase due to logging)? Will the activity help to protect non-biological environmental services of

the ecosystem? Are there sociocultural areas being protected (e.g., an archeological site, a site sacred or otherwise important to local communities)?

- g. What is the extent or importance of the biological diversity being protected or conserved?
- h. What Peru, U.S., or other laws and treaties apply to the extraction, marketing, or export of specific biological products (e.g., orchids and bromeliads and identified endangered species cannot be exported from or to any signatory of the CITES treaty; animal and plant products must pass quarantine regulations specific for each country; Peru has restrictions on the export of wood)?
- i. What is the conservation status of the species (endangered, rare, migratory, or common)? Are any species in a forest management tract subject to regulation or prohibition of harvesting or utilization? If a species to be utilized is not common, at least locally, extraction or harvesting should not proceed, and consideration should be given to activities to discourage utilization of this species.
- j. What is known of the ecology and biology of the species or forest type being affected? Is basic research needed before USAID activities can rationally proceed?
- k. What are the biological and ecological impacts of harvesting (e.g., impacts of harvesting plants or plant parts on animals that eat this plant species; animals that utilize a particular plant species for nesting or reproduction; pollinators that may be adversely affected by loss of the plants; logging in a habitat important for the survival of rare or endangered biota)? If the affected species are rare or endangered, the proposed harvesting should not proceed without sound mitigation measures.
- l. Does this species have an essential role in the functioning of its ecosystem (e.g., the sole animal pollinator of an endangered orchid species; a tree that is the principal food source during a critical part of the year for a rare monkey; the only host for an endangered parasite)?
- m. For forest products, including wood and animals, is it possible to determine the maximum sustainable harvest rate? Are there baseline data on local population size, density, reproductive rate (i.e., demography) of the species or forest type? Is the rotation time for wood harvest in a forest management plan based on objective estimates of tree growth and replacement rates? What is the projected product demand compared to maximum sustainable harvest rate?
- n. If the species is locally common, what regional or other factors indicate the need for conservation activities focused on this species? For example, a migratory bird or marine mammal may be locally common because most of the individuals of the species breed on the islands offshore from Paracas during a specific part of each year, but the survival of the species in the region is threatened by increasing loss of habitat or hunting pressures elsewhere.

- o. Are monitoring methods designed for determining actual harvest rates? Are controls possible to avoid exceeding sustainable harvest when demand may exceed supply? Can monitoring methods be designed to ensure that products are not being taken from protected areas?
- p. Can it be shown that hunting or harvesting of wild sources will be reduced by the USAID activity (e.g., will rearing of game animals reduce hunting pressures)? Will hunting/harvesting of wild sources be the outcome of ending USAID support this activity?
- q. Is it likely that forest extraction or rearing/cultivation of wild species will continue to provide income or food after project support ends?

ATTACHMENT 6. PROPOSALS FOR SITE-BASED INTERVENTION GRANTS, APRIL 2000

PROGRAMAS DE DONACIONES PROYECTOS PRESENTADOS POR ZONAS DE INTERVENCIÓN

La evaluación de los proyectos presentados por Zonas de Intervención (Huascarán, Costa de Ica, Tingo María, Pacaya Samiria, Madre de Dios y Abiseo) que se presentan en este anexo presentan algunas primeras características interesantes.

Un total de 152 instituciones locales y nacionales presentaron en total 46 proyectos distribuidos entre las 6 zonas. Estos son clasificados en cada zona de acuerdo a su tema principal en las siguientes categorías temáticas:

	Huascarán	Ica	Tingo	Pacaya	M. de Dios	Abiseo	Total
Ecoturismo	5	3	1	1	3		13
Recursos vegetales	3			1	2	1	7
Recursos animales		2	2	2	2	2	9
Recursos hídricos y bosques			1				1
Desarrollo integral			5				5
Saneamiento urbano			1				1
Rehabilitación de tierras				1		1	2
Agro forestería				1			1
Valoración forestal					1		1
Actividad agropecuaria					1	2	3
Manejo de bosques					1	1	2
Uso de la tierra						1	1
Total	8	5	10	6	10	8	48

Usando una forma simple y rápida de consideración del grado de contribución de los proyectos arriba clasificados, a la protección de la biodiversidad en tres grupos: Contribución Directa (CD), Contribución Indirecta (CI) y Contribución Nula (CN) se obtiene la siguiente información.

	CD	CI	CN
Huascarán	2	3	3
Costa de Ica		4	1
Tingo María		8	2
Pacaya-Samiria	4	1	
Madre de Dios	1	7	2
Abiseo		6	2
Sub-total	3 (6%)	32 (70%)	11 (24%)

Considerando los títulos de los proyectos, se puede observar la diversidad de temas y a cuales de ellos se les da mayor importancia en cada zona, así como que el 70% de los proyectos sólo contribuirían indirectamente a la protección de la biodiversidad, lo cual implica en principio la realización de acciones aprovechamiento y manejo de recursos naturales en actividades

productivas o de servicios, siendo la mas presente y frecuente en las seis zonas la de ecoturismo.

ZONA HUASCARÁN

Título de la Propuesta

Instituciones Participantes

Conservación y manejo del Parque Ecoturístico PANRI

Instituto Superior Tecnológico Antonio Raymondy - ISTAR, Municipalidad Distrital de Yanama, Comité de Desarrollo de PANRI (3)

Proyectos de desarrollo de turismo de aventura de la ruta Pitec- Shallap en el Parque Nacional Huascarán

Outdoors Expeditions S.A., Comunidad Campesina de Llupa, ECOANDES (3)

Conservación In situ del germoplasma local de tubérculos y raíces nativas

Urpachillay (1)

Restauración , protección y desarrollo del sistema ecoarqueológico de Marcajirca

Kuntur, Municipalidad Provincial de Huari, Instituto Superior Pedagógico de Huari, Hospital de Apoyo de Huari, Municipalidad Distrital de Cajay (4)

Recuperación y manejo de especies forrajeras palatables en 2500 has. de praderas naturales en la Comunidad Campesina 14 Incas

CIDIAG, Municipalidad de San Juan, Federación Distrital de Rondas Campesinas, Comunidad Campesina 14 Incas (4)

El desarrollo del ecoturismo en la Cordillera. Huayhuash y en el Distrito de Pacllón

Club de Montañeros y Rescate "Los Andes de Huayhuash, Asociación de Guías de Montaña del Perú - Región Chavín, UNASAM (3)

Recuperación y preservación de tubérculos andinos (papa nativa y olluco) en cinco Comunidades altoandinas del Dpto. de Ancash

Centro de Ecología Andina, Comunidad Campesina Marcopampa, CC Chichucancha, CC Chacpar, CC San Antonio de Huisín, Empresa comunal Hnos, Bethel (6)

Apoyo al mejoramiento de ingresos sostenibles a través del turismo alternativo para el desarrollo

CARE-Perú, Parque Nacional Huascarán, Facultad de Ciencias del Ambiente- UNASAM, Dirección Regional De Industria y Turismo, Instituto de Montaña (5)

8 proyectos

29 instituciones

ZONA COSTA DE ICA

Título de la Propuesta

Instituciones Participantes

Proyecto piloto de ecoturismo en RNP

The Zarcillo Connections, Pelican Travel & ser., AGOLIW, CEAP (4)

Conservación y manejo de recursos hidro-biológicos bentónicos en la playa Mendieta - RNP

PRONATURALEZA, UNICA, Dirección Regional de Pesquería, Asociación de Buzos a Pulmón "Alto Puno" Asociación de Recolectores y Extractores de Algas Marinas "Beatita de Humay"(5)

Cultivo y manejo sostenible de *Argopecten purpuratus* (concha de abanico) en el Raspón - RNP

Asociación de buzos a pulmón Almirante Miguel Grau, UNICA, Dirección Regional de Pesquería, IMARPE, INRENA (5)

Campamento turístico Miramar

IDDL, Club de Madres Santa Cruz (2)

Proyecto Ecoturismo San Andrés

Municipalidad Distrital de San Andrés, Cámara PYMES Pisco, Sindicato de Pescadores Artesanales y Extractores de Mariscos de San Andrés (3)

5 proyectos

19 instituciones

ZONA TINGO MARÍA

Título de la Propuesta

Instituciones Participantes

Conservación de recursos hidrobiológicos mediante la construcción de embalses para la crianza de peces nativos y camarón gigante de Malasia en la provincia de Leoncio Prado

Municipalidad provincial de Leoncio Prado, Asociación de Pescadores Artesanales del Alto Huallaga (2)

Delimitación del Parque Nacional Tingo María

CADA, Agencia Agraria Leoncio Prado, PN Tingo María, Asociación de Agricultores Augusto Durand D. (4)

Recuperación del régimen hídrico en el Bosque Reservado de la Universidad Nacional Agraria de la Selva (BRUNAS)

Colegio Ingenieros del Perú - Cap. Tingo María, Facultad de Recursos Naturales UNAS (2)

Instalación de un sistema agrosilvopecuario en suelos degradados en áreas adyacentes al Parque Nacional de Tingo María

Municipalidad distrital Mariano Damaso Beraún, Granja avícola Helvetia, Agencia Municipal el Caserío Cueva de las Pavas (3)

Agroforestería comunitaria para la recuperación de suelos degradados y la generación de bosques en el distrito Alomías Robles

Cooperativa Agroindustrial Naranjillo, Club Los Shihuahuacos, Comunidad Alto Pendencia, Consultor independiente La Casa de la Abuela, AIDER (5)

Crianza y Domesticación de animales silvestres en la zona de Tingo María

CONAP, COSAGRA-LM, PRODEAS, Facultad de Recursos Naturales UNAS, PN Tingo María (5)

Desarrollo de chacras integrales en la microcuenca de Las Pavas (Chincamayo-Previsto)

Comité Central de Desarrollo de la Microcuenca de Las Pavas, Comité de Reforestación de Tingo María, PRONAA, PEAH (4)

Desarrollo integral de la Comunidad Campesina "Santa Catalina"

APSEJ - JPC, Comunidad Campesina Santa Catalina, IDMA, INRENA - Tingo María (4)

Desarrollo de sistemas integrales de agricultura con enfoque de género

Instituto de Desarrollo y Ecología (1)

Tratamiento de residuos orgánicos de la ciudad de Tingo María

Centro de Desarrollo Amazónico y Municipalidad provincial de Leoncio Prado (2)

10 proyectos

30 instituciones

ZONA PACAYA-SAMIRIA

Título de la propuesta

Instituciones Participantes

Crianza en cautiverio para la producción docilizada de majaz, ajuje y sajinos

Asociación Curmi (1)

Desarrollo del ecoturismo sostenible en la

PRONATURALEZA, Green Life, COMAPA 20 de

cuenca del río Yanayacu del Pucate - RNPS

Manejo de poblaciones naturales de *Myrciaria dubia* (camu camu) en la RNPS, Perú

Instalación de sistemas agroforestales en 11 Comunidades de la RNPS

Manejo de áreas degradadas por actividad Agrícola migratoria en la carretera Nauta - Iquitos en la selva baja del Perú

5 proyectos

Enero, UPC Yacu - Taita, RN Pacaya-Samiria (5)

AEFAP, ECOMAC Manco Capac (2)

Caritas, Iquitos, ADAR, Municipalidad provincial de Loreto - Nauta (3)

Minga Perú (1)

12 instituciones

ZONA MADRE DE DIOS

Título de la Propuesta

Promoción y desarrollo del circuito ecoturístico Rural en las comunidades de Las Cachuelas

Valorización comparativa de usos alternativos del bosque en la zona de la carretera Puerto Maldonado - Iberia

Manejo integral sostenible de unidades agropecuarias piloto como estrategia para la conservación de la biodiversidad en la Zona Reservada Tambopata Candamo

Ecoturismo como herramienta para la Conservación de la biodiversidad

Recuperación y manejo sostenible de recursos minerales e hidrobiológicos en la cuenca del río Madre de Dios

Manejo de bosques por pequeños extractores forestales

Manejo de recursos hidrobiológicos (peces y Tortugas) en en Bajo Madre de Dios y río Heath

Mejoramiento de los sistemas de cosecha de castaña en Madre de Dios

Aprovechamiento sostenible de aguaje (*Mauritia flexuosa*)

Establecimiento de un Jardín Etnobotánico Comunidad - Palma Real

10 proyectos

Instituciones Participantes

Comunidad Las Cachuelas, CTAR Madre de Dios, Red de Promoción de la Mujer, Empresa Turística Dany's Mirador (4)

CANDELA - Perú, Asociación Agroecológica de Madre de Dios (2)

CECOVASA, PREVIT, Municipalidad distrital San Juan de Oro, ZR Tambopata Candamo (4)

Rainforest Expeditions, Comunidad de Infierno (2)

Municipalidad Distrital de Madre de Dios, Boca Colorado, Placeres Auríferos (2)

IIAP - MDD, Asociación de Extractores Forestales (2)

PRONATURALEZA, INRENA, Dirección Regional de Pesquería, Comunidad Lago Valencia, Comunidad Nativa Sonene (5)

ASECAM, ACCA, Dirección Regional Agraria (3)

Conservation International (1)

UNSAAC, ONG SOS Amazonia, ONG Wanamey (3)

28 instituciones

ZONA RÍO ABISEO**Título de la Propuesta**

Experiencia piloto sobre le uso sostenible de la tierra en el distrito de Shamboyacu (Corredor Juanjui - Tarapoto)

Manejo sostenible de la producción agropecuaria en Huicungo y Juanjuicillo

Cultivo de peces nativos una opción de desarrollo sostenido en el área de influencia del Parque Nacional Río Abiseo

Práctica de la agricultura sostenida en la zona de amortiguamiento manejada (ZAM-2)-Huayabamba Medio del PNRA

Aprovechamiento integral de *Ochroma lagopus* en la zona de amortiguamiento del PNRA

Manejo demostrativo de bosques secundarios con sistemas agroforestales en la zona de amortiguamiento Nor Oriental del PNRA

Recuperación y conservación de los recursos Naturales en áreas intervenidas del Bosque de Protección Cerro Escalera-Micro cuenca del Río Shilcayo

Zoocriadero de animales silvestres de fácil manejo en proceso de extinción

8 proyectos

Instituciones Participantes

ITDG, SNV, CTAR San Martín (3)

Asociación Warmimayo, ONG Capirona, Asociación Civil de Clubes de Madres Mariscal Cáceres (3)

IIAP San Martín, Dirección Regional de Pesquería San Martín, Municipalidad Provincial de Bellavista, Asociación de Acuicultores de Bellavista (5)

ACOPAGRO, PEAH, Colegio Ingenieros Cap. Juanjui, Municipalidad Distrital Huicungo (4)

CEPCO, Club de Madres 2 de Mayo (2)

CEDECAH, Club de Madres Gran Pajatén, Comité de Productores y Servicios Múltiples Río Abiseo, PN Río Abiseo, Sub-Región Huallaga Central Juanjui (5)

CEDISA, ONG Choba Choba, Comité Ecológico Uruhuasha, Centro Takiwasi, EMAPA San Martín (5)

Rene Tours, ONG INDIMAC, Agencia Agraria Juanjui, Asociación de Empresas Turísticas (4)

34 instituciones

ATTACHMENT 7. BIBLIOGRAPHY

- AMACAU. 1998. Proyecto enriquecimiento de bosques en formacion en suelos aluviales de la Amazonía Peruana. AMACAU (Asociación de Mujeres Campesinas de Ucayali), project proposal to SPDA for small grants. 69p.
- Anderson, A. (ed.). 1990. *Alternatives to Deforestation: Steps toward Sustainable Use of The Amazon Rain Forest*. Columbia University Press. New York.
- Ashton, P. 1989. Species richness in tropical forests. In: L. Holm-Nielsen, I. Nielsen, and H. Balslev (eds.). *Tropical Forests: Botanical Dynamics, Speciation, and Diversity*. Academic Press, London. p.239-251.
- Atwood, J. B. 1999 (Dec.) Climate Change Initiative. U.S. Government, Washington. 63p. [<http://www.usaid.gov/EE/EEST/ENR/GCC/gccilet.htm>]
- Balslev, H., J. L. Luteyn. (eds.) 1992. *Páramo, an Andean ecosystem under human influence*. Academic Press, London.
- Bernales, A. 1999. Current situation and elements for environmental management in the Pisco-Paracas area: An approach. Evento de lanzamiento del complejo de exportación Pisco, agosto 1999. BIOFOR/EPIQ/USAID, Lima. 21p.
- Bibby, C. J., *et al.* 1992. Putting biodiversity on the map: Priority areas for global conservation. International Council for Bird Preservation, Cambridge. 90p.
- Brown, S. 1999. Land-use and forestry carbon-offset projects. Winrock International, Paper prepared for the USAID Environment Officers Training Workshop. 41p.
- Caley, M. J., D. Schulter. 1997. The relationship between local and regional diversity. *Ecology* 78:70-80.
- Conservación Internacional Perú. 1997. Biodiversidad de la Cordillera del Cóndor: Referencias Técnicas para su Conservación. CI-Peru ediciones, Lima. 86p.
- Dinerstein, E., *et al.* 1995. A conservation assessment of the terrestrial ecoregions of Latin America and the Caribbean. The World Bank & The World Wildlife Fund, Washington, DC. 129p.+ maps.
- Eguiguren E., A., A. Martínez F. 1996. Experiencias forestales comunitaria en América Latina: Documento síntesis. Fundación Natura & Red Latinoamericana de Bosques, Quito. 44p.

