

**Report**

**Retrospective Study of USAID Support to the  
Development of the Environment Sector  
in Bolivia**

May 2000

Task Order No. 823  
Contract No. PCE-I-00-96-00002-00

## Report

# Retrospective Study of USAID Support to the Development of the Environment Sector in Bolivia

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February, 2000

Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ)

*Partners:* International Resources Group, Winrock International, and  
Harvard Institute for International Development

*Subcontractors:* PADCO, Management Systems International, and Development Alternatives, Inc.

*Collaborating Institutions:* Center for Naval Analysis Corporation, Conservation International, KNB Engineering and Applied Sciences, Inc., Keller-Bliesner Engineering, Resource Management International, Inc., Tellus Institute, Urban Institute, and World Resources Institute.

## Preface

This report is about the history of USAID's assistance for the development of the environment sector in Bolivia. As the work to compile the information for the report proceeded, it quickly became clear that USAID's commitment over the last three decades amounted to much more than the simple sum of financial resources it brought to the sector. The author believes that it would be fair to say that USAID's impact resonates in every corner and niche of the environment and natural resources sector in Bolivia. Concerned Mission personnel with their local counterparts have been able to draw creatively on a wide variety of USAID resources to bring to bear the comparative advantage of U.S. experience with environmental issues.

Bolivia is a country of rugged, spectacular topography, great natural beauty and unparalleled biodiversity. USAID's support has demonstrated that the challenge of sustainably managing its fragile lands can be harnessed to benefit the people dependent on the natural resource base while contributing to globally important conservation goals. Development assistance programs are often challenged by policy makers and the general public to show "cause and effect," something that can be difficult in the short run. What this study report documents is the importance of the perspective for the longer-term. USAID/Bolivia has left a legacy of accomplishments and a platform for the future; it will be up to the rest of us to keep it going.

## **Acknowledgments**

As will be readily apparent, by its very nature, this study could not have been undertaken without the support of many people— too numerous to thank individually. However, it is perhaps fitting, and certainly not surprising, that a particular group of people went a step beyond in assisting with this effort. The author believes that the following members of the Mission's FSN staff, who once again, helped someone with far less experience in their country, to understand what had taken place, deserve special mention and thanks: Elffy Vasquez, Hector Diez de Medina, Sonia Aranibar, Jorge Calvo and Beatriz O'Brien. The author is also very grateful to George Taylor, Director, Environment Office, whose perpetually inquiring mind and unbridled professional enthusiasm made this study interesting and challenging.

One other person deserves a special mention as well, as his contributions can be found on every page of the report. Robert Kenny who joined USAID scant weeks before this study began, was responsible for all the arrangements and logistical support that made the study possible. More to the point, however, as a committed and engaged young professional, he was a constant personal and intellectual companion for the author and the primary sounding board for many of the ideas and findings contained herein.

## Acronyms

ABC	Asociacion Boliviana de Conservacion
ACDI/VOCA	Agricultural Cooperative Development International/Volunteersfor Overseas Cooperative Assistance (non-profit international development organization)
BHR	Bureau for Humanitarian Relief
BOLFOR	Bolivia Sustainable Forestry Program (USAID-funded program)
CABI	Capitania de Alto y Bajo Izozog (Local Government Body)
CDSS	Country Development Strategy Statement
CI	Conservation International
CONCADE	Consolidacion de los Esfuerzos del Desarrollo Alternativo (USAID-funded program)
CORDEP	Cochabamba Regional Development Project (former USAID project)
CRS	Congressional Research Service
CRSP	Cooperative Research Support Program
CUMAT	Proyecto de Capacidad de Uso Mayor de la Tierra
D.A.	Development Assistance (USAID funding category)
EAI	Enterprise for the Americas Initiative
EBB	Estacion Biologica del Beni
ENV	environment
EPIQ	Environmental Policy and Institutional Strengthening IQC contract
EP3	Environmental Pollution Prevention Program (centrally funded USAID program)
FAN	Fundacion Amigos de la Naturaleza
FAO	Food and Agriculture Organization of the United Nations
FONAMA	Fondo Nacional del Medio Ambiente
FY	Fiscal Year
GEF	Global Environmental Facility
GTZ	German Agency for International Technical Assistance
IIED	International Institute for Environment and Development
IRG	International Resources Group, Ltd. (USAID contractor)
IR	Intermediate Result
IQC	Indefinite Quantity Contract
LAC	Latin America and Caribbean Bureau

LIDEMA	Liga del Defensa del Medio Ambiente (environmental NGO/civil society apex group)
NEPA	National Environmental Policy Act (US)
NGO	Non-Governmental Organization
NRM	natural resources management
NYBG	New York Botanical Garden
PD&S	Project Development and Support Funds (USAID funding category)
PERTT	Programa Ejecutivo para la Rehabilitacion de Tierras en Tarija (local development project)
PIL	Project Implementation Letter
PiP	Parks in Peril Program
PL 480	Public Law 480- Food for Peace
PROBIOMA	Productividad, Biosfera y Medio Ambiente (local environment sector NGO)
PROMETA	Proteccion del Medio Ambiente en Tarija (local environment sector NGO)
PVO	Private Voluntary Organization
SERNAP	Servicio Nacional de Areas Protegidas
SO	strategic objective
SOAG	Strategic Objective Grant Agreement
SOW	Scope of Work
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
USIJ	U.S. Initiative on Joint Implementation
VIVE	Vida Verde
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund

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# 1. Introduction

In the entrance-way to the USAID building in La Paz, there is a plaque commemorating fifty years of partnership between the United States and Bolivia. It is a pertinent reminder of a long-term relationship that has channeled U.S. assistance into practically all corners of the country and all development sectors of Bolivia. One sector where that assistance has only recently been targeted over the last two decades but where, nevertheless, the impacts seem to have significant, is the environment sector. Although USAID Mission programmed, D.A.-funded activities in the environment sector only actually began with the approval of the Sustainable Forestry Management (BOLFOR) Project (511-0621) in August, 1993 and its field activities in mid-1994, it is clear to all concerned that USAID/Bolivia has contributed much more, beginning in the early 1980's, and perhaps even earlier.

In addition to the D.A. funding, U.S. Government and USAID resources for environment sector issues have come from a variety of sources, including: Mission-managed PD&S funds for specific studies and development efforts; Mission buy-ins and/or centrally funded support from environment sector regional or global projects and programs; P.L. 480 Title I and III funding used for in-country activities; and the Environment Account of the Enterprise for the Americas Initiative which provided funds for local endeavors through the National Fund for the Environment (FONAMA). In the latter two cases, this funding was primarily targeted at relatively small, but nevertheless, important sector related activities, carried out in the main by local non-governmental organizations (NGO's); over 100 such projects were put in place. Table 1 presents a synopsis of U.S. Government/USAID funds allocated to the environment sector in Bolivia, identified in the course of this inquiry.

Unfortunately, there is only a very limited written record of this wide array of assistance and its outcomes. USAID/Bolivia is convinced, however, that environment/natural resources issues and achievements will continue to anchor its efforts in sustainable development in the country. In addition to the tableau of tangible achievements that have resulted from its past support, another and very useful legacy for the future will be a written record of the past experience of so many and varied interventions. Accordingly, and with a view to guiding future program involvement and contributing to the state-of-the-art in the environment/natural resources sector in Bolivia, USAID commissioned this Retrospective Study. The study was carried out as a Task Order (No. 823) under the Environmental Policy and Institutional Strengthening IQC (EPIQ- USAID Contract No. PCE-I-00-96-00002-00).

**Table 1: U.S. Govt./USAID Support to Environment (Environment, Forestry and Natural Resources) Sector in Bolivia<sup>1</sup>**

<b>Funding Source</b>	<b>\$ Amount</b>	<b>Observations</b>
USAID/Bolivia DA funds for SOAG (IR.1 only), Bolivia Sustainable Forest Management- BOLFOR	\$37.258 millions	Does not include counterpart funding some of which comes from PL 480; total SOAG budget. \$43.312 millions.
USAID/Bolivia DA funds in other sector projects (alternative development/agriculture)	Chapare Regional Development- CORDEP- estimate \$10 millions or 1/4 of cost of Component C. CONCADE- \$4.0 millions	For example, agroforestry development under Chapare Regional Development Project (511-0543) or the agroforestry, range management, forestry and environmental monitoring activities of CORDEP- Component C- Sustainable Small Farmer Production (Comp. Total Budget- \$42 million) or CONCADE which has a separate environmental component subcontracted to FAO.
AID/W/G and Mission funds for SOAG (IR. 2)	\$950,000	Environmental Pollution Prevention Program (EP3) 1995 -1999; USAID/Bolivia bridging funds- 1998-2000 & Clean Production 2000 Program 2000–2004
PL 480 Title III/Title I funds- Environment/Natural Resources Sector	\$17.956 millions	Data provided by the Executive Secretariat of PL 480- possibly includes some recycled funds.
PIL No. 37 (PL 480 Title III) funds (6/98)	\$5.29 millions	mostly not programmed as yet but expected.
PL 480 Title III-Title I funds in Agriculture/Rural Development Sector	(US\$ 35 million—estimating 15–20% of the US\$ 200. million equivalent	information provided by the ES PL 480; many of the soil and water conservation and natural resources management efforts were funded with PL 480 resources.
FONAMA/EAI Environment Account	\$21.8 millions	not counting USAID support for operations, provided through PL 480 and included above; \$13 million in bank awaiting establishment of a private foundation.
AID/W/G, AID/W/S&T, AID/W/LAC funds	estimated \$1.3 million (see separate table)	Contributions from central or regional bureau projects in the sector; also includes PD&S financed buy-ins to centrally funded projects.
USAID/Bolivia Fellowship Program	\$50,000–M.S. 86 p/m x 4 x \$4000/wk = \$1,376,000.	Exact costs not available: included 110 person/months of training in the US (3 short-courses and 1 masters degree) carried out from 1985–1994.
<b>TOTAL</b>	<b>US \$ 135. million</b>	