- Gentry, A. 1977. Extinction and conservation of plant species and habitats of Ecuador and Amazonian Peru. In: G. T. Prance, T. S. Elias (eds.). *Extinction is forever*. New York Botanical Garden, New York. p.136-149.
- Gentry, A. 1979. Extinction and conservation of plant species in tropical America: A phytogeographical perspective. In: I. Hedberg (eds.). *Systematic Botany, Plant Utilization, and Biosphere Conservation*. Almqvist & Wiksell, Stockholm. p.100-126.
- Gentry, A. 1988. Tree species richness of upper Amazonian forests. *Proceedings of the National Academy of Science (USA)* 85:156-159.
- Geithner, T. F. 1999. [25 October 1999 letter from T. F. Geithner, International Affairs, Dept. of the Treasury, Washington, D.C., to E. Goldenberg, Minister of Economy and Finance, Peru]. 1p.
- Grace, J., et al. 1995. Carbon dioxide uptake by an undisturbed tropical rain forest in southwest Amazonia, 1992 to 1993. *Science* 270:778-780.
- Hanrahan, M., et al. 1995. Environmental and natural resource management in Peru: A strategy for USAID/Peru assistance. Growth and environmental management in harmony. USAID/Peru, Lima. 85p. + annex 99p.
- Harremoës, P. 1996. Dilemmas in ethics: Towards a sustainable society. *AMBIO* 25:390-395.
- Holdgate, M. 1996. The ecological significance of biological diversity. *AMBIO* 25:409-416.
- Holm-Nielsen, L., I. Nielsen, H. Balslev (eds.). 1989. *Tropical Forests: Botanical Dynamics, Speciation, and Diversity*. Academic Press, London. p.239-251.
- Hough, J. 1988. Obstacles to effective management of conflicts between national parks and surrounding communities in developing countries. *Environmental Conservation* 15:129-136.
- IPCC. 2000(March). Summary for Policymakers, Informal Review Draft. Intergovernmental Panel on Climate Change (IPCC). 15p.
- Kumari, K. 1996. Sustainable forest management: Myth or reality? Exploring the prospects for Malaysia. *AMBIO* 25:459-467.
- Llerena, C. A. 1987 Erosion and sedimentation issues in Peru. International Association of Hydrological Sciences (IAHS) publication 165: 3-14.
- Llerena, C. A. 1991 Contaminación atmosférica, efecto invernadero y cambios climáticos: sus impactos forestales. *Revista Forestal del Perú* 18 (2): 101-135

- Laidre, L., N. Ryman. 1996. Effects on intraspecific biodiversity from harvesting and enhancing natural populations. *AMBIO* 25:504-509.
- Mares, M. 1992. Neotropical mammals and the myth of Amazonian biodiversity. *Science* 255:976-979.
- Padoch, C. 1988. Aguaje (*Mauritia flexuosa* L.f.) in the economy of Iquitos, Peru. *Advances in Economic Botany* 6:214-224.
- Painter, et al. 1985. *Fragile Lands in Peru*, report to the S&T/LAC Fragile Lands Working Group. USAID/Peru. 36p.
- Petchey, O. L., et al. 1999. Environmental warming alters food-web structure and ecosystem function. *Nature* 402:69-72.
- Peters, C. 1990. Population ecology and management of forest fruit trees in Peruvian Amazonia. In: A. Anderson (ed.). *Alternatives to Deforestation: Steps toward Sustainable Use of the Amazon Rain Forest*. Columbia University Press. New York. p.86-98.
- Phillips, O. L. 1996. Long-term environmental change in tropical forests: increasing tree turnover. *Environmental Conservation* 23:235-246.
- Phillips, O. L., et al. 1998. Changes in the carbon balance of tropical forests: Evidence from long-term plots. *Science* 282:439-442.
- Redford, K. and S. Sanderson. 1992. The brief, barren marriage of biodiversity and sustainability? *Bulletin of the Ecological Society of America* 73:36-39.
- Roca, R., L. Adkins, M. C. Wurschy, K. L. Skerl. 1996. Wings from afar: An ecoregional approach to conservation of neotropical migratory birds in South America. The Nature Conservancy and USAID; Arlington, VA. 180p.
- Southgate, D. 1991. Tropical deforestation and agricultural development in Latin America. Discussion Paper 91-01. London Environmental Economics Centre, London.
- Southgate, D., H. L. Clark. 1993. Can conservation projects save biodiversity in South America? *AMBIO* 22:163-166.
- Tratado de Cooperación Amazonica. 1995a. Uso y conservación de la fauna silvestre en la Amazonía. TCA, Secretaría *Pro-tempore*, Lima. 216p.
- Tratado de Cooperación Amazonica. 1995b. Sustainability of the Amazon forest: Proposal of criteria and indicators for. TCA, Secretaría *Pro-tempore*, Lima. 45p. [English + Spanish + Portuguese = 149p.]

- Tratado de Cooperación Amazonica. 1996. Patentes, propiedad intelectual y biodiversidad Amazónica. TCA, Secretaria *Pro-tempore*, Lima. 456p.
- Uhl, C., C. Jordan, K. Clark, H. Clark, R. Herrera. 1982. Ecosystem recovery in Amazon caatinga forest after cutting, cutting and burning, and bulldozer clearing treatments. *Oikos* 38:313-320.
- Uhl, C., D. Nepstad, R. Buschbacher, K. Clark, B. Kauffman, and S. Subler. 1990. Studies of ecosystem response to natural and anthropogenic disturbances provide guidelines for designing sustainable land-use systems in Amazonia. In: A. Anderson (ed.). *Alternatives to Deforestation: Steps toward Sustainable Use of the Amazon Rain Forest*. Columbia University Press. New York. p.24-42.
- Wells, M. and K. Brandon. 1992. People and parks: Linking protected area management with local communities. International Bank for Reconstruction and Development, Washington.
- Wallin, T. R., C. P. Harden. 1996. Estimating trail-related soil erosion in the humid tropics: Jatun Sacha, Ecuador, and La Selva, Costa Rica. *AMBIO* 25:517-522.
- WRI, IUCN, UNEP. 1992. Estrategia global para la biodiversidad: Pautas de acción para salvar, estudiar y usar en forma sostenible y equitativa la riqueza biótica de la tierra. WRI, IUCN, UNEP; Washington. 244p.
- Young, K. R. 1996. Threats to biological diversity caused by *coca*/cocaine deforestation in Peru. *Environmental Conservation* 23:7-15.

ANNEX H
REVISED MISSION ENVIRONMENTAL STRATEGY

SETTING

BACKGROUND

The original Mission Environmental Strategy (MES) background discussion about Peru's environmental and natural resources endowments, trends, and current conditions continues to be valid. Some expectations were not realized—for example, expected decentralization has not occurred. In fact, continuing centralization of decision making and control of public financial resources have weakened already weak local governments and have stifled local public and private sector initiatives. Nevertheless, because so much of environmental policy application takes place at local and municipal levels, efforts to stimulate increased local awareness and active involvement in environmental management and regulation are essential if environmentally sustainable economic and social development is to be achieved.

As will be discussed in more detail in later sections, some significant improvements have occurred in two problem areas within one of the constraint categories selected as high priority for USAID program attention: the national environmental policy framework and the national environmental public sector institutional framework. These improvements establish the necessary minimum conditions to permit and suggest moving to a "second phase" of the strategic focus for SO4 programs. In addition, with SO4 assistance, the NGO community now has additional mechanisms to become a more effective participant in national environmental policy dialogue, formulation, and application. As information about environmental concerns and cost-effective technological responses have become more widely available within the business community, national business organizations are beginning to actively participate and contribute positively to policy dialogue, formulation, and application. Finally, the academic community has been expressing and demonstrating increased interest in participating in environmental information generation, interpretation, and transfer.

ENVIRONMENT AS A STRATEGIC OBJECTIVE—OVERVIEW

As proposed by the MES, the USAID/Peru's program focus for ENR-related assistance since 1995 has transitioned from "targets of opportunity" interventions within the framework of other strategic objectives focused geographically on poverty alleviation, to more comprehensive and direct attention to environmental management within the context of sustainable development. This led to the design and implementation of activities that orient policy and regulatory changes toward encouraging prevention and sustainable use as opposed to previous command-and-control approaches. To incorporate this re-direction of focus on environmental issues into the overall Mission planning and program strategy, the Mission approved in 1995 an environmental strategic objective, SO4, "Improved Environmental Management in Targeted Sectors." Since then, the Mission's SO4 management team has planned, designed, and been implementing a dedicated set of SO4 program activities. These program activities are intended to achieve selected intermediate results (IRs), together with their respective indicators and time-phased targets, as measures of success in accomplishing

the SO. In addition, members of the SO4 management team have been incorporated into management teams of other SO programs to facilitate compatibility and synergy with the environmental SO.

The evaluation team concludes that this express comprehensive strategic focus on improved management of the environment, as formulated in the 1995 MES, was and continues to be conceptually valid. Nevertheless, since then, program experience, an improved knowledge base, and significant national institutional and policy framework improvements (many of which have been catalyzed and supported under SO4), along with lessons learned during the last five years of SO4 program implementation, provide insights for further refinement of the strategic objective and intermediate results, as well as a guide to the mix and orientation of program responses to be supported, including more effective implementation arrangements. Manageable adjustments in ongoing activities and appropriate transition into new activities can significantly improve synergies and multiply impacts from less than anticipated program resources for SO4 activities during the Mission strategic planning period of 2002-2006.

The team concludes that the 1995 MES methodology for strategy formulation and program prioritization is conceptually sound to guide environmental strategy reformulation and/or refinement for the 2002-2006 planning period. Some fine-tuning is suggested. The team further concludes that the SO4 program can be expected to substantially achieve the 1995 SO IRs. The SO4 program has contributed key inputs that have effectively catalyzed national and other donor inputs to put in place essential elements of a national environmental policy and institutional framework. This framework has the potential to develop into an effective system for addressing and resolving priority environmental policy issues in a comprehensive and equitable manner. To be sure, the national framework is not yet fully operational and gaps do exist. It is a dynamic framework that must continue to evolve and strengthen.

Effective evolution and strengthening of the national environmental policy and institutional framework now in place depends not only on individual and institutional actors from within that framework but also on appropriate complementary stimuli and inputs from other actors in the operational dynamics of an *overall interactive system to achieve environmental sustainability in the economic and social development of Peru.*

All actors at all levels in the economic and social systems of Peru contribute to the dynamics of environmental change, either positively or negatively. The national environmental policy and institutional frameworks are an essential but highly interdependent subsystem of the overall interactive system referred to above. Unless a critical mass of stakeholders and intermediate and ultimate beneficiaries at all socioeconomic levels are sensitized to environmental concerns, participate in formulating solutions, and accept and demand application of approved policies, the potential contributions of the national environmental policy and institutional framework now in place will not be realized. In other words, substantial progress has been achieved in putting supply-side structures and capacities in place. For these structures and capacities to mature and be effectively utilized, demand-related elements in the form of awareness and internalization of environmental policies by and for customers (affected populations and stakeholders) must occur.

The next section discusses the changes that have occurred in the past five years in constraints and problem areas as identified and discussed in the 1995 MES. Substantial updates are suggested for only one constraint category (Constraint Category "G" in the 1995 MES matrices) and its attendant problem areas, to take into account changes that have occurred since then impact on the constraint and to incorporate lessons learned under SO4 and in other countries.

Based on the rationale flowing from the revisions made to this constraint category and attendant main problem areas, the team suggests that SO4 be modified to read as follows: "Improve Effectiveness of the Interactive System for Achieving Environmental Sustainability in Economic and Social Development."

In addition, as anticipated in the 1995 MES, SO4 should continue efforts to leverage and otherwise encourage incorporation of earmarked, other donor, and Peruvian financial resources into activities that have demonstrated success. Ways and means should be sought, beginning at the concept development and design stages, to "sequester" outside earmarked funds into the SO4 IRs and to more aggressively forge strategic partnerships with other donors and administrators of earmarked funds in Peru. Evaluation team recommendations offer suggestions to consider for reformulating the SO4 statement and for formulating and packaging the IRs.

SO4 implementation experience has raised a concern within the Mission that relates to strategic program focus. The interest in tightening the strategic focus responds to significantly lower levels of funding made available to SO4 since 1995, as compared to levels included in the original MES, as well as to the perception among some observers that there is unrealized potential to achieve greater synergies with other SOs, SO4 program activities, and components and elements within each SO4 activity.

The team concludes that this perception may be at least in part due to initial complexities in implementation arrangements for activities and components/elements within activities. These complexities responded to the poorly articulated and rather chaotic situation at that time of both public and private sector environmental institutions. In the early 1990s, each production ministry was assigned responsibility for environmental management within its own narrow sector interests, and each in its own way was struggling to deal with this added responsibility. CONAM, as an overarching environmental management institution, was not yet functioning, multiple environmental NGO networks or groupings were forming and competing to represent the NGO community, and business organizations were not yet focused on environmental issues.

Launching a comprehensive environmental management program targeted to modernizing in the medium term the national environmental policy and institutional framework necessitated complex and multiple implementation arrangements. Significant progress since 1995 in overcoming these disarticulations has taken place, but it is difficult to communicate this aspect of SO4 program accomplishments within the formal structure of the USAID SO results reporting system. The team further concludes that progress to date along these lines points the way to tighten focus and to simplify implementation arrangements, thereby

obviating many of the operational complexities and appearance of dispersion of effort that some observers attribute to the ongoing SO4 program. Consolidation of implementation arrangements and a tighter strategic focus can result in more effective and more easily tracked synergies and program complementarities. Specifics in this respect are discussed in more detail in other evaluation team documents.

PROBLEMS AND PROGRAMS

UPDATE OF MAIN PROBLEMS ASSESSMENT

The 1995 MES identified and discussed 28 main environmental problem areas, grouped into seven constraint categories from the 1995 MES document. The MES inventory of main problem areas continues to be valid. There appear to be no compelling reasons to change the organization of constraints and problem areas used in the 1995 MES. Nevertheless, some clarifications are discussed below that may help provide a perspective for understanding commonalities across the constraint categories. The first six of the seven constraint categories identified and discussed in the MES relate to specific existing environmental conditions and trends, largely categorized by whether they relate to "green" or "brown" concerns within sectors, and/or whether they encompass more pervasive environmental conditions and trends—for example, biodiversity and human health.