**Note:** The Environment Team of USAID/Bolivia currently operates one D.A. budget of \$5- 6 million per year with P.L. 480, Title III counterpart resources of \$0.5–1 million per year and \$2 million per year of EAI resources. The P.L. 480 resources are scheduled to terminate in 2001. EAI resources are currently being held in a bank pending the move of the EAI out of FONAMA and the establishment of a private foundation to manage the EAI program.

<sup>1</sup> Does not include funds contributed by international PVO's from their private sources to these efforts.

## 1.1 Objectives of the Study

The objective of the present study is to prepare as exhaustive a list as possible of what USAID has funded in the environment field in Bolivia and give some indications of how it is linked together and has contributed to environment/natural resources sector development in the country. This list as well as some vignettes or case examples of specific instances of USAID assistance, and to the extent possible, some analysis of the past, is expected to help with the following:

- provide a documented history of USAID/Bolivia support for the development of the environment sector in the country;
- assess the significance of this support; and
- facilitate and support future programming decisions related to support for the Environment Strategic Objective (now extended through FY 2004) and beyond, both at the Mission-level and with program and policy-makers in Washington.

## 1.2 Methodology

The methodology was simple and straight-forward. Under the EPIQ task order, the prime contractor– the International Resources Group, Ltd (IRG) fielded a Senior Natural Resources Policy/Economics Specialist to carry out the study in-country. His work was divided into two phases with a total level of effort of 45 person/days: the first, a Scoping Phase designed to set the stage for the latter, the second phase, the actual Assessment Phase. The full Scope of Work (SOW) for the Task Order appears as Appendix A to this report.

The first phase took place during approximately one week in mid-December, 1999 during which time the conceptual and logistical framework for the overall assessment was put in place. During that first visit, the Specialist carried out the following tasks: briefings with USAID personnel, to further identify their needs and expectations for the study; the beginnings of a compilation of relevant literature, reports and a review of the same; interviews with key actors of the environment sector in Bolivia to get their preliminary ideas regarding their viewpoints, concerns and issues; preparation of an issues agenda and/or annotated list of pertinent concerns to be pursued during the assessment; logistical planning and programming for interviews and field visits; and the preparation of assessment tools and methods, including a semi-structured interview protocol.

During a final debriefing with USAID, it was decided to expand the inquiry to include former USAID officers and staff-members, many of whom played important roles in directing and managing the sector program. Accordingly, the interview protocol was used as the basis for a round-robin e-mail inquiry sent to a number of such individuals, asking for their help in reconstructing the history. Appendix B provides the list of people who have been involved as USAID staff members in the sector in Bolivia and also includes the questions posed to these informants. Extremely useful responses and personal insights were received from eight of those

queried, and aided all concerned in understanding the past support to the sector and some of the nuance associated with programming decisions.

The Assessment Phase was carried out in-country between January 10 and February 5, 2000. During that period, the specialist continued with the compilation and review of pertinent sector documentation, with special reference to programming type materials. Fortunately for the effort, a query to USAID's Washington-based Development Experience Clearinghouse identified a wealth (104 items) of past reports and documents kept by this organization.<sup>2</sup> A request to this organization yielded a courier shipment of some thirty hard copies of key reports that were very useful for this study. A full compilation, including some annotated citations, of the references consulted for this study, is contained in Appendix C.

In addition to document review, a wide range of interviews were held with Mission personnel, personnel of Government agencies and other donor representatives and representatives of local environment sector non-governmental organizations and international private voluntary organizations active in the conservation field in Bolivia. The full list of the persons met may be seen in Appendix D. The Specialist also visited some of the NGO's and their field sites in three Bolivian Departments: Tarija, Cochabamba and Santa Cruz in order to see and discuss their activities and their relationship with USAID.

Finally, the Specialist held a debriefing meeting with the members of the USAID Environment Team to discuss some of the preliminary findings before departing the country, and to obtain their inputs and insights for the preparation of this report.

### **1.3 Historical Overview Of Sector Support**

Identifying exactly when, where and how USAID support to the environment/natural resources sector began in Bolivia is not an easy task. Administrative decisions about maintaining records and archives within the Mission, despite their practical intent, eliminated many of the older records and files. Doubtless, the reconstruction of past support which follows is flawed; exact timing, scope of some activities, funding amounts and/or sources, etc. may not be entirely accurate and should only be taken as indicative. For ease of reference, and where possible, such as in the case of Table 1 above, this information is presented in tabular form. This overview has been tabulated by decades, and Table 2 a Time-Line of sector development events and USAID support, presented later in this section, attempts to give the reader a visual picture of what was happening in the country in the sector.

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<sup>2</sup> The Development Experience Clearinghouse is presently operated by the LTS Corporation under contract with the Agency, and its PPC/CDIE group in particular. This database of 100,000 USAID related technical and program documents can be accessed on-line by visiting its web site at: <http://dec.org/>.

## 1.4 The Seventies- the Beginnings

USAID's role in Bolivia in these years was very much focused on the development of infrastructure and on enhancing the country's agricultural development potential. The full record of what occurred during this decade is difficult to reconstruct, but it would be fair to say that "environment" was not on the Mission's radar screen at the time. It is, however, also apparent that there was significant concern at the time for issues of natural resources degradation and their impact on agricultural productivity. As early as 1974, and as part of the activities of the Agriculture Sector I Project (511-T-053), Utah State University staff members serving in the country prepared a report titled: Erosion and Bolivia's Future. During this period, USAID interventions, as well as those of other donors, were concentrated in the Highlands ("Altiplano") where population densities were highest and issues of over-grazing, shortened fallow periods leading to declining soil fertility, soil erosion and deforestation were becoming manifest. In addition, there were concerted efforts to develop a capability for forest management, mainly targeted at plantation forestry for erosion control, and financed with United Nations system (UNDP/FAO) and German bilateral (GTZ) assistance.

These concerns about natural resources degradation were apparently exacerbated by two other land-use related issues that were gaining prominence at the time. As a result of the country's efforts at land reform, some large land holdings in the Altiplano were being broken up and distributed to the small farmer residents in these areas. Historically, the Altiplano was densely populated and the thrust of the land reform in the area was expected to alleviate the pressure on the land base by making more lands available for small farmers. In reality, however, and as it was later learned, population densities were already too high and the fragile land-use capabilities were being overwhelmed by the application of traditional, low input agricultural technologies (Freeman, et al, 1980). It would appear that much of the efforts in agricultural development projects of the times were intended to address the issue of upgrading of small-holder farming practices. The general isolation of many areas, lack of market outlets and a disenfranchised indigenous community, made this a significant challenge.

Despite some achievements, many would argue that this challenge of adjusting land-use to land capability in the Highlands remains a key issue for sustainable development today. One need only to venture into the Highlands to see that its inhabitants are still largely practicing very rudimentary farming for subsistence purposes and extensive livestock grazing leading to low animal productivity. Again, despite some advances, many farm families living at high altitudes must be considered among the poorest on the continent, by any socio-economic performance indicators. Two phenomena underscore this reality: increasing indications of watershed degradation (see discussion below) and the continuing exodus and migration to the tropical lowlands and to the cities and urban areas.

This latter issue of migration and spontaneous and planned colonization in the tropical lowlands was another area that received USAID support that might be characterized as environmental in nature. In 1979, USAID's Agriculture Sector Project II (511-T-059) was working on land clearing and soil conservation issues in the lowlands areas of Yacuiba, along the border with Paraguay. The intent was to minimize destruction of the fragile tropical soils

associated with the shifting agriculture approach that was part of colonization activities there (Calvo, personal communication). In that same year, having been involved in supporting planned colonization schemes, for example, in the San Julian area of Santa Cruz, USAID funded the Consolidation of Colonization Project. There are also indications of another “colonization”-oriented project, called the Sub-Tropical Lands Project, directly addressing the environmental impacts of spontaneous colonization. Another project, terminated early because of implementation problems, was intended to establish a research station and program to develop farming systems for the southern Beni and northern parts of Santa Cruz. (G.Alex, personal communication) Although the records of these efforts could not be located, very clearly, the writing was already on the wall, questioning the premise that the Bolivian Oriente could absorb substantial numbers of migrants from the Highlands in coming years.