Specific environmental conditions and trends, such as those described in the first six constraint categories of the MES, have changed little since 1995. Positive changes in these categories of environmental problems (sufficient to be measurable at the national level) occur quite slowly, and cannot be effectively prompted to occur at all, unless essential elements of the environmental framework system are in place and operating effectively. Thus, it is unrealistic to expect the SO₄ program (or any other donor program or national effort) to induce nationally measurable changes in these environmental conditions and trends in the short and medium term.

The seventh constraint category of the 1995 MES does not encompass specific environmental conditions and trends—i.e., Constraint Category "G": Inadequate Legal, Regulatory, Policy, and Normative Environmental Framework. This constraint category encompasses the elements of the interactive system that defines and regulates human activity in relation to the environment. In the remainder of this update document, this seventh constraint category of the MES will be referred to as "Limited Operational Capacity of the Interactive System for Achieving Environmental Sustainability in Economic and Social Development" ("e-system," for short). Reasons for this title change will become apparent in later discussion. This "e-system" cuts across and encompasses all environmental conditions and trends. It provides the "rules of engagement" and the "formal mechanisms" by which the Peruvian population (including stakeholders and their representative groups) relate to and affect the environment. Within this crosscutting e-system, the MES identified four "problem areas" (i.e., elements or subsystems): legal/regulatory framework, institutional framework, awareness and information access, and judicial mechanisms. This was a logical and workable packaging of the universe of e-system elements for strategy and program prioritization purposes.

Selected elements of the MES e-system constraint category became the central focus of the 1996-2001 SO₄ program. The process by which these elements were identified and selected for high priority attention is described and applied in Chapter Three of the MES document. The team concludes that e-system improvement should continue to be the central focus of the

MES for the 2002-2006 planning period but that the emphasis should shift somewhat from the supply-related dimensions of the e-system to the demand-related dimensions.

A preliminary updated description of the MES e-system is provided below, including the conceptual underpinnings for restatement of the SO4 objectives and intermediate results, as well as for refocusing program priorities. However, to guide and unify criteria and provide common analytical input into the design of follow-on environmental programs for the next mission planning period of 2002-2006, we recommend that an in-depth e-system technical review and analysis be completed before initiation of the detailed program design. The preliminary update also can serve as a guide for preparing the terms of reference for the proposed e-system technical review and analysis.

UPDATE OF MES CONCEPTUALIZATION

The MES and SO4 make the case that with well-targeted inputs, significant improvements in the environmental framework system can be catalyzed in the medium term. Such improvements have in fact occurred since 1995—that is, selected high priority policy and institutional elements of the e-system that were missing have been put in place and others that were out-of-date have been modernized. In addition, important e-system integrating tools—a national environmental strategy and a national environmental agenda—have been prepared and used to foster meaningful environmental dialogue. Many of these improvements have been catalyzed by SO4 program activities, which also have leveraged complementary national resources and other donor funding. (See the activity evaluation documents for more detailed descriptions of SO4 contributions to the improvement process.)

The SO4 evaluation provides ample findings and conclusions for the Mission to anticipate success in substantially achieving planned SO4 intermediate results by the end of the current strategy period (December 31, 2001). The evaluation also identifies other major critical elements of the e-system that need urgent attention if the substantial investment already made in the national environmental policy and institutional aspects of the e-system are to realize their potential in the longer run. Moreover, the evaluation also concludes that the overall focus on improving e-system effectiveness should continue for the 2002-2006 planning period but that attention within the e-system should shift to other necessary elements not now in place or in need of enhancement for the system to operate effectively.

Building on the comprehensive diagnostic and conceptualization of the e-system provided in Annex F of the MES, and with the benefit of hindsight supplemented by five years of program experience, the evaluation team proposes a reconceptualization of the e-system constraint category. A preliminary graphic frame of reference for the reconceptualization of the e-system constraint category is provided in the three matrices on the following pages. These matrices attempt to display three interactive subsystems that, when overlaid, make up the overall three-dimensional e-system. The three subsystems are: Environmental Policy Subsystem, Environmental Policy-Related Institutional Stakeholder Subsystem, and Environmental Demand-Related Information and Awareness Subsystem.

Conceptually, these three subsystems share commonalities spatially, as well as in terms of subject matters and process flows. Similarly, each has a geographic dimension from the national to the local level (to the point-source level in the case of polluters). Each has a role and function dimension for each geographic dimension, and each has a process or flow dimension, conditioned by both the geographic and the role/function dimensions. Of course, there are numerous interactions and crossovers within and among all of these dimensions. This three-dimensional conceptual frame for the e-system offers an organized way to begin to identify and prioritize key intervention points.

The above conceptual frame of reference has been applied to modify MES constraint Category G. The resulting modifications are briefly described below. This modified constraint category and the attendant problem areas are proposed as the conceptual basis of the MES for 2002-2006 as follows.

Constraint Category G: Limited Operational Capacity of the Interactive System for Achieving Environmental Sustainability in Economic and Social Development

a. Problem Area 1: Outdated or Missing Elements of Environmental Policy Subsystem

SO4 and complementary efforts have made considerable progress in modernizing the environmental policy subsystem. Yet gaps remain that seriously limit its applicability to some of the most serious environmental problems. The evaluation identifies some of these—for example, a failure to adopt a new forestry law and regulations. An in-depth policy gap analysis is needed to inventory, diagnose, and prioritize policy gaps. The prioritization should include criteria based on populations affected and the magnitude of environmental threats involved.

b. Problem Area 2: Limited Capacity in Environmental Policy-Related Institutional Subsystem

Although SO4 and complementary activities have made progress in filling gaps and enhancing capacities of national environmental institutions, these institutions, especially CONAM, are nascent and still in the process of consolidating their roles, functions, and capabilities to fulfill those roles and functions. Environmental departments now exist in all production ministries, but most have been operating for only a few years, and none are assigned high priority by their respective ministerial leadership, either in budget terms or in terms of political priorities.

Serious limitations in terms of technical and managerial capacity, and scarce budget resources to correct these deficiencies, are universal constraints. Nevertheless, it is not likely that most of these constraints can be resolved on a long-term basis unless and until there is sufficient demand from the public and environmental stakeholders to change political

priorities that in turn are translated into budget allocations and political will. In the meantime, well-targeted donor assistance to provide short-term technical expertise, as well as inputs to "train the trainers," can further increase institutional capacity.

A new in-depth institutional analysis is required, preferably for both the public and private sectors, to ensure appropriate targeting and maximum utilization of short-term technical assistance and trainer utilization that builds on progress made since 1995. The MES did not include a specific institutional analysis, and the analyses provided for the SENREM and BIOFOR designs are now out-of-date. Furthermore, these analyses did not address the dynamics of interaction among institutions nor did they analyze institutional roles and capabilities at the local level (e.g., municipalities, special local geographic authorities).

The evaluation team has provided an institutional mapping matrix and summary review that can serve as the basis for terms of reference for the institutional analysis that needs to be completed prior to program selection and design under the proposed modified SO4 (see the overall evaluation report).

c. Problem Area 3: Inadequate/Ineffective Demand-Related Information and Awareness Subsystem

Insufficient and inadequately targeted environmental information exists to provide the awareness, understanding, and know-how to drive demand for fixing environmental problems. Significant capacities to change this situation are present in or accessible to Peru. Those capacities, however, are poorly articulated and widely dispersed. They lack the vehicles to energize and synergize information generation, adaptation, and dissemination systematically and effectively. The institutional gap analysis proposed for the previous problem area can help identify "information system" institutional resources and needs to assist in prioritizing critical inputs for resolution. Likewise, an environmental information inventory and diagnostic are necessary to fully make use of existing information and to prioritize new information generation and interpretation. Some specific problem areas for attention in prioritizing and designing program interventions are:

1. Limited Stakeholder Awareness/Concern for Environmental Problems/Issues

- Low public awareness/concern;
- Low media awareness/concern;
- Low priority among high-level government decision makers;
- Lack of understanding/knowledge among public sector middle management/rank and file;
- Passive/indifferent private sector business and civic organizations; and

- Pervasiveness of local stakeholder "survival syndrome."
- 2. **Inadequate/Ineffective Channels/Vehicles to Articulate/Activate Environmental Awareness/Concern**
 - Deteriorated local government resources/capacity/initiative;
 - Inadequate budget support to public national/sector-level environment-related institutions;
 - Absence of unified environmental NGO lobby; and
 - Lack of effective strategy/focus of concerned interest groups/stakeholders.
- 3. **Limited Allocation of Environmental Management Improvement Resources to Enhance/Activate Stakeholder Awareness and Related Information Generation/Dissemination**
 - Absence of effective public/private institutional linkages/feedback mechanisms from/to the national and local levels;
 - Scarcity of both public and private (including donor) resources dedicated to enhancing demand; and
 - Tendency for policy formulation and implementation improvement programs to focus on "directed action" strategies instead of on demand-based strategies.
- 4. **Limited Attention to Incorporating Institutions of Higher Learning into Information Generation, Dissemination, and Transfer Process**

UPDATE OF PROGRAM REVIEW

Other evaluation documents provide an updated in-depth review of SO4 activities implemented since the 1995 MES update. Those evaluation documents also provide summaries about other donor activities during that period.

SETTING PRIORITIES

CONTEXT AND VISION

The MES expressly recognized that over the medium term, serious population and economic opportunity issues were likely to exacerbate environmental problems. The vision was for the Mission to act as a leader and catalyst, using its scarce resources to leverage much larger levels of assistance and to focus on priority problem areas, always within the context of sustainable economic growth and population issues. That vision and context continue to be valid for 2002-2006.

The proposed conceptualization of the strategic focus for SO4, as described above, is intended to help make program choices more responsive to that vision and context, and to achieve improved synergies and mutual reinforcement, thereby increasing e-system efficiencies and effectiveness.

SELECTING ISSUES AND PROBLEMS TO BE ADDRESSED, AND PROGRAM RESPONSES

Four priority criteria were used in the MES to *filter* any given environmental management issue, problem or program: severity of problem and need, Mission comparative advantage, targets of opportunity, and potential impacts. The team concludes that each of these as defined in the MES continues to be valid selection criteria. However, in recognition of the proposed conceptual reconfiguration, additional filters are proposed. One is the multiplier (or cascade) effect. This filter will assign higher priority to those policy and other interventions that create conditions motivating stakeholders to make environmentally friendly decisions and to take timely action based on those decisions. To illustrate, application of this filter would assign higher priority to an intervention that trains municipal authorities to develop municipal environmental plans, adapt model ordinances, and negotiate cleaner production commitments with local industries than to an intervention that directly assists a local industry to prepare a cleaner production plan. Similarly, application of this filter can be expected to result in relatively more emphasis on building capacities involved in demand-related information and awareness enhancement, and on promoting initiatives that improve capacities for policy application at the municipal level.

In addition, in order to convert into reality the desire of the Mission to achieve synergies within and across SOs, a sixth filter should be applied during strategic priority setting—that is, “spatial interaction potential.” With this filter, the strategy will give preference to initiatives that have spatial relationships that increase the potential for achieving synergies resulting from interactions. This filter would assign a higher priority to initiatives that facilitate synergies because of geographic proximity.

RESULTS OF PRIORITIZATION PROCESS

The 1995 MES filtering process correctly assigned high mission priority in both the short and medium term to the first three of the e-system problem areas identified in the MES: environmental policy, environmental institutional strengthening, and environmental information/participation. Moreover, the MES filtering process selected problem areas for priority attention in two other constraint categories: heavy-polluting industries within peri-urban areas, and biological diversity and fragile ecosystems.

The Mission responded to these MES priorities by planning and designing activities (initially under the project mode) that addressed each of these priority constraint categories. The first activity, SENREM, was designed under the project mode and focused largely on the policy and institutional problem areas of the e-system constraint category. SENREM now has over four years of implementation experience with this focus. Next came BIOFOR, which became operational in late 1998. BIOFOR is focusing resources on these problem areas of the e-system constraint category, but it also has been addressing problems in the biodiversity and fragile ecosystems category. EH recently was designed and approved, but it is not yet operational. It will dedicate substantial resources to the same problem areas of the e-system constraint category, but it also seeks to alleviate peri-urban/industrial pollution problems from a human health perspective through local application of relevant environmental policies. A newly designed initiative to be implemented under SENREM is CEPSCOM. CEPSCOM intends to stimulate clean production of heavy polluting industries (through modified implementation arrangements) and, in the process, intends to contribute to effective application of environmental policies.

Thus, four separate activities are under way (if CEPSCOM is considered as a separate activity) with four separate implementation arrangements and four groupings of partner institutions, all addressing the policy and institutional problem areas of the e-system constraint category. However, there is only limited interaction among these activities in terms of subject matter, client groups, information sharing, and program consultation (except possibly for SENREM and CEPSCOM). Some resources also are allocated to generation of specific products that could contribute to environmental awareness and information access, but there is no strategy being applied to develop systematized utilization of those products.

In sum, as already discussed, the SO4 program to date has focused major attention on the supply-related dimensions of the e-system, with relatively minor attention to the demand-related dimensions. Application of the six filters to the constraint categories as updated in conformance with the proposed reconceptualization of the e-system constraint category and reformulation of its problem areas, would result in relatively higher priority being assigned to the demand-related dimension of the e-system, while continuing to improve supply-related dimensions through support to key "gap reduction" interventions, if there is expressed demand for the services that will be forthcoming from closing that supply-related gap and if this clearly and significantly can be expected to enhance the effectiveness of the rest of the e-system (i.e., applying a strategy to remove bottlenecks). In addition, higher priority will be accorded to those interventions that facilitate synergies with other assistance, both from USAID and from other donors.

STRATEGIC IMPLICATIONS OF UPDATES TO MES

The strategic focus and suggested program investments suggested by application of the updates to the MES as described herein are discussed in some detail in the main section of the overall evaluation report.

ANNEX I
REPORT ON INFORMATION/COMMUNICATIONS/EDUCATION
PROGRAMS

GENERAL INTRODUCTION

The emphasis in this section is on how the SENREM and BIOFOR activities communicate information to others in the hopes of leading them to intellectual and/or behavioral changes.

The first question asked is about the appropriate target audience to address concerning the problem/opportunity at hand. Next, come questions about the best activity, the most appropriate means or methods to be used, and who should best use the means and with what materials. Finally, come questions about the monitoring and evaluation of the chosen activity.

The audiences will be divided first into those for whom the messages and activities are ultimately directed, the general public, whether urban or rural. The next division is that of the leaders, the ones with the leverage and power for influence. Finally, the formal school system, whether public or private, is focused on, from university through secondary to the primary school level.

SENREM

The main activity of SENREM in the area of public awareness has been concentrated on the production of a state of the environment report. In addition, USAID has directly funded a national environmental awareness survey to measure achievement of SO4.

State of the Environment Report

1. *Introduction*

This annual report is meant to provide general information to the Peruvian public about the environment. It is produced by CUANTO, which also produces the annual survey.

2. *Overall Findings*

At this time, only one draft report has been produced. It consists of almost 300 pages divided into three parts: more than 100 pages containing nine articles on water issues, 20 pages on legal matters, and 150 pages listing institutions connected to the environment in some way. The articles on water were written by scientists, but CUANTO decided that they would be more readable if rewritten by journalists.

3. *Conclusions and Recommendations*

This report is disappointing in several ways. First, there is no clear target audience. CUANTO admitted that it had not even thought about this key issue. In a second meeting, CUANTO staff said they had decided the audience would be a professional one after having rewritten the scientific articles. However, other university-based organizations seem more appropriate for the professional audience. Second, the legal section has too narrow a focus to be very useful. Third, the section on institutions needs a great deal of editing. CUANTO said it simply included whatever had been sent in response to its request for information.

It is not recommended that this report be published in its present form because no important audience would readily accept it. It would be a waste of time and money. However, each part can have value in itself. The original articles on water might be offered to appropriate scientific journals, while the rewrites by journalists could be offered to popular journals for publication. CONAM might have use for the legal material. The institutional listings, after heavy editing and cross-referencing, could be useful for both government and nongovernmental organizations.

It is recommended that both the audience and the format be reconsidered. This report could be an important vehicle for general public awareness if it focused on the environment in popular terms. A very influential report is produced in India simply and cheaply. It takes a dozen or so key environmental topics of that country and collects the best newspaper articles published on each topic during that year. The result is a powerful picture of what has been thought and published about the environment during that period. The Peruvian report could be enhanced by adding a short commentary by scientists after each section to bring the newspaper reporting into perspective.

It is recommended for this more popular style that the following six environmental topics from SO4 be included: agriculture, deforestation, biodiversity loss, water quality and sanitation, solid waste, and air. Four other topics closely related to the environment also could be included: business (economic growth); policy, law, and regulation; health and population; and education and awareness.

It is recommended that the following format be considered: 20 pages (8 ½ x 11) of newspaper clippings on each of the 10 topics above, followed by four pages of scientific commentary and one page of bibliography. This would provide an annual report of about 250 pages. It should be under the control of one senior editor for two or three days a month and 10 scientists/subeditors for each section. A part-time assistant could be in charge of maintaining a clipping file of as many newspapers as possible. Since it is likely more people would read a shorter report, it is strongly recommended that the report eventually be produced quarterly for presentation to the media.

An important byproduct of this focus on newspaper clippings as sources will be a sense of competition among newspapers to have the most and best of their articles be included. This would inspire print journalists to write more environmental articles for submission.

The leadership group is potentially the most important to focus on since they have the leverage to determine how resources are used to influence the general public. This group consists of leaders in government, business, journalism, civic, religious and community groups, education, and NGOs, with the particular relative strength of the leadership depending on the region being considered.

4. *University-Level Findings*

a. Seminars and Small Group Meetings. SENREM has presented university seminars in 1999 and 2000. The first was at the national level to get Peruvian leaders to focus on the environment. The cost was \$4,000. In 2000, the focus will be on professional careers in an environmental context. Eight seminars are planned in four regions for a total cost of \$8,500.

b. Workshops for Journalists and Teachers. Four meetings for 20 to 30 journalists were held in four regions in 1999, costing \$6,279. In 2000, two more workshops are planned, plus a radio campaign featuring two spots of about one and a half minutes each. The total cost will be \$8,000.

c. Studies. In 1999, a study of teaching practices in environmental education was conducted for \$7,200. In 2000, environmental plans for four different regions were studied for \$8,000.

5. *University-Level Conclusions and Recommendations*

The seminars, workshops, and studies mentioned all fit well into the intermediate result framework of SENRAM. They have been well planned in that they start with a broad national vision and then move to a regional focus. However, it seems that more could be done in terms of planned follow-ups in publicizing the results of each of these activities, monitoring the progress of the individuals and institutions involved, and evaluating the impact of these activities over a longer term.

6. *School-Level Findings*

The GLOBE program was introduced in 1998; an introductory teacher training meeting was given in 1999, costing \$1,687 and co-financed by the Ministry of Education. In 2000, a five-day meeting will be held to further train the teachers from the 20 schools in Lima participating in the program. The cost will be \$8,000.

SENREM contracted the IPIS NGO to conduct a recycling program that cost \$32,248 in 1997 for 500 schools over three months. The next year, it extended the program for six months for these same schools at a cost of about \$29,000. In 2000, 800 schools will be involved for only \$22,000.

An award program, "Peru Ecologico," was conducted in 1998, costing \$11,813, and again in 1999, costing \$9,300. A 10-minute video program on Peru's environment and natural resources is planned for 2000 for \$1,500.

7. *School-Level Conclusions and Recommendations*

The aforementioned activities fit well into the intermediate results expected. They are imaginative and fit nicely with Peru's Ministry of Education's general directions and give impetus and examples to others wanting more environmental activities in the curriculum.

It is recommended that these activities continue and that publicity be actively sought so that other regions imitate them. SENRAM also should explore other school programs that are close to its projects. For instance, in San Mateo the community is already monitoring the water supply to Lima, but the schools are not involved. GLOBE should be added there. In the Ministry of Education, a new distance learning program for rural schools has just been inaugurated, and its director is anxious for more environmental activities in this program.

National Environment Survey

1. *Introduction*

CUANTO has produced this survey annually since 1996. CUANTO is an NGO with an excellent reputation for statistical reports produced for many Peruvian enterprises. This survey is based on a questionnaire given to random sample of Peruvians ages 18 and older. The questions are given by a CUANTO staff member and take approximately a half hour to administer. The questions are divided into sections on the main environmental concern of the country, what the person is concerned about in each area, why this is so, where the information comes from, and so on.

2. *Findings*

The questions are well constructed and organized to obtain basic information about the environment of Peru. The number of questions and the time taken for the survey is appropriate, as is the method used for the survey, SPSS. Respondents are divided into seven areas of Peru, those living in Lima, and those living in either the urban or rural parts of the coast, the jungle, or the mountains. The results are summarized in an attractive, full-color glossy report with excellent graphics. A thousand copies of the summary have been printed for general distribution. It was not clear that this distribution has increased public awareness through the mass media. A major reason for this seems to be the delay in the publication of this summary. The latest summary was for 1997, and the publication date was December 31, 1998, a full year after the survey information.

However, the main criticism of this survey is that a major part of the population, those under the age of 18, is not questioned. This ignores the effects that the formal education system may be having on environmental awareness.

3. *Conclusions and Recommendations*

USAID has expressed concern that the last published results regarding public awareness are not as encouraging as they have been in the past. CUANTO has explained this as a result of sampling errors and has shown that the most recent results are more encouraging. It is recommended that this survey be continued as in the past with the aforementioned changes. This recommendation is based on the value of the survey as a vehicle of public awareness and the fact that USAID is making an important contribution to improving the Peruvian environment no matter what results the survey has.

This survey is a valuable instrument for reporting on how aware the people of Peru are concerning their environment. It is also important to have these results widely dispersed via the mass media. In this way, the general public can further reflect on their attitudes, and leaders in the country can make better decisions regarding environmental issues. It is recommended that more efforts be made to ensure that the media make use of these results. The public presentation of the report is a first step, but news releases from time to time based on the report also would be helpful.

Another recommendation is that a younger part of the audience, from 6 to 18 years old, be included in the survey. Some additional questions to add might be: Are you in school now? What grade? If not, what grade was your last? Which of your classes contained the most ideas on the environment? What kind of environmental projects did you do: clean-up, recycling, gardening, tree planting, others?

The publication date is much too late to generate real interest in the mass media. The recommendation for this simple: have the more important and controversial results given to the media much more quickly, within a month. The full summary can be distributed later and will be much more effective since the media will create anticipation for it among public leaders.

BIOFOR

Introduction

The goal of this section of SO4 is to protect the biodiversity and forests of Peru and to mitigate climate change. As such, this section has a predominately rural audience. The 1995 USAID design documents mention the involvement of the local community in every subsection in some way or another. In the USAID document of September 10, 1998, it is further emphasized that, for a sustainable project, women should be involved in training programs and that the rights and interests of indigenous people should be considered. Additional emphasis is given to the connections of this SO to those on democracy, poverty alleviation, and health. Particular NGOs are mentioned as possible allies.

Findings

From IRG's "Annual Summary Report," which covers the initial 15-month period from October 1, 1998, to December 31, 1999, it is clear that many activities covering all of the intermediate results had taken place. IR3, focusing on strengthening local and national institutions, mentions workshops on farming and tourism with local indigenous people. Several NGOs also met with local community representatives regarding protected areas. The UNDP project for collecting information on biodiversity also was mentioned.

USAID conducted an important series of workshops for local NGOs focused on local resources, problems, and needs. These workshops also emphasized techniques for proposal writing, with the expectation that many education proposals would materialize. This did happen. The best proposal, by Acuarena, was funded by another donor before completion. ProNaturaleza presented noneducational proposals, but APECO decided that USAID's proposal requirements were too demanding.

Conclusions and Recommendations

The activities mentioned in the IRG report show that a great number have been undertaken. The report itself can serve as a model of clarity and directness. For completeness, it is recommended that further information be provided, perhaps as annexes, on the results of the meetings. A simple evaluation based on what each participant thought was good, bad, or could be improved would be very useful. It would provide input for future workshops and aid in the monitoring of activities based on past workshops.

The fact that expectations for more education proposals from local NGOs were not fulfilled may mean that the locals were simply not ready for the rigors of putting all the pieces together. It is recommended that USAID consider dividing up the tasks needed to satisfy local needs and ask specific local individuals or groups to perform them within a definite

time frame for a specific amount of money. With this practical experience, the NGOs will be better able to submit adequate proposals in the near future.

Local teachers with a particular interest in the environment can be sent to APECO's summer course in Lima. This will equip them not only with special teaching skills but also with ways to add environmental issues to the local curriculum.

Public awareness for rural areas can be influenced more by radio than by print or television. It is recommended that the BIOFOR activity consider this method of effectively communicating with those living near protected areas. The NGO Señal Verde in Lima, for example, specializes in creating spots of a minute or so to be used by local stations especially in the early morning or evening when the family is together. Audiocassettes can be tailored to local problems in the local dialect from their collection of more than 500. A cassette of 20 or 30 short spots can be duplicated and sent out for about \$1.

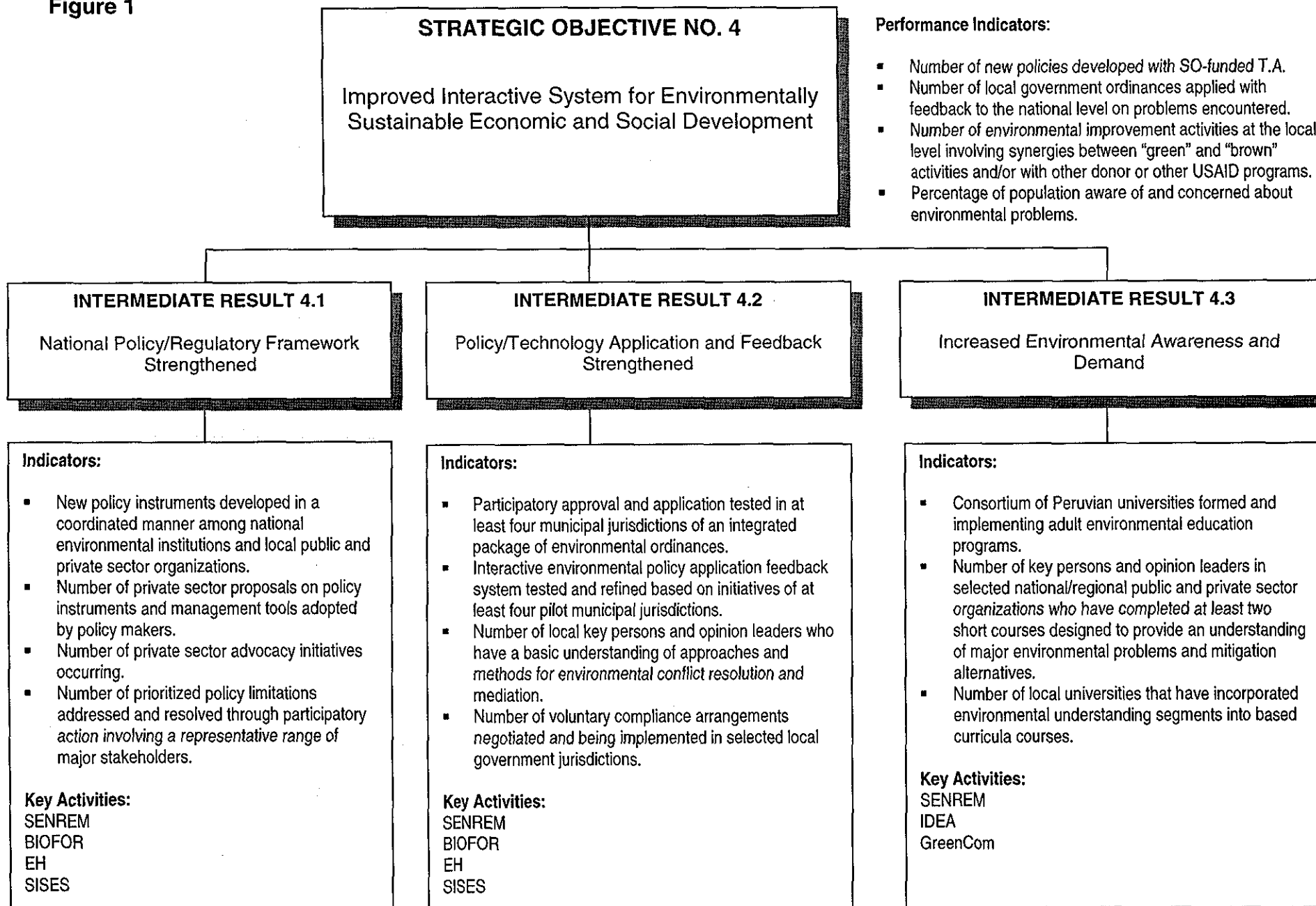
For schools and community use, longer programs can be made of discussions of local problems, etc. These can be made with a very simple recorder and offered to local radio stations and other schools. The GLOBE program mentioned earlier can be very useful to have the children monitor their environment and report on it to an international center over the Internet. This will allow them to compare their situation with the situation of other students around the world. In short, there are many powerful and inexpensive ways for children to become aware of and to protect their own environment.

RECOMMENDATIONS FOR USAID/IEC STRATEGY

Suggestions for a proposed comprehensive USAID/IEC strategy are summarized in the overall report.

ANNEX J
REVISED STRATEGIC OBJECTIVE FRAMEWORK

Figure 1



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ANNEX K

REPORT ON MADRE DE DIOS, PISCO/PARACAS, AND PUCALLPA

1.- ENTREVISTAS Y VISITAS EN PISCO-PARACAS

(por Jaime García y Carlos A. Llerena)

Fecha: 12 y 13 de Mayo.**Visitas:**

09:00	Alcalde de Pisco:	Dr. Juan Díaz (secretaria Srta. Cecilia) Tel: 034 532525, Cel. 034 680480 Plaza de Armas
10:00	Direc. Reg. de Pesquería: Ing. Carlos García Lira (segundo Ing Jorge Reyes)	Tel: 034 532009, Cel: 034 680480 Av. San Martín 240, Pisco
11:00	Alcalde de Paracas:	Juan José Donayre Cel: 034 670256
12:00	Director Zonal del CTAR:	Dr. Juan Martínez (segundo Ing. Huamani) Secretaria Srta. Mónica Tel: 034 533052 Urb. Manuel Barrionuevo Calle 10 - FOVAVI
13:30	Almuerzo en El Chaco Daniel Valle (IRG-BIOFOR)	
15:00	INRENA Paracas	Luis Paz Soldán Cel: 9934104, 034-600-192

También se sostuvieron conversaciones telefónicas con:

Cámara de Com. de Pisco	Eduardo Alvaro Tel: 034 532184 Av. San Martín 373 - B
Directora de ITINCI	Celi Mercado Tel: 034 235409 Gerónimo de Cabrera 426 Urb. Luren (Iglesia de Luren) ICA

Principales aspectos considerados en este viaje:

La provincia de Pisco de 3.957.15 km² y 120.000 habitantes en sus ocho distritos: Pisco, Huancano, Humay, Independencia, San Andrés, Paracas, San Clemente y Túpac Amaru, ofrece una visión muy representativa de lo que ocurre en gran parte de la vertiente del Pacífico del territorio nacional.