#### **Early USAID Support to Land-Use Mapping in Bolivia:**

- In 1977, USAID provided funding to the Geological Institute of Bolivia (GEOBOL) to prepare an Integrated Study of Eastern Bolivia and its land complexes, including soils, geology, geomorphology, and vegetation, based on ERTS satellite images. Maps at a scale of 1:250,000 were produced for parts of the Departments of Cochabamba, Beni, Santa Cruz, Chuquisaca and Tarija.
- In 1979, this work was extended to Central-South of the country, using PL 480, Title III funds. A preliminary study of natural resources was carried out and thematic maps at a scale of 1:250,000, and a five volume report were prepared.

Source: C.Brockman, personal communication

The seventies saw a number of other significant events related to USAID’s role in the environment sector, both generally and specifically in Bolivia. USAID’s Environmental Procedures, known as Title 22, Code of Federal Regulations, Part 216 or Reg. 216, were promulgated in the late seventies, mandating environmental review of all Agency funded activities. In further recognition of a more affirmative posture towards environmental issues, USAID began commissioning a series of environmental profiles for its recipient countries. One of the early efforts in this regard was carried out for Bolivia. The Congressional Research Service (CRS) of the Library of Congress prepared a desk study titled: Draft Environmental Report on Bolivia, in June, 1979. The year 1978 also marked the agreement between the Government of Bolivia and USAID, instituting the P.L. 480, Title III program and the establishment of the Executive Secretariat that would manage the allocation of the significant amounts of funds generated through the sale of food commodities (mainly wheat) for development activities.

## **1.5 Eighties – A Time of Catalytic Action**

As it was in many developing countries, this decade was clearly a time of awakening concern and broadening actions in the environment arena in Bolivia. Although USAID did not prioritize environmental issues as important in its Country Development Strategy Statement (CDSS) of the times, there was, nevertheless, wide-ranging support to the sector. These

activities, many of which were modest in scale and scope, were to have a catalytic effect on environmental awareness and, particularly, on local capabilities for sector interventions.

One of the first of these, was the “State of the Environment and Natural Resources: A Field Study,” published in July, 1980 (Freeman, et al, 1980) and funded with Mission resources. The study, the first field-informed environmental profile commissioned by the Agency, was carried out by a multi-disciplinary team strong on “green” side issues which worked with the Science and Technology Office of the then Ministry of Planning and Economic Coordination. The box below presents a synopsis of the recommendations of the study. Surprisingly, and this may be due to the difficulty in tracing the actual history of the sector during this period, there is little evidence that a set of ten specific recommendations to USAID in this report, including proposals for various long-term (3 to 4 year) projects, were acted upon.

<b>Summary of Recommendations from the 1980 State of the Environment and Natural Resources: A Field Study (Freeman et al, 1980)</b>	
<p style="text-align: center;"><b>Wildlands and Wildlife</b></p> <ul style="list-style-type: none"> <li>• Review illegal wildlife trade and enforce CITES convention.</li> <li>• Train Bolivian cadre in wildlife/wildlands management.</li> <li>• Prepare a national plan for wildlife/wildlands management.</li> <li>• Delineate and protect indigenous territories.</li> <li>• Relocate squatters in Isiboro-Secure Park.</li> <li>• Initiate environmental education programs.</li> <li>• Study possibility of two new parks: Ulla Ulla linked to Caquahuaca Regional Park and Tariquia Podocarp Park.</li> </ul> <p><i>Soils and Watersheds</i></p> <ul style="list-style-type: none"> <li>• Do a national survey of erosion and sedimentation.</li> <li>• Undertake national education program on soil erosion and conservation.</li> <li>• Train MACA personnel in erosion control and watershed management.</li> <li>• Establish soil conservation/land rehabilitation centers in Altiplano/Valleys area.</li> <li>• Develop watershed management plans for two watersheds- one in Altiplano, one in Valleys.</li> </ul>	<p><i>Forest Resources</i></p> <ul style="list-style-type: none"> <li>• Undertake field evaluation of GEOBOL’s land capability classification.</li> <li>• Provide technical assistance project to Chore Forest Reserve.</li> <li>• Technical and financial assistance to the CDF for its forest plantations program.</li> <li>• Undertake national education campaign on forest plantations.</li> </ul> <p style="text-align: center;"><b>Range Resources</b></p> <ul style="list-style-type: none"> <li>• Undertake range regeneration and management trials.</li> <li>• Research on native forage species.</li> <li>• Map range potential of the Altiplano.</li> <li>• Carry out research on range regeneration and management techniques.</li> </ul> <p style="text-align: center;"><b>Pollution and Health</b></p> <ul style="list-style-type: none"> <li>• Reduce pesticides hazards through enforcement, education and medical services.</li> <li>• Institute industrial pollution control program.</li> <li>• Develop small-scale technology for sewage treatment and safe water.</li> <li>• Draft regulations of 1978 Health Code.</li> <li>• Strengthen the Occupational Health Institute.</li> </ul>

Having said this about the apparent lack of direct response, the decade was filled with sector activities funded either through P.L. 480, Title III or through Mission buy-ins to centrally funded projects or direct assistance from these same central projects.<sup>3</sup> The following are some highlights of the decade.