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Pisco cuenta con zonas semi-áridas de altura en la sierra y áreas desértica y de litoral en la costa, cortada longitudinalmente por el valle del río Pisco (ver mapa). Dentro de sus principales actividades económicas tenemos la pesca industrial, incluyendo las plantas harineras y conserveras, la pesca artesanal y la maricultura representada principalmente por el cultivo de las conchas de abanico; la agricultura que se desarrolla en la cuenca del río Pisco, pero también nuevos desarrollos agrícolas con agua del subsuelo; desarrollo industrial manufacturero, una curtiembre importante, una planta textil, dos fundiciones de minerales; y un desarrollo turístico con posibilidades de expansión dentro de cuyo esquema destaca la Reserva Nacional de Paracas.

Respecto a los principales problemas ambientales podríamos mencionar:

A nivel urbano, hay serias limitaciones (económicas y de conocimiento) por parte de las autoridades municipales para encarar satisfactoriamente el problema ambiental, en particular el manejo de los residuos sólidos y su disposición final, los rellenos sanitarios son precarios y los desechos sólidos no son cubiertos (simplemente eliminados en zonas alejadas). Respecto al tratamiento de aguas servidas, se ha logrado integrar un proyecto con la municipalidad provincial de Pisco y dos municipios distritales el tratamiento de estas aguas antes de su descarga en la bahía. Sin embargo se puede avanzar un poco más en este proyecto a fin de darle un uso a esas aguas residuales.

Un problema serio aunque ya solucionado fue el de eliminación de sanguaza en terrenos particulares en Santa Cruz y en San Clemente con el pretexto de "abonar" la tierra de cultivo. Esta situación condujo a la reacción de la población por los malos olores, el aspecto desagradable del área utilizada y la aparición de una gran plaga de moscas, con las consiguientes amenazas para los pobladores.

A pesar de la aridez de la zona las autoridades y la población expresan la necesidad de realizar esfuerzos para llevar adelante un programa de reforestación urbana y rural.

Un distrito importante como Paracas (4000 habitantes) no tiene un sistema de desagües, las viviendas utilizan pozos sépticos y cuando tienen problemas de "overflow" descargan directamente los residuos humanos en la bahía. Se ha estimado un requerimiento de inversión del orden de US\$350,000 para aliviar esta situación. Paracas es un distrito turístico con 10 hoteles y 60% de sus casas son sólo ocupadas durante la temporada de verano.

Es importante destacar que existe una buena relación entre los ocho alcaldes distritales y el alcalde provincial a través de un Consejo de Alcaldes, esto definitivamente puede facilitar el trabajo conjunto, para el tratamiento de un tema como el ambiental.

Las actividades económicas que se desarrollan en la zona, le dan especial relevancia a instancias nacionales del sector público como: MITINCI, MIPE, y MINAGRO.

En Pisco tienen un camal, pero no cuentan con la capacitación técnica adecuada ni las prácticas de higiene aconsejables durante la matanza; tampoco hay un tratamiento adecuado de los desperdicios orgánicos.

El río Pisco podría estar presentando indicadores de contaminación a consecuencia de: antiguos relaves mineros, descarga de desagües de pequeños poblados que están a lo largo del cauce del río. (Humay, Huancano, San Clemente, etc.), así como por el uso de agroquímicos

en los cultivos agrícolas. La especial ubicación del río y las características de su cuenca hidrográfica, con poblaciones importantes en sus zonas alta, media y baja pueden en este caso permitir una evaluación adecuada de la problemática local relacionándola con el agua, recurso escaso e insumo fundamental para las actividades económicas locales.

La contaminación de la bahía también está afectada por los sedimentos que trae el río y por los desagües que aún arrojan aguas servidas sin tratar al mar. Estos problemas entorpecen algunos planes turísticos del municipio provincial.

Existen grandes depósitos de combustible, pero no se conoce con certeza si existe algún nivel de contaminación por filtraciones o por el mal manejo del producto. Por otro lado, se presentan problemas de contaminación atmosférica con las fundiciones (laminadora) de metales.

Siete plantas harineras actualmente utilizan una tubería submarina para la descarga de sus residuos líquidos. El agua de cola, luego de varios procesos de reutilización es descargada a través de la tubería mencionada.

Respecto a la Reserva de Paracas, existe una gran preocupación por el desarrollo de la maricultura ya que existen dieciseis concesiones y más de 400 organizaciones (en el momento punta) con alrededor de 10,000 personas en esta actividad. Se podría estar poniendo en peligro la biodiversidad así como problemas de salubridad. Estas actividades generan un fuerte problema de residuos, desechos, plagas, movimiento vehicular etc. Otro problema serio de la Reserva es la contaminación de la actividad industrial de su entorno, presentándose esporádicos reportes de aves engrasadas, eliminación de sanguaza y de agua de bombeo. El tráfico turístico también podría estar generando algunos problemas (tráfico de gente, acumulación de basura frente al cargo que se les hace cuando ingresan). Es también motivo de preocupación la sobrepesca de algunas especies tales como el caballito de mar con fines ornamentales y en menor escala los problemas con los lobos de mar, tortugas y delfines. Asimismo, la pesca con dinamita. Aspectos adicionales de relativa importancia serían la falta de mejores y más continuas formas de comunicación entre funcionarios de la Reserva quizás demasiado tecnócratas y gobiernos locales poco receptivos a este tipo de mensajes y con poca continuidad en los cargos; y la existencia de algunas zonas en la Reserva con poca seguridad para visitantes y turistas, tales como Laguna Grande.

Recomendaciones:

- Las características mencionadas ofrecen una excelente oportunidad para plantear un proyecto integral (verde, marrón y azul), donde se puedan considerar nuevas orientaciones en el manejo ambiental como trabajar con los gobiernos locales, incorporar al sector privado empresarial sobre todo al sector financiero (por los grandes problemas financieros de la plantas harineras).
- La agenda de trabajo es bastante amplia, la voluntad de los actores políticos locales es positiva, la diversidad de actividades económicas de la provincia es representativa de la realidad en otras regiones del país.
- A pesar de las importantes limitaciones que las mismas autoridades locales reconocen tener y de los mínimos contactos con ONGs locales, potenciales colaboradores, existe una creciente conciencia de los problemas ambientales que enfrentan, de la necesidad de

mitigarlos cuanto antes y de algunas posibles alternativas que podrían ser aplicables a la particular situación de Pisco y sus distritos de contar con alguna ayuda técnica. Existe muy buena disposición hacia la capacitación y el entrenamiento para ese fin.

- La autoridad provincial ha adelantado ya algunos proyectos con la cooperación de Alemania (KfW) y ha establecido comunicación con un municipio en Montreal, Canadá, con fines de apoyo y turismo.
- De acuerdo a uno de los entrevistados, en el área de Pisco existen también otras instituciones locales que tienen la ventaja de agrupar a pobladores generalmente de buena reputación y nativos de Pisco y alrededores, que son voluntarios interesados en el mejoramiento de su tierra natal y cuentan con continuidad de permanencia en la zona. Estas instituciones tales como el Rotary Club, el Club de Leones y la Logia Masónica de Pisco, podrían tenerse en cuenta también en futuros programas ambientales.

2.- ENTREVISTAS Y VISITAS EN PUERTO MALDONADO (por Carlos A. Llerena)

Del 5 al 8 de Mayo

- 1.- Representante de INRENA, Ing. Luis Novoa
- 2.- Representante del Ministro de Agricultura Ing. Luis Imaña
- 3.- Gerente del Comité de Reforestación de Madre de Dios Ing. Cecilia Arellano
- 4.- Presidente de la Asociación de Pequeños Extractores Madereros Sr. Rafael Ríos
- 5.- Presidente de la Cámara de Turismo de Madre de Dios y miembro del CAR, Sr. Mario Troncoso
- 6.- Funcionario de la Federación Agraria Departamental de Madre de Dios (FEDAMAD) Ing. Héctor Vélchez
- 7.- Alcalde Provincial de Tambopata Sr. CPC Santos Kaway
- 8.- Administrador de la Municipalidad Provincial, Sr. Mario Valverde
- 9.- Representante de las ONGs locales en el CAR Madre de Dios, Sra. Zoila Arredondo
- 10.- Empresario y promotor de turismo, Sr. Orlando James
- 11.- Directora de Campo, Proyecto Conservando Castañales, Ing. Vanessa Sequeira
- 12.- Consultor Forestal, Ing. Antonio Arana

- 13.-Coordinador de Campo, Conservación Internacional-Perú, Biól. César Ascorra
- 14.-Responsable del proyecto de CI-Perú en Fibrocemento, Ing. Nelson Menéndez
- 15.-Director del Instituto de Investigaciones de la Amazonia Peruana (IIAP) y miembro del CAR, Ing. Alejandro José.
- 16.-Empresario en turismo, Rainforest Expeditions, Ing. Kurt Holle
- 17.-Gerencia Regional de Planificación y Presupuesto, CTAR-Madre de Dios, Sr. Rosalío Haypar
- 18.-Educadora, Sra. Isela Arredondo

Principales aspectos considerados en este viaje:

Para la visita a Puerto Maldonado se conto con la compañía del Sr. Thomas Moore, quien con su conocimiento de la región y de su gente facilitó mucho esta parte del trabajo.

Como capital de Madre de Dios, el Departamento menos poblado del Perú, uno de los de más difícil acceso, y con la mayor biodiversidad aún en condiciones de bajo impacto antrópico, Puerto Maldonado es un centro de especial importancia para el tratamiento de temas ambientales amazónicos, de uso de la tierra y de comunidades nativas, en el cual convergen muchos esfuerzos gubernamentales y privados, regionales, nacionales y foráneos.

Durante la visita a Puerto Maldonado aún se sentía la crisis y la agitación de los problemas iniciados meses antes en la región por el decomiso dispuesto de grandes volúmenes de caoba extraída en forma ilegal en una zona de Tahuamanu, en donde no existen bosques de producción autorizados y que afecta sectores de algunas etnias nativas llamadas "no contactadas". Unos días antes se había dispuesto dejar sin efecto tal decomiso y se procedía a la movilización y transporte de la madera en cuarterones. Esta situación particular presenta un escenario típico de conflictos en el uso y administración de recursos naturales en la región con sus impactos en el ambiente y en la población. Aquí se daba la pugna entre grandes y pequeños madereros, entre criterios de zonificación, entre ambientalistas e industriales y hasta entre funcionarios de la administración pública.

Frente a este cuadro las autoridades locales (INRENA y el CTAR) plantean varias alternativas que se integran en un Plan Estratégico de Desarrollo de Madre de Dios 2002-2006 y en acciones tales como extensión, capacitación y demostración; organización; y concientización. Actualmente, está también por presentarse y discutirse con los actores locales la el mapa de zonificación ecológica-económica de Madre de Dios, tarea a cargo de la oficina local del Instituto de Investigaciones de la Amazonia Peruana (IIAP), institución de una de las dos asociaciones favorecidas por fondos de BIOFOR..

Un grupo importante en la actividad de la región es la Asociación de Pequeños Extractores Madereros, la cual es además una de las organizaciones favorecidas por el financiamiento de su proyecto presentado a la convocatoria de BIOFOR. Ellos representan a 1000 asociados, de los cuales 600 en forma individual cuentan con un contrato de concesión forestal para el aprovechamiento de menos de 1000 hectáreas y que en conjunto significan un importante contingente local que se beneficia y depende de los recursos locales y que reclama se respete su acceso y derecho a los mismos.

Entre los grupos locales organizados de mayor continuidad se observan dos instituciones que han ganado un espacio interesante como son el de nativos (FENAMAD) y el de colonos (FEDAMAD), ambos con vinculaciones externas y con adecuado respaldo técnico, en especial la segunda, que les ha permitido acceder a ciertos fondos y proyectos para su subsistencia y mejor desempeño.

El tema del turismo de naturaleza o ecoturismo es de gran importancia y actualidad en la zona, tanto por su potencial aún poco aprovechado como por las crecientes presiones que origina o puede originar en ciertos espacios de mayor atractivo para el visitante, y más fácil acceso, sobre comunidades nativas y de colonos. Actualmente se puede observar que la organización de esta actividad viene mejorando y se realizan esfuerzos locales por llevar adelante mejoras técnicas en la atención de la demanda, así como en la mitigación de los posibles impactos sociales y ecológicos generados en el medio.

Sin duda, un grupo gravitante para la presencia y el desenvolvimiento de una actividad profesional en diferentes campos en la zona, son las ONGs que actúan en muchos frentes y con diferente intensidad; y producen contactos locales con el exterior, tanto nacional como internacional, que les permiten desempeñarse así como involucrar a parte de la población local en temas ambientales, científicos, culturales y de interés práctico.

Una ONG de gran e interesante actividad es Conservación Internacional, que desde 1990 trabaja en temas tales como manejo de bosques, castaña, productos de transformación tales como planchas de fibrocemento con especies de bosques secundarios, biodiversidad, nutrición, pesca, extensión y otros, con un adecuado soporte técnico local familiarizado con equipos de tecnología moderna tales como los SIG.

Un tipo de recurso forestal diferente de la madera que caracteriza a la región y que le ofrece muchos beneficios y oportunidades es la castaña, que se encuentra en tipos de bosques que sólo se dan con la dominancia del caso para convertirse en alternativa económica en la zona sur oriental de Madre de Dios. Muchos grupos, ONGs y otros, actúan con este fruto del bosque y en la actualidad su estudio, evaluación, manejo y cosecha se viene mejorando mucho.

Puerto Maldonado cuenta con una ventaja especial en relación a otras ciudades por el hecho de ser la sede de una de las actualmente establecidas Comisiones Ambientales Regionales (CAR) del Consejo Nacional del Ambiente (CONAM) y contar con un Plan de Acción Ambiental concertado y estructurado. El CAR-Madre de Dios es de por sí un foro de discusión de temas ambientales en el cual concurren las autoridades nacionales, regionales y locales, así como los representantes de las asociaciones más importantes del medio. Estos grupos han definido en el Plan de Acción Ambiental los principales problemas a ser enfrentados y sus posibles soluciones.

Uno de los problemas prioritarios destacados por la comunidad local es el que ha venido presentándose desde hace varios años en la zona, con enorme impacto puntual y regional, debido a la explotación desordenada de los depósitos de oro aluvial. En estos casos, la gran alteración de las condiciones naturales de los cursos fluviales, su planicie de inundación y bosques ribereños, la fuerte carga adicional de sedimentos en el caudal de los ríos y los aportes de contaminantes químicos, especialmente Mercurio, genera muy serios problemas aún no claramente definidos ni adecuadamente enfrentados.

Una característica especial de la zona que le otorga a la vez ciertas ventajas y potenciales problemas, en términos de atractivo adicional para visitantes y posibilidades de comercio, es su ubicación en zona de frontera con Brasil y Bolivia, países con los que comparte similares recursos y problemas en sus espacios limítrofes. Se espera que pronto se pueda establecer una comunicación fluida por carretera de Acre-Madre de Dios. Es también un proyecto internacional muy esperado el del corredor ecológico Madidi-Tambopata-Vilcabamba.

La Municipalidad Provincial de Tambopata, con sede en Puerto Maldonado, en forma similar a otras en el país, reconoce el tema ambiental como prioritario y urgente y es conciente también de sus

limitaciones actuales para manejarlo de acuerdo a su importancia, por falta de medios y de personal. Como en otros muchos casos en el país, no tiene buenas conexiones con ONGs que puedan apoyarla en su esfuerzo por avanzar en el tema. Sin embargo, ha iniciado algunas obras en los últimos meses que serán sin duda importantes, como la nueva planta de tratamiento de aguas servidas. Asimismo, es importante indicar que el CONAM ha seleccionado a Puerto Maldonado como un punto experimental de gestión ambiental con municipios. Sus problemas más importantes en el área urbana son los referidos con la eliminación de la basura, para lo que se ha propuesto la construcción de un relleno sanitario y la búsqueda de soluciones originales y adecuadas al medio que abaraten el proceso.

Recomendaciones:

- Buscar fortalecer a la Municipalidad Provincial de Puerto Maldonado en su desempeño ambiental, en base a aportes de recursos externos, por medio de sinergias de programas en marcha, acercamientos con las organizaciones locales más importantes (ONGs, gremios, universidades, sector privado, etc.) y con las comunidades y ciudades mayores de sus países vecinos, especialmente con Río Branco, en Acre, Brasil.
- Aprovechar las condiciones del medio de poco impacto humano relativo para iniciar acciones ambientales que permitan recuperar con menor inversión y en un plazo más corto las condiciones alteradas y prevenir mayores impactos futuros.
- Reforzar las acciones del CAR-Madre de Dios, como centro de concertación de acciones y mantener los planteamientos y actividades del Plan de Acción Ambiental.
- Impulsar sinergias entre programas en marcha apoyados por USAID y otros donantes, destacando las relaciones existentes entre los grupos nativos y colonos establecidos, su calidad de vida y el manejo sostenible de los recursos naturales del área.
- Buscar la coordinación de acciones gubernamentales y privadas en la solución definitiva de los problemas largamente presentes en la zona derivados de la explotación de los depósitos auríferos fluviales y la contaminación por el uso de Mercurio en tales operaciones mineras.

3.- CONFERENCIA TELEFONICA CON PUCALLPA Y APORTES VIA E-MAIL (por Carlos A. Llerena)

16, 17 y 18 de Mayo

- 1.- Alcalde Provincial de Coronel Portillo, Sr. David Yamashiro
Teléfonos: cel. 064-638403, Municipio: 573867
- 2.- Ing. Wilfredo Bonilla, Profesor Asociado, Facultad de Ciencias Forestales,
Universidad Nacional de Ucayali (UNU)
- 3.- Ing. Mario Quevedo, Consultor Forestal
- 4.- Econ. Rómulo Coronado
- 5.- Ing. Marco Romero, Proyecto MADEBOSQUE - Cámara Forestal Nacional

Principales aspectos a considerar:

La posible asignación de recursos a la Municipalidad Provincial de Ucayali (MPU), con sede en Pucallpa, como entidad "protagonista" y líder local para los temas o proyectos ambientales en esta ciudad y su área de influencia urbano y peri-urbano, resulta sin duda alguna, muy interesante para todos los entrevistados. Con el consenso adicional de todos ellos, que dadas las pésimas y por largo tiempo persistente condiciones existentes, no puede ni debe ser otra manera. Para las municipalidades distritales los temas son también importantes y prioritarios.

Sin embargo, se reconoce y se acepta sin reparos que la MPU no tiene suficiente experiencia en conducir esos tipos de proyectos. Uno de los casos de excepción se dio durante los años 1983 y 1984, en el que trabajaron en grupo el Municipio Distrital de Yarinacocha, ONGs, Asociaciones de Nativos, Madereros, representantes del MITINCI, la Marina y otros en la Laguna de Yarinacocha para enfrentar el problema de invasión de la guama, o Jacinto acuático (planta flotante muy agresiva del género *Eichhornia*).

Por tanto, se debe aceptar que la MPU no podría funcionar en este momento como conductora de proyectos sobre temas ambientales o de recursos naturales porque no está debidamente implementada, es decir; no tiene personal capacitado para desarrollar proyectos de este tipo. La MPU no tiene ni siquiera la idea de que estas proyecciones ameritan crear un departamento o sección que gestione y lleve adelante tales proyectos, que son, además, de su competencia de acuerdo a Las disposiciones existentes y por las carencias de otras instituciones de su entorno.

Tampoco, hay relaciones sólidas con las Municipalidades Distritales, las cuales cada una a su manera y separadamente enfrenta y trata de resolver sus problemas cuando estos se presentan. Problemas que son en gran parte en sus orígenes y consecuencias, comunes. Las

administraciones distritales y la provincial no se llevan mal, pero no coordinan esfuerzos, recursos, ni temas prioritarios.

La MPU tampoco tiene coordinaciones en actividades o proyectos ambientales con alguna ONG; ni hasta el momento las tuvo. Tampoco con entidades privadas como la Cámara de Comercio u otras. Salvo algunas temas muy puntuales con ELECTROUCAYALI, la Cervecería San Juan y, últimamente, con el Rotary Internacional de Pucallpa, que está desarrollando un proyecto sobre mejoras en la Ccnstrucción de letrinas en las afueras de la ciudad, en los "pueblos jóvenes" de Pucallpa.

Con el Gobierno Regional (CTAR-Ucayali) las Municipalidades no tienen mayor contacto y mantienen cierta rivalidad y enfrentamiento político. En este caso nuevamente cada institución quiere hacer las cosas por su cuenta y no dejar de ser protagonistas frente a la población cuando se trata de mostrar alguna actividad visible; o por el contrario ambas se mantienen indiferentes frente a problemas de competencia común y quienes siempre salen perdiendo de esta situación son los pobladores. Por ejemplo, cada vez que llueve torrencialmente las calles urbanas se aniegan; los desagües se colman o atorandos; y los pueblos jóvenes terminan inundados.

Con la UNU, la típica posición de que cada institución hace sus cosas sola se sigue manteniendo. Si hay alguna "colaboración" mutua, esta es muy rara, puntual y limitada. Actualmente además, por sus propias limitaciones, la UNU no desarrolla ningún proyecto de investigación, estando en estos días en proceso de gestión inicial sólo un proyecto sobre captura de carbono. Si se llegaran a definir algunas acciones conjuntas con la Municipalidad, esta situación podría cambiar.

Recomendaciones:

- Destinar una ayuda inicial para crear una oficina municipal de "Gestión e Implementación de Proyectos Ambientales".
- Por sus características generales, su ubicación Amazónica y por le tipo de actividad indistrial predominante en Pucallpa y su área de influencia, esta sería una región interesante para ensayar proyectos que integren actividades "verdes" y "marrones".
- De acuerdo a los entrevistados los proyectos que deberían priorizarse serían:
 1. Educación ambiental a nivel de "toda" la comunidad.
 2. Divulgación o difusión masiva de los problemas ambientales de la región a través de los medios de comunicación y los comunicadores sociales con el fin de crear una conciencia local de tal realidad.
 3. Canalización y tratamiento de aguas servidas
 4. Mejoramiento de la calidad del agua potable (fuente: Lago de Yarinacocha)
 5. Manejo de las aguas pluviales en el sector urbano y suburbano (drenaje).
 6. Manejo de residuos sólidos en el sector urbano y suburbano (reciclaje).

- Como el período de toda municipalidad es muy corto y como casi todos los proyectos sugeridos requieren de plazos medianos o largos, convendría que estos temas se canalizen a través de algún tipo de "Proyectos Especiales", tratando de crear o buscar un tipo de institución o asociación de instituciones que perdure en el tiempo, quizás municipalidad - ONG, y que no cambien en función a los cambios en la gestión municipal efímera.

ANNEX L

**POWERPOINT PRESENTATION OF EVALUATION REPORT IN
SPANISH**

EVALUACION DEL PROGRAMA
Y MARCO DEL OBJETIVO
ESTRATEGICO CUATRO (SO4)
DE USAID/PERU

L-3

John O'Donnell

Fred Mann

Howard Clark

James Connor

Burton Hamner

Carlos Llerena

Jaime García

Presentación

- Introducción
- Avances a la fecha
- Nuevas direcciones.

Introducción

- ¿Quiénes somos?
- ¿Cuál ha sido nuestra misión?
- ¿Qué esperamos de esta reunión?.

Avances a la fecha: Situación en 1995

- Falta de una política ambiental
- Reducida información y conciencia ambiental, sobre todo en los enfoque “marrón” y “azul”
- Enfoque setorial del tema ambiental del sector público
- Unidades sectoriales ambientales débiles
- Pobre marco regulatorio
- Débil participación y conciencia del sector privado (ONGs, gremios, academia)

Actividades desarrolladas: SENREM

- Asistencia Técnica a CONAM y Ministerios (MITINCI-MIPE)
- Capacitación ambiental al sector público
- Información ambiental.

Actividades desarrolladas

SPDA/OACA/CUANTO/CEPES

- Estudios de política
- Foro ecológico
- Informe del Estado del Ambiente
- Seminarios Industriales
- Monitoreo ambiental en municipios y comunidades
- Programa de producción limpia
- Proyectos demostrativos.

Actividades desarrolladas: BIOFOR IRG

- Enfoque en seis áreas geográficas
- Conformación de comités de asistencia técnica
- Capacitación a ONGs
- Apoyo al desarrollo de políticas, leyes, reglamentos relacionados con ANP y temas forestales (gestión concesiones y categorías de protección y producción)

CEPCOM

- CPL
- Asesor de PL
- Financiamiento

Actividades para próxima aplicación: EH

- Enfoque geográfico: peri-urbano
- Desarrollo de políticas
- Capacitación
- Proyectos demostrativos.

Nuevas Direcciones: Marco Estratégico Revisado

L-12



Fundamento

- SO4: SENREM, BIOFOR y EH han contribuido a “Mejoramiento de la Gestión Ambiental en Sectores Seleccionados”
- Una buena parte de las piezas del Sistema Interactivo están dados
- Avances en el Marco Nacional de Políticas Ambientales
- Avances en el Marco Institucional Ambiental del sector público.

Fundamentos

- Sector privado de ONGs con una participación más activa en el diálogo, formulación y aplicación de políticas ambientales
- Sector privado empresarial más informado y conciente del tema ambiental
- Sector académico más comprometido con el tema ambiental.

Fundamentos

- Necesidad de mayor participación de los gobiernos municipales
- Complementación y sinergias entre los enfoques “verdes” y “marrones”
- Involucrar otros actores públicos: MA MEF
- Involucrar otros actores privados: IFIs
- Enfoque trans-sectorial del tema (SOs).

Fundamentos

¿Qué debería hacer USAID/Perú en el tema ambiental durante el período FY2002-FY2006?

Objetivo Estratégico Revisado

- De: “Mejoramiento de la Gestión Ambiental en Sectores Seleccionados”
- A: “Fortalecer el Sistema Nacional Interactivo para lograr un Desarrollo Económico y Social Ambientalmente Sostenible”.

Resultados Intermedios Revisados

- Fortalecer Sistema Interactivo:
- Marco nacional de políticas ambientales
- Proceso de aplicación de políticas /tecnologías ambientales a nivel local y retroalimentación hacia el nivel nacional
- Aumento de conciencia y demanda ambiental.

Marco Nacional de Políticas

- Continuar apoyando con asistencia técnica de corto plazo a CONAM, INRENA, Ministerios, Congreso para la complementación del marco regulatorio:
 - Identificación, diagnóstico y priorización de vacíos
 - Priorización: población afectada y riesgo ambiental.

Implementación y retroalimentación de la política/tecnología

- Nivel local hacia y desde nivel nacional:
 - Seleccionar 4 ó 5 áreas geográficas
 - Llevar a cabo programa coordinado de mejoramiento de gestión ambiental
 - Involucrar otros SO (2 y 5) de USAID (transectorial)
 - Complementariedad de componentes “verde” y “marrón”
 - Un coordinador ambiental por zona geográfica.

Aumento de la conciencia y demanda ambiental

- Apoyar a un consorcio de universidades a través de una consultora/universidad americana
- Potenciar los temas de información, capacitación y entrenamiento (currícula)
- Enfoques tecnológicos (PL y PC) y de negocios (financiamiento, marketing)
- Programas de información ambiental en escuelas, medios, y grupos organizados de ciudadanos.

INTERACTIVE SYSTEM FOR ENVIRONMENTALLY SUSTAINABLE ECONOMIC AND SOCIAL DEVELOPMENT

National Policy/regulatory Frame work				Increased environmental Awareness & demand					Policy/Technology Application and feedback	
INRENA	CONAM	MINISTRIES	CONGRESS	Private Sector Business	Public Sector Institutions	University Community	NGO's	GENERAL PUBLIC	MUNICIPAL LEVEL PROGRAMS	PRODUCTION EFFICIENCY CENTER (CEPCON)
Short term T.A. for Policy/ Regulatory GAPS	Short Term T.A. for Policy/ Regulatory GAPS	T.A. to Industry Fisheries (CEPCOM Health (Env. Health)	SPDA	Training for Industry Financial Institutions SME's	Training for Presidency Finance Production Ministries (MITINCI, MAG, MEM MINIPES) Cross- Sector (Health/EDU)	-Univ. Environ. network -Leadership Forum -Environ. Trng. for business/ public sector leaders -Inclusion of environ. Subjects in curricula. -Environ. Info Clearing house.	NGO's (SNA as a Forum for discussion of environmental issues and institution for NGO's)	Schools TV Radio Press Civic Groups	Select 4 - 5 Geographic areas for Coordinated Environmental Quality Improvement Programs. Gain Knowledge from Policy/Technology Application at the local Level that can feedback And inform the policy/ Regulatory process and Training programs. -Municipal Strengthening -Role of CAR's -Synergies with S0-2, S0-5, S0-1. -Green/Brown Synergies (water as an Integrating mechanism). -DIGESA (BIOFOR/Brown) -Mitinci Business Dev. Centers	Interface w/ global best practices Disseminate practices to Program participants
Some T. A. Options				3. Consider continuing training for NGO's through SNA 4. Buy in to GreenCom to manage general public awareness program. 5. Consider continuing support to SPDA for legal work with congress.					<u>Possible sites</u> Pucallpa (S0-2) Pisco/Paracas (BIOFOR/Brown) Huanuco/Tingo Maria (S0-5, S0-2, BIOFOR) Huancayo (S0-2) Huaraz (S0-2, BIOFOR) Madre de Dios (BIOFOR) Arequipa (DIGESA) Lima Perú - urban areas (DIGESA)	

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INSTITUTIONAL MAP: INTERACTIVE SYSTEM FOR ENVIRONMENTALLY SUSTAINABLE ECONOMIC AND SOCIAL DEVELOPMENT

DONORS					ENVIRONMENTAL FUNDS				
World Bank IDB, UNDP, FAO European Union Bilateral Programs					Americas Fund PROFONANPE				
PUBLIC		SECTOR			PRIVATE		SECTOR		
Judiciary		President	Congress		Business	University	NGO's		Civic Organizations
Community		Consejo de Ministros	Organizations CONAM		CONFIEP SNI, SNM, SNP, ADEX ASO/Bank Chambers, etc.	Pacifico Lima ESAN UNI, etc.	SNA Pro-Naturaleza TNC, CI WWF APECO, etc		Rotary Lions Neighborhood Associations Clubes de Madres
Transport Public works	Production Ministries	Presidencia	Finance	Social Ministries					
		MITINCI MINPES MEM MAG - ONERN		Salud Education					
REGIONAL ORGANIZATIONS									
COMPLEMENTARY PROGRAMS/ SYNERGIES		CTAR's		CAR's		MUNICIPALITY		COMPLEMENTARY PROGRAMS/ SYN	
		RURAL		URBAN					
ERGIES									
1. BIOFOR		1. Protected Areas		1. Water Quality		1. CAR's			
2. MOA/ONERN		2. Forest Products Extraction		2. Sewage Treatment & Disposal		2. S0-2 Economic Service Centers			
3. S0-2 Economic Service Centers		3. Watershed Mgt.		3. Solid Waste Disposal		3. DIGESA			
4. S0-5 Alternative Dev. Programs		4. Soil Conservation		4. Toxic Waste Disposal		4. MITINCI Business Dev. Centers			
5. S0-5 Municipal Strengthening		5. Agricultural RunOff		5. Air Quality		5. GOP Water and Sewage Projects			
6. MOA/PRONAMACHS		6. Irrigation Water Quality							

ANNEX M

**POWERPOINT PRESENTATION OF EVALUATION REPORT IN
ENGLISH**

EVALUATION OF USAID/PERU STRATEGIC OBJECTIVE FOUR

John O'Donnell
Fred Mann
Howard Clark
James Connor
Burton Hamner
Carlos Llerena
Jaime García

Presentation

- Introduction
- Brief overview of evaluation findings/conclusions and recommendations
- New directions.