### **1.5.1 Continuation of Land-Use Planning Efforts**

In the early eighties, USAID strategy was focused on what was known as the “La Paz-Cochabamba-Santa Cruz Growth Corridor” and particularly on those parts of it within the Amazon watershed. Because settlement and development were expected to be concentrated in those areas, a land-use capacity analysis was undertaken by CUMAT (Proyecto de Capacidad de Uso Mayor de la Tierra), a quasi-governmental organization that worked with the Departmental Development Corporations (McCaffery 1984). USAID was a keen supporter of these activities, and more than \$1 million equivalent of P.L. 480, Title III funding went to this organization over the years. CUMAT which subsequently evolved into a PVO, developed a four tiered land-use capability system (high capability/high population, high capability/low population, low capability/high population and low capability/low population), based on the Holdridge Life Zone Ecology System which allowed the Mission “to set priorities and begin designing activities in natural resources management” (McCaffery 1984).

### **1.5.2 Promoting the Development of the Environmental NGO Community**

Another part of the Mission strategy at the time was the preference for using local organizations as the mechanisms for implementing development activities. In late 1984, at USAID’s request, the International Institute for Environment and Development (IIED) fielded a consultant, Dr. Diane Wood, under the aegis of the centrally funded Environmental Planning and Management Project to carry out an “Assessment of Bolivia’s Non-Governmental, Non-Profit Environmental Organizations and Recommendations for a Plan of Action.” This landmark study is widely credited with having been the launching point for the full-scale development of sector related NGO capabilities and action programs in Bolivia.<sup>4</sup> Among her recommendations was the potential for forming a coordinating body for concerted actions and as a voice for policy dialogue with the Government. As a result of these efforts, LIDEMA (La Liga de Defensa del Medio Ambiente-Environmental Defense League) was formed in August, 1985 bringing together six of the then

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<sup>3</sup> There were apparently also some Title I resources used for these purposes although it is difficult if not impossible to separate which were used for which activity.

<sup>4</sup> In his paper– LIDEMA: Diez Anos de Vida, Carlos Arze mentions the support received from Dr. Wood and USAID in bringing together the six existing environmental NGOs in an effort to discuss the issues and work together, which led to the creation of LIDEMA.



leading Bolivian non-governmental organizations committed to the conservation of natural resources and appropriate use of the environment.

### **1.5.3 LIDEMA**

This organization has gone on to become one of the most dynamic environment sector coordinating bodies of its kind in Latin America. The original six organizations have now been expanded to include twenty-six local NGOs and similar organizations. Although the activities of the organization have been far-reaching, including: environmental education and public awareness, information compilation and sharing, and support for basic research and studies, it has had its greatest impact as the maximum voice of Bolivian civil society in policy dialogue and development of sector related legislation. LIDEMA played a leading role in the development of the Environment Law. Its multi-disciplinary and inter-institutional approach has continued to attract ample external resources to carry out its mandate and programs, including more than 35 projects financed by P.L. 480 (first with Title I funds and in 1987, with Title III funds), worth more than US\$ 2.6 million. Indeed, with USAID support, the Executive Secretariat of P.L. 480 conceded a large grant to LIDEMA which has served as an endowment generating interest payments that fund the operations of the organization.

### **1.5.4 P.L. 480 Funded Environment Activities**

As the sections above suggest, P.L. 480 funding became a vehicle of choice for financing small-scale activities in the environment sector during the 1980's. Records indicate that the Executive Secretariat approved approximately 30 environment/natural resources sector projects worth over US\$ 4.0 million in this decade.<sup>5</sup> Appendix E presents a summary of the projects financed by the P.L. 480 Executive Secretariat in the environment/natural resources sector during the period 1978 to 2000. Because P.L. 480 resources are normally expected to address food security issues, most of the activities were carried within the agriculture/rural development sector. Although the record has been difficult to fully retrieve, it seems likely that some of these activities were devoted to natural resources management type activities, focused on soil and water conservation.