Introduction

- Who are we?
- What was our mission?
- What do we expect in this meeting?.

SENREM: assistance to CONAM

- FINDINGS:
- Assistance to CONAM successful in establishing CONAM'S operations and some of the key elements in the national policy framework
- Capacity to address environmental problems strengthened in MITINCI and MIPE
- Need to work more closely with other ministries (e.g. Agriculture, Finance)
- Regional Environmental Council established; an important step for decentralizing concern with environmental issues

SENREM: Assistance to CONAM

- RECOMMENDATIONS:
- Further assistance to CONAM should focus on gaps in national policy framework and helping top leadership in the GOP, the university community and the private sector (business and NGOs) develop a common vision
- A process should be developed for application of policy at the local level to identify problems which can be fed back to the national level.
- SENREN should find ways to work with the public and private financial sector.

SENREM: Private sector advocacy/ demonstration projects

- FINDINGS:
- Considerable progress achieved in each element; need to identify and promote synergies
- Establishment of SNA an important step; however much remains to be done to make it a strong sustainable force in addressing environmental issues
- Process for demonstration process carry out effectively; serves as a model for Americas Fund and BIOFOR pilot projects.
- Some demonstration projects need additional support to achieve sustainability. Need to promote synergies.

SENREM: Private sector advocacy/ demonstration projects

- RECOMMENDATIONS:
- SPDA should hold management retreat with subcontractors to identify synergies and improve overall counterparts cooperation and management
- SPDA/CEPES, SNA and USAID should meet to develop a common understanding of their respective roles and responsibilities
- Demonstration projects should be examined to see whether opportunities for leveraging and synergies

BIOFOR

- FINDINGS:
- Early in implementation: SOAG signed 1998, AIL signed 3/29/0
- Formation of TACs and training programs progressing well
- Signature of AIL facilitates increased IRG assistance to INRENA in policy development
- IRG completed several studies including forestry concessions for CEPRI Biabo, economic and ecological zoning in Madre de Dios and a Master Plan for the Pacaya Samiria National Reserve

BIOFOR

- RECOMMENDATIONS:
- Reduce number of regions from six to four; look for synergies between “green” and “brown” activities in selected geographic areas
- IRG and INRENA should develop interim policy improvement work plan through 2001. Further policy work should await USAID changes based upon revised strategic framework

Environmental Health

- FINDINGS: just starting
- RECOMMENDATIONS:
- DIGESA and CEPACOM should work together to identify and work with polluting industries in periurban zones, concentrating in selected geographic areas.
- The EH activity should support a study of the economic cost of poor environmental health.
- Study results should be used to promote environmental health and ensure that EH issues are addressed in EIA and PAMA guidelines.
- DIGESA should conduct a policy study on how to involve local regulatory agencies in protecting environmental health.

CEPCOM

- FINDINGS:
- Many resources, e.g. MITINCI business development centers, university business and environmental programs, which can work with CPC in addressing clean production issues
- RECOMMENDATIONS:
- CPC should become a center for “train the trainers”
- CP advisor should help MITINCI to establish relationships with other ministries to promote clean production activities.
- Revolving funds should be converted to loan guaranty fund

New Directions: A Revised Strategic Framework

M-14

1995 Context

- Lack of an environmental policy
- Limited environmental information and awareness, particularly in “brown” and “blue” areas
- Sectoral emphasis in environmental policy of GOP
- Weak environmental offices in ministries
- Limited legal framework
- Weak participation and awareness within the private sector (NGOs, chambers, academia)

Rationale

- SO4: SENREM, BIOFOR and EH have made substantial progress in achieving the Objective of “Improved Environmental Management of Targeted Sectors”
- Many of the pieces are in place for an overall interactive system
- Progress in establishing a national environmental policy framework
- Progress in establishing national public sector institutional framework for addressing environmental issues.

Rationale

- NGO community has become a more effective participant in national environmental policy dialogue, formulation and application
- The business community is more informed and concerned about environmental issues
- The academic community has demonstrated increased interest in actively participating in environmental issues.

Rationale

- Gaps in the overall system
- Critical weak link at the local government level where policies and technologies are applied to address environmental problems
- Need to foster complementarities and synergies between “brown” and “green” approaches to environmental problems
- Need to involve other GOP actors: Agric. and Finan.
- Need to involve other private actors: IFIs
- Need for more cross-sectoral cooperation to address environment issues (USAID SOs).

Rationale

¿What should USAID/Peru be doing next in the environmental arena in the period FY2002-FY2006?

ANNEX N
EXECUTIVE SUMMARY IN SPANISH

RESUMEN EJECUTIVO

ANTECEDENTES

Esta evaluación del Objetivo Estratégico Cuatro (SO4) de USAID/Peru, "Mejoramiento del Manejo Ambiental en Sectores Seleccionados", fue realizada durante el período del 3 al 29 de Abril del 2000 por un equipo de especialistas del Development Alternatives, Inc. (DAI).

Los objetivos de la evaluación fueron: 1) Evaluar el progreso de la implementación de SENREM (Manejo Sostenible del Medio Ambiente y los Recursos Naturales) y BIOFOR (Biodiversidad y Áreas Protegidas), actividades autorizadas en el Año Fiscal (FY) 1995 y 1997, respectivamente; 2) Evaluar el progreso general del SO4, incluyendo la relevancia de las actividades en marcha (SENREM, BIOFOR) así como las actividades programadas, incluyendo Salud Ambiental (EH), Producción Limpia/Prevención de la Contaminación (CEPCOM) y la Consolidación del Marco Ambiental (CONEF); 3) Identificar lecciones aprendidas; 4) Actualizar la Estrategia Ambiental de la Misión AID (MES); y, 5) Recomendar cambios apropiados en el Marco Estratégico del SO4 para el período FY 2002 a FY 2006.

El equipo evaluador revisó la documentación respectiva, se entrevistó con funcionarios públicos y privados y realizó visitas de campo para conocer actividades apoyadas por el SO4. Las observaciones, conclusiones y recomendaciones fueron presentadas verbalmente al grupo USAID SO4 el 19 y 27 de Abril y fueron entregados informes preliminares en USAID/Perú cuando el equipo culminó la primera fase el 29 de Abril. El jefe del equipo evaluador, el especialista en economía y políticas ambientales y los dos especialistas peruanos, reiniciaron sus labores el 22 de Mayo, se desarrolló un taller de trabajo con las contrapartes el 31 de Mayo y una presentación a funcionarios de USAID/Peru el 2 de Junio y finalizaron todos los informes requeridos antes del 6 de Junio.

OBSERVACIONES, CONCLUSIONES Y RECOMENDACIONES POR ACTIVIDAD

SENREM

OBSERVACIONES/CONCLUSIONES:

La asistencia otorgada a CONAM (Consejo Nacional del Ambiente) bajo SENREM ha sido exitosa, contribuyendo al establecimiento de las operaciones de CONAM y brindando apoyo técnico importante para establecer algunas de las bases para el marco de políticas ambientales. En comparación con los avances y experiencias en otros países, la asistencia de USAID ha ayudado al Perú a lograr avances significativos en política ambiental, legislación y reglamentos en un período relativamente corto.

Mientras que CONAM, MITINCI (Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales) y el MIPE (Ministerio e Pesquería), han sido

fortalecidos en asuntos ambientales con la asistencia del SENREM, otros ministerios importantes como el de Agricultura y Economía y Finanzas, no han sido involucrados, lo cual ha afectado de alguna manera la posibilidad de un mayor desarrollo e implementación de las leyes, reglamentos y políticas ambientales en el país.

CONAM, con la asistencia de UNDP y de SENREM, creó las Comisiones Ambientales Regionales (CAR) que han permitido el tratamiento de asuntos ambientales en diferentes regiones del país. Este es un paso positivo hacia la descentralización ambiental pero se requiere avanzar más en los niveles locales, en donde la política ambiental debe convertirse en acciones que mejoran la calidad ambiental.

El marco legal para el manejo ambiental industrial está bastante avanzado. No obstante, todavía es necesario realizar actividades por parte de CONAM y los ministerios respecto a las políticas y poderes necesarios para un efectivo cumplimiento de los estándares para la promoción amplia de la prevención de la contaminación en la industria y para la creación de demanda de mejoras ambientales industriales.

El Componente de Participación Colaborativa del Sector Privado de SENREM, ha logrado importantes progresos hacia el Resultado Intermedio 4, "Reforzamiento de la capacidad de alcanzar consenso, resolver problemas y dialogar sobre política ambiental". EL contratado y los subcontratados han cumplido con sus respectivos Términos de Referencia y han sido fortalecidos con su participación en SENREM. Sin embargo, hay que hacer aún un esfuerzo adicional para lograr sinergias entre las sub-actividades programadas.

La reciente formación de la Sociedad Nacional del Ambiente (SNA), como una organización "paraguas" para las ONGs ambientales ha sido un importante primer paso. No obstante, todavía queda mucho por hacer para institucionalizar su presencia, definir su rol y proveer mecanismos que aseguren representatividad permanente y determinen una efectiva agenda operativa, así como financiamiento sostenido para llevarlo a cabo.

La actividad de Producción Limpia (PL) ha sido exitosa, cumpliendo con la reducción de la contaminación en plantas seleccionadas, demostrando que la PL y la PC (Prevención de la Contaminación) son acciones válidas para el mejoramiento ambiental en la industria peruana.

El proceso de licitación (convocatoria, evaluación, selección y aprobación) de las propuestas de los Proyectos Demostrativos se ha llevado a cabo de manera eficiente, lo cual ha servido de modelo para programas similares como el del Fondo de las Américas y los proyectos pilotos de BIOFOR. Hubieron dos licitaciones. En el primer grupo, la mayoría de proyectos fueron "verdes", el segundo fue más balanceado. La sostenibilidad fue uno de los criterios principales para la aprobación de los proyectos. No obstante, algunos de los proyectos visitados podrían requerir apoyo adicional para lograr su sostenibilidad financiera. El costo de administración y seguimiento de los proyectos es alto debido a la dispersión geográfica de los mismos, y a su mayor número en comparación a lo originalmente previsto.

Recomendaciones:

La asistencia técnica adicional de USAID al CONAM debe enfocarse en apoyar los vacíos en el marco de las políticas ambientales, en identificar las "mejores prácticas" y ejemplos de desarrollo económico ambientalmente sostenible y en apoyar a los líderes del gobierno peruano, la comunidad universitaria y el sector privado, para que tengan conocimiento de estas prácticas y ejemplos y compartan una visión común.

SENREM podría apoyar a CONAM en establecer mecanismos que faciliten la gestión ambiental de los gobiernos locales, reconociendo que los CARs son organizaciones coordinadoras y que los gobiernos locales tienen responsabilidades claves para tratar asuntos ambientales dentro de sus respectivas jurisdicciones.

Además, SENREM podría apoyar a CONAM en involucrar al sector financiero en asuntos ambientales. El sector financiero no ha tenido una participación en las actividades de SENREM. Es crucial que sea involucrado para facilitar el accionar del sector privado en asuntos ambientales y para el financiamiento de los cambios tecnológicos que requerirán para el cumplimiento con los estándares ambientales.

SPDA (Sociedad Peruana de Derecho Ambiental) podría organizar una "retiro de gerencia" con sus socios para una revisión general del programa y para estimular el mejor cumplimiento de sus objetivos, el logro de mayores sinergias y mejoras en la gestión ,

Los proyectos demostrativos podrían ser revisados para identificar oportunidades de apalancamiento y sinergias que aún no hayan sido explotados. Asimismo, podrían realizar una reunión general con los receptores de las donaciones para facilitar el intercambio de experiencias y oportunidades para posibles "joint ventures" en el futuro.

El equipo evaluador coincide con la iniciativa del SPDA de presentar al público los resultados de los proyectos demostrativos a fin de lograr una mayor difusión. Otros donantes podrían participar en este evento, para buscar oportunidades de replicar los resultados de los proyectos exitosos.

En caso de existir, en el futuro, programas similares financiadas por USAID, se sugiere buscar una focalización geográfica para incrementar oportunidades de sinergias y bajar los costos de supervisión.

*BIOFOR**Observaciones/conclusiones:*

La actividad de mejoramiento de políticas es a nivel nacional y el socio principal es INRENA. Asimismo, BIOFOR ha enfocado sus actividades en seis regiones geográficas que tienen Areas Naturales Protegidas (ANP). Cada región incluye numerosos ecosistemas,

muchos de las cuales están en riesgo por prácticas no sostenibles, que podrían dar lugar a la degradación del ecosistema.

BIOFOR ha conformado Comités de Asesores Técnicos (CAT) para "identificar y definir planes de trabajo para apoyar el manejo ambiental en sus zonas y acentuar el impacto de BIOFOR", y ha identificado organizaciones e instituciones para que participen en los programas de capacitación.

ONGs seleccionadas están siendo capacitadas para una gestión eficiente de sus organizaciones y para que en conjunto con otras instituciones públicas y privadas preparen propuestas adecuadas para el financiamiento de proyectos pilotos con recursos de la cooperación. La capacitación y las donaciones dan muestras iniciales de éxito en la superación de las ONG's y otras instituciones en la preparación de propuestas de proyectos con fines de manejo sostenible de recursos naturales renovables.

No han habido cambios significativos en la implementación de las actividades originalmente programadas al inicio de BIOFOR en Octubre de 1998, a excepción de los retrasos previstos en el Acuerdo de los Objetivos Estratégicos (SOAG) (25 de Agosto de 1998 y la Carta de Implementación (AIL9 (20 de Marzo de 2000). La implementación de las actividades de BIOFOR ha sido gestionada por IRG a través del contrato EPIQ IQC. La firma del SOAG y el BIOFOR AIL permitirá destinar algún financiamiento a INRENA, para un conjunto de actividades que serán coordinadas con IRG y USAID/PERU.

BIOFOR apoyará el desarrollo de políticas, leyes y reglamentos, relacionadas con las ANP y temas forestales (categorías de protección y producción) y planes de gestión de concesiones forestales.

No obstante, que la formalización de la asistencia técnica de IRG/BIOFOR a INRENA a través del AIL no fue firmada hasta Marzo del 2000, BIOFOR ha venido colaborando en apoyo a las políticas desde su implementación.

Recomendaciones:

Debido a las limitaciones de fondos, las seis áreas nacionales de conservación seleccionadas deberían reducirse a no más de cuatro, haciendo especial énfasis en combinar los aspectos "verdes" y "marrones" del portafolio ambiental de USAID en un número reducido de áreas ambientales/geográficas, como se describe con mayor detalle en la Sección IV, Nuevas Direcciones: Marco Estratégico Revisado.

Sugerimos que IRG e INRENA desarrollen un plan interino de trabajo (para FY 2001) para el mejoramiento de políticas. Planes para mejoramiento de políticas después del FY 2001 deberían esperar las decisiones de USAID relacionadas con cambios en la estrategia del SO4 para FY 2002- FY 2006.

SALUD AMBIENTAL

Observaciones/Conclusiones:

La actividad de Salud ambiental (EH) está debidamente diseñada y autorizada, pero no se ha iniciado, lo cual ofrece la oportunidad para que se logre una mejor integración con las actividades de SENREM y, en particular, con las previstas en CEPCOM.

Recomendaciones:

A fin de lograr una buena integración entre las actividades de EH, y las de CEPCOM, es conveniente que DIGESA (Dirección General de Salud Ambiental) y el CPL (Centro de Producción Limpia), trabajen juntos en materia de contaminación industrial en las áreas peri-urbanas. Una evaluación de riesgo ambiental puede ayudar a identificar los tipos de negocios que requieren acción correctiva. Las comunidades afectadas requerirán de capacitación para trabajar con las empresas identificadas y lograr objetivos mutuos de mejora en la productividad y reducción de la contaminación. Para ofrecer incentivos adicionales para PL se seleccionarán municipalidades proactivas con miras a su capacitación en el desarrollo y aplicación de ordenanzas para los planes de PL.

La actividad de EH puede apoyar a DIGESA en estudios económicos de los costos derivados de la baja salud ambiental y los resultados deberían ser ampliamente difundidos entre los grupos más representativos (empresarios, políticos, líderes de gobiernos locales, etc.). CONAM podría usar los resultados del estudio para asegurarse que los temas de salud ambiental estén siendo debidamente considerados en las regulaciones ambientales, como guías de los EIA (Estudios de Impacto Ambiental) y los PAMA (Programas de Adecuación del Medio Ambiente).

Otra oportunidad de desarrollo de estudios de políticas de salud ambiental se refiere a la relación de las autoridades locales de DIGESA con los respectivos gobiernos locales y como estos pueden hacer uso de PL para mejorar la salud ambiental.

PRODUCCION LIMPIA/PREVENCIÓN DE LA CONTAMINACION (CEPCOM)

Observaciones/Conclusiones:

Esta actividad se inició con los proyectos demostrativos de prevención de la contaminación en la industria de harina de pescado y continuo con las actividades de PL que se desarrollaron a través del SENREM. En 1999 un equipo de consultores de EEUU diseñó en detalle las actividades del CEPCOM. Esta actividad aún no ha comenzado.

La Promoción de PL requiere una visión de las políticas y del desarrollo institucional más amplio de la que contiene el documento de diseño. La participación del sector financiero, de los líderes políticos, del sector educativo y del público en general, es necesaria para generar una demanda de productos "verdes", de capacitación del sector industrial, y otras. El diseño

del CEPCOM propone apoyar al MITINCI con asistencia técnica en políticas por el lado de la oferta. Es preciso poner especial atención en el lado de la demanda para potenciar los resultados del CEPCOM.

Recomendaciones:

Existen en la actualidad un número de centros de servicios empresariales que han sido establecidos o se van a establecer en el país, algunos de ellos con el apoyo del MITINCI. Algunos tiene una orientación sub-sectorial, mientras que otros tiene una especialización más tecnológica. También hay escuelas de administración de negocios, programas y actividades ambientales en las universidades, así como una mayor preocupación e interés en promover desarrollo económico ambientalmente sostenible. CEPCOM podría aprovechar esta situación y convertirse en un centro de "capacitación de capacitadores" en conceptos, herramientas y aplicaciones de PL. El CPL, debería fomentar la creación de consorcios de organizaciones que puede apoyar empresas en el uso de sus recursos y habilidades para generar resultados en PL. El trabajo del CPL con empresas individuales debería estar limitado a la primera fase del proyecto para fines demostrativos. El CPL debería ayudar a integrar los conceptos de PL en las universidades y en otros programas de capacitación para las industrias. Para apoyar este tema, un centro de información puede ser implementado en una universidad que tenga una buena biblioteca en la materia y una colección de referencias de gestión empresarial. Se usaría una estrategia de recolección de información sobre "mejores prácticas" reconociendo que la PL está ocurriendo en muchas partes del mundo y por tanto el Perú puede aprovechar los avances en otros países con similares niveles de desarrollo.

El Asesor de PL preferiblemente debería estar localizado en el MITINCI y trabajar directamente con el Vice Ministro de Industria y con la oficina de medio ambiente. El objetivo podría ser que se ayude al MITINCI a establecer relaciones de coordinación y colaboración con otros ministerios y promueva dentro del gobierno conocimiento de los conceptos y las dinámicas necesarias para promover PL a una escala amplia en el país.

La propuesta del fondo rotativo para la inversión en PL debería rediseñarse como un fondo de garantías de préstamos para que los bancos comerciales financien inversiones en PL que hayan sido previamente convalidados por el CPL. El fondo de garantía de préstamos debería tener un componente de capacitación dirigido a las organizaciones de apoyo empresarial para que ayuden a las empresas en la preparación de los análisis financieros de los proyectos de PL y sus respectivas propuestas de préstamos.

Hay una necesidad continua de proyectos demostrativos de PL en el sector industrial del país. Estos proyectos podrían llevarse a cabo en asociación con los Centros de Servicios Empresariales apoyados por el MITINCI, o con universidades y centros académicos para que ellos mismos también puedan tener el "know-how" para hacer estos proyectos demostrativos.

CONSOLIDACION DEL MARCO AMBIENTAL

El equipo evaluador sugiere que el diseño y la implementación de la actividad del CONEF se replantee. Si USAID decide recoger el Marco Estratégico sugerido en esta evaluación, una parte de los recursos programados para el CONEF podrían ser destinados, con simples enmiendas, para actividades de SENREM y BIOFOR que requieran de financiamiento adicional; el saldo de los recursos reservados para CONEF podría ser redireccionados para el desarrollo del Marco Estratégico revisado (y actividades de apoyo) para el FY 2002- FY 2006. Esto obviaría la necesidad de diseñar dos actividades (CONEF y una actividad de revisión del marco estratégico), en un período relativamente corto.

Nuevas Direcciones: Marco Estrategico Revisado

FUNDAMENTO

Las actividades de SENREM, BIOFOR y Salud Ambiental bajo el SO4 han producido, y continúan produciendo, progresos sustanciales en el logro del objetivo de "Mejoramiento de la Gestión Ambiental en Sectores Seleccionados". Muchos de los mecanismos están dados para un sistema interactivo que atiende asuntos relacionados a la sostenibilidad ambiental en el desarrollo económico y social del Perú. No obstante, existen algunos vacíos, los elementos esenciales están presentes para el marco nacional de políticas ambientales y para un marco institucional ambiental en el sector público. Con la asistencia de SO4, la comunidad de ONGs tiene una participación más efectiva en el diálogo, formulación y aplicación de políticas ambientales. Como la información sobre el medio ambiente y respuestas tecnológicas eficientes han sido difundidas más ampliamente entre la comunidad empresarial, las organizaciones empresariales están comenzando a participar más activamente y están contribuyendo positivamente en desarrollar una conciencia ambiental. Del mismo modo, las universidades y centros académicos también han mostrado su interés en ser actores dinámicos en este tema, en especial en la generación, interpretación y transferencia de información. Dada esta realidad actual, ¿Qué debería USAID/Perú hacer en el tema ambiental durante el período FY 2002- FY 2006?

Una debilidad crítica en el sistema interactivo dirigido a asuntos ambientales está en el nivel de los gobiernos locales. La centralización del proceso de toma de decisiones y el control de los recursos financieros durante la pasada década ha debilitado los aún frágiles gobiernos locales. A su vez, esto ha frenado las posibilidades de iniciativas del sector público y privado a nivel local, debido a que gran parte de la aplicación efectiva de las políticas ambientales se dan en los niveles locales. El logro de un desarrollo económico y social ambientalmente sostenible requiere de esfuerzos para estimular una activa participación local en la gestión y regulación ambiental.

El enfoque estratégico de USAID para mejorar la gestión ambiental sigue siendo válida. Sin embargo, la experiencia del programa, mayor conocimiento y mejoras significativas en el marco de política e institucional, ofrecen la oportunidad de considerar una estrategia de

“segunda fase”. Esta estrategia apoyaría el fortalecimiento del conjunto del sistema interactivo, involucrando los actores de todos los niveles (nacional, regional, y local) en la identificación y acciones para enfrentar los asuntos ambientales de gran impacto en el desarrollo económico y social del país. Con este sistema, los esfuerzos deberían orientarse a fomentar la complementariedad y sinergias entre los enfoques “verde” y “marrón” para una mejor gestión ambiental. Estas complementariedades y sinergias también pueden ser promovidas con otros programas de cooperación, entre SO4 y otros SOs de USAID/Peru, entre las actividades programadas del SO4 y también entre los componentes y elementos dentro de cada actividad del SO4.

OBJETIVO ESTRATEGICO REVISADO

El equipo evaluador recomienda que USAID/Perú considere la revisión de SO4 para el período FY 2002- FY 2006 del actual Objetivo Estratégico: “Mejoramiento de la Gestión Ambiental en Sectores Seleccionados” a un Objetivo Estratégico revisado: “Fortalecer el Sistema interactivo nacional para lograr un Desarrollo Económico y Social Ambientalmente Sostenible”.

RESULTADOS INTERMEDIOS REVISADOS

Los componentes básicos para fortalecer el sistema interactivo para enfrentar problemas ambientales serían: 1) continuar el fortalecimiento del marco nacional de políticas ambientales, 2) establecer un proceso de aplicación de las políticas/tecnologías ambientales en el nivel local y retroalimentación hacia el nivel nacional con el fortalecimiento institucional respectivo y 3) aumento de la conciencia y demanda ambiental.

MARCO NACIONAL DE POLÍTICAS

El equipo evaluador recomienda que USAID/Perú continúe apoyando con asistencia técnica de corto plazo a CONAM, INRENA, ministerios seleccionados y al Congreso para atender vacíos en el marco de políticas que aún persisten. Como parte del diseño de la revisión del marco estratégico, USAID/Peru podría llevar a cabo un análisis detallado de los vacíos, a{un existentes, en las políticas, identificándolas, diagnosticándolas y priorizándolas. Los criterios de priorización deberían tomar en cuenta la población afectada y el riesgo ambiental involucrado. La agenda desarrollada a través de este proceso debería ser complementada y guiado por el proceso de aplicación de la política al nivel local y de retroalimentación a nivel nacional.

Para apoyar en la implementación de este componente, y el siguiente descrito enseguida, USAID podría considerar contratar una firma consultora o universidad americana para proveer de un asesor de largo plazo que apoyaría a los organismos del sector público mencionados, y también en la identificación, selección y gestión de asistencia técnica de

corto plazo. El asesor residente de política y fortalecimiento institucional también supervisará al personal contratado localmente que trabajan en el componente dos.

IMPLEMENTACIÓN Y RETROALIMENTACIÓN DE LA POLÍTICA/TECNOLOGÍA

Mientras que hay significativos avances bajo SENREM y BIOFOR para establecer un Marco Nacional de Políticas y de probar tecnologías innovativas, aún se ha avanzado muy poco respecto a la efectiva aplicación de estas políticas y tecnologías a nivel local. La experiencia y conocimiento adquirido a través de la aplicación de políticas/tecnologías en el nivel local pueden ser retroalimentada al nivel nacional para ayudar a identificar cuellos de botellas y problemas que puedan ser atendidas a través de estudios y mejoras en el marco nacional de políticas. A fin de establecer el proceso de retroalimentación de la aplicación de la política/tecnología, el equipo evaluador recomienda que USAID, en colaboración con las instituciones socias propuestas, seleccionen cuatro o cinco áreas geográficas que sirvan como puntos focales para llevar a cabo un programa coordinado de mejoramiento en gestión ambiental. Las áreas se seleccionarían para proveer de una máxima complementación con otros programas SO de USAID, como los "corredores económicos" bajo el programa SO2 y el fortalecimiento municipal y desarrollo alternativo del programa SO5.

Las complementariedades también se deben lograr con los Centros de Servicios Empresariales del MITINCI y los programas de Salud Ambiental de DIGESA. Sinergias entre los programas de mejoramiento y protección ambiental "verdes" y "marrones" deben ser considerados sobre todo a través de la focalización de la disponibilidad y calidad del agua como un mecanismo integrador.

Bajo este elemento, un coordinador ambiental peruano sería contratado para cada una de las 4 a 5 áreas geográficas incluidas en el programa. El contrato sería con la firma consultora o la universidad americana que es también responsable de la implementación del primer componente. Los coordinadores ambientales serían los responsables de trabajar con los gobiernos locales y el sector privado, en cada área geográfica, para fortalecer su capacidad de gestión y manejo ambiental. También sería un catalizador del trabajo de las organizaciones públicas y privadas, incluyendo aquellas apoyadas por el SO4 y otros SOs de USAID, para facilitar la implementación de programas de desarrollo económico y social ambientalmente sostenible. (ver Mapa Institucional: Sistema Interactivo para un Desarrollo Económico y Social Ambientalmente Sostenible, para actividades, programas complementarios, y sinergías a nivel local).

AUMENTO DE LA CONCIENCIA Y DEMANDA AMBIENTAL

El equipo evaluador encontró considerable y creciente interés en temas ambientales entre las empresas y universidades, además del esperado alto nivel de interés entre ONGs ambientales. Este interés debería ser nutrido y aumentado informando a los líderes de los sectores público y privado sobre la amplia gama de posibilidades y oportunidades que existen para mejorar la calidad del ambiente. El equipo recomienda que USAID contrate una firma consultora y/o

universidad americana para organizar y colaborar con un consorcio de universidades locales que pueda proveer capacitación ambiental a líderes de empresas (incluyendo las financieras), del sector público, y ONGs. Uno de los objetivos del consorcio/contratado sería el promover la inclusión de los cursos y temas ambientales en la currícula de las universidades.

Un esfuerzo conjunto podría ser llevado a cabo con el fin de incrementar la conciencia y la demanda ambiental entre el público en general a través de programas de información ambiental en las escuelas, medios masivos de comunicación (TV, radio, prensa escrita) y entre los grupos organizados de ciudadanos. Debería igualmente, prestarse seria consideración en este esfuerzo buscando un arreglo con el proyecto GreenCom para apoyar este elemento.

CONSIDERACIONES DE DISEÑO

El nuevo plan estratégico de la misión USAID está programado para ser presentado al USAID en Washington hacia fines de Octubre del 2000. La nueva estrategia cubrirá el período FY 2002 – FY 2006. El equipo evaluador recomienda que en CY 2000, el equipo SO4/USAID dedique sus energías a la preparación de la nueva estrategia y a la conceptualización de actividades en apoyo al marco estratégico revisado. CY 2001 sería dedicado al diseño de las actividades para iniciar la implementación del S0 revisado empezando en FY 2002. Los fondos actualmente programados para CONEF podrían ser usados, con una enmienda, para aquellas actividades de SENREM y BIOFOR que requieren de financiamiento adicional y el saldo dirigido a atender las actividades relacionadas con el nuevo marco estratégico.

En el diseño del marco estratégico revisado, adicionalmente al análisis de vacíos en el marco de políticas mencionadas arriba, se requiere un nuevo análisis institucional integral para asegurar una máxima utilización de la asistencia técnica a corto plazo, y de los recursos de capacitación, para consolidar los avances ya alcanzados. El MES no incluye ningún análisis institucional, y los análisis realizados para SENREM y BIOFOR requieren ser ampliados y actualizados. Es más, estos análisis no contemplan la dinámica de la interacción entre las instituciones, ni analiza roles y capacidades al nivel local, v.g. gobiernos locales, CTARS (Consejos Transitorios de Administración Regionales) y CARS (Comisiones Ambientales Regionales)

Este análisis también puede ayudar a identificar capacidades institucionales en "sistemas de información", necesidades de y asistencia en la priorización de requerimientos de información. Del mismo modo, un inventario y diagnóstico de la información ambiental es necesario para una utilización efectiva de la información existente y para priorizar la generación e interpretación de informaciones adicionales.