When the P.L. 480 program was put in place, some of the early activities were small-scale pilot and even modest investment type projects carried out with various Government ministries. By the mid-1980's, the emphasis, doubtless because of USAID policy preferences, had shifted to working with the NGO sector or on activities that facilitated NGO support for Government agency

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<sup>5</sup> The summary records of the P.L. 480 Executive Secretariat kindly furnished to this consultant for the purposes of this study do not fully lend themselves to precise quantification of spending in the sector at a given moment. This is not the fault of the Executive Secretariat or their record-keeping abilities. The time was simply too short to elaborate further more detailed quantitative analysis which in any case was not considered necessary for the purposes of this study.

efforts. One need only review the sector literature of the time to see that P.L. 480 resources contributed to a wide range of environment sector policy and planning studies.<sup>6</sup> The most prominent of these was the support through LIDEMA and the Chamber of Deputies for early work on the General Law of the Environment.

In addition to the policy and planning studies (which would remain an important part of the P.L. 480 program support for the sector—see below), these funds were also allocated for pilot activities of many kinds during the latter half of the decade (and extending into the 1990's); among the most important were:

- Pesticide control and plant quarantine practices with the Ministry of Agriculture.
- Environmental impact assessments for major infrastructure and settlement projects, including: Villa Bella-Nueva Esperanza, the Maniqui Bridge, road and bridge construction on the Yucumo-Rurrenabaque road.
- The basic studies for the establishment and preparation of a management plan for the Beni Biological Station, including an endowment for its continuing operation with the National Academy of Sciences.
- Activities for the study of watershed management of the Guadalquivir River in Tarija with the PERTT program.
- The publication of an updated and locally produced Spanish version of the Environmental Profile of Bolivia, with LIDEMA which would later serve as additional program guidance for priority projects to be supported by P.L. 480.
- Reforestation projects in Cochabamba, La Paz, Potosi, and Tarija Departments with their respective Departmental Development Corporations.

### **1.5.5 Wildlands and Wildlife Management**

Later in the decade, responding to the new mandates of Section 118 and 119 of the Foreign Assistance Act, the USAID Mission in La Paz began a series of activities, tapping the resources of

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<sup>6</sup> As can be seen in Appendix C, many of the most important policy and planning studies and reports noted in this list of references, had P.L. 480 support.

centrally-funded Agency environment projects in combination with the international PVO conservation community. For example, LAC Bureau resources, P.L. 480 funds and assistance from The Nature Conservancy led to the establishment of the Conservation Data Center, a local NGO that was to have an important role in the compilation of reliable sector data and in the development of rational management plans for the conservation of biologically important areas of the country. Similarly, in 1988, the Mission funded the “Diagnostico de la Diversidad Biologica de Bolivia,” led by Conservation International, with the support of the local Conservation Data Center. The recommendations of this pioneering study of Bolivia’s wealth of biodiversity resources was to become a blueprint for action by USAID, the Government and other donors.

### **1.5.6 Compliance with Regulation 216**

Although USAID/Bolivia can clearly take credit for strong participation in laying the foundation of the environment movement and action program in the country, this author must candidly report some indications of reluctance to accept the precepts of Reg. 216<sup>7</sup>. The high profile Alternative Development activities linked to Coca Substitution in the Chapare included a series of investments in farm-to-market road construction and the development of cash cropping in the lowlands of the Province. The Regional Environment Officer, based in Quito, reported to USAID and to Washington that these activities would require significant mitigative measures and certain restrictions to ensure their compliance with the regulations. Apparently, the project officers involved and contract staff felt that these concerns were unwarranted and the Officer in question was not able to get country clearance for further visits to this project. This posture continued into the early 1990’s although there is now an environmental monitoring program in place for current activities. To be fair, it should be said that this reluctance to abide by the environmental regulations was not something only seen in Bolivia. The author remembers other such instances during his own tenure as a USAID employee working with the Africa Bureau in the mid-1980’s. Many project officers saw the regulations simply as another administrative hurdle to be overcome or felt that environmental considerations were a luxury that should only come after more basic needs had been met.

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<sup>7</sup> Reg. 216, or as it is formally known, Title 22, Code of Federal Regulations, Part 216 constitute the Federal Regulations and procedures under which USAID must ensure that environmental factors and values are integrated into the Agency decision-making process. They have been drawn from Executive Order No. 12114 of 4 January 1979, by application of the National Environmental Policy Act (NEPA) to extraterritorial situations. These regulations and procedures must be applied to all new projects, programs or activities authorized or approved by the Agency, and to substantive amendments or extensions of ongoing projects, programs or activities. These regulations are intended as a means to implementing USAID policy to: 1)- ensure that the environmental consequences of USAID-financed activities are identified and considered by the Agency and the host country prior to a final decision to proceed and that appropriate environmental safeguards are adopted; 2)- assist developing countries to strengthen their capabilities to appreciate and effectively evaluate the potential environmental effects of proposed development strategies and projects, and to select, implement and manage effective environmental programs; 3)- identify impacts resulting from USAID’s actions upon the environment, including those aspects of the biosphere which are the common and cultural heritage of all mankind; and 4)- define environmental limiting factors that constrain development and identify and carry out activities that assist in restoring the renewable resource base on which sustained development depends.

**Table 2**

**Time-Line: Development of the Environment/Natural Resources and Forestry Sector in Bolivia and USAID Activities**

<b>Events and Developments in the Environment Sector in Bolivia</b>	<b>USAID Events, Actions and Activities in the Environment/Natural Resources and Forestry Sector</b>
<p><b>1970's</b></p> <p>1970 – the National Service for Renewable Natural Resources is established, building on the experience of the Guardia Forestal.</p> <p>1974 – Ley General Forestal promulgated and Centro de Desarrollo Forestal established.</p> <p>1975 – Ley de Vida Silvestre, Parques Nacionales, Caza y Pesca promulgated.</p> <p>1978 – Mapa de Cobertura y Uso Actual de la Tierra published by GEOBOL.</p> <p>4/78 – PERTT established in Tarija.</p> <p>1978 – GOB/US agreement for PL-480 Title III program signed and Executive Secretariat established.</p> <p>7/79 – Ministry of Planning and Coordination, Science and Technology Directorate undertakes study on environmental policies and programs.</p> <p>1979 – Forestry Program and Forestry Research Institute founded in Riberalta, Beni as part of Mariscal Jose Ballivan Technical University of the Beni.</p> <p>1979 – Forestry Program created at Gabriel Rene Moreno University in Santa Cruz.</p>	<p><b>1970's</b></p> <p>1974 – Utah State Univ. report on Erosion and Bolivia's Future, an example of one of the studies on soil erosion which was a concern of the Agriculture Sector I Project (511-T-053)</p> <p>1979 – Congressional Research Service report: Environmental Report on Bolivia.</p> <p>7/79 – land clearing and soil conservation techniques in the Yacuiba area part of Agriculture Sector II Project (511-T-059).</p> <p>9/79 – some environmental concerns part of Consolidation of Colonization Project (511-T-056).</p> <p>1979 – PL 480, Title III resources become available; funds available for GEOBOL land-use studies.</p>
<p><b>1980's</b></p> <p>5/80 – Escuela Tecnica Forestal Superior founded in Cochabamba.</p> <p>1985 – LIDEMA established with 5 local NGO's.</p> <p>1986 – Perfil Ambiental de Bolivia published; prepared by national team w/ support of IIED and funding by USAID.</p>	<p><b>1980's</b></p> <p>7/80 – State of the Environment and Natural Resources: A Field Study published.</p> <p>1980 – PL 480 Title I &amp; III resources flowing to sector activities.</p> <p>11/84 – Mission finances study on Strengthening Voluntary Environmental NGOs in Bolivia.</p> <p>1985 – USAID/Bolivia fellowship program gets underway.</p> <p>1988 – Diagnostico de la Diversidad Biologica de Bolivia</p>
<p><b>1990's</b></p> <p>1990 – GOB declares Historic Ecological Pause.</p> <p>12/90 – FONAMA established.</p> <p>1990 – General Secretariat of the Environment (SENMA) established.</p> <p>1/90 – PROMETA founded.</p> <p>8/91 – Bolivia/US sign debt reduction agreements; Environmental Framework Agreement/EAI signed.</p> <p>11/91 – Forestry Action Plan: 1991-1996 published.</p> <p>4/92 – Bolivia's General Law on the Environment passed.</p> <p>1992 – JP Morgan donates Bolivia debt to TNC and WWF to support environmental programs in Bolivia.</p> <p>12/92 – Policy paper on Politicas Generales para un Sistema Nacional de Gestion Ambiental published.</p> <p>1992 – Sistema Nacional de Areas Protegidas (SNAP) is established.</p>	<p><b>1990's</b></p> <p>3/91 – Cochabamba Regional Development Project approved.</p> <p>10/91 – Riggin Evaluation of PL-480 E/NRM activities.</p> <p>1992 – Environment/Natural Resources elevated to Mission Strategic Objective.</p> <p>1992 – Mission finances study on Conservacion de la Diversidad Biologica en Bolivia.</p> <p>1992 – Mission's Andean Peace Scholarship Program US training for 30 forestry technicians.</p> <p>12/92 – USAID/La Paz Tropical Forestry and Biodiversity Assessment.</p> <p>1992 – Enterprise for the Americas Environmental Account established with FONAMA.</p> <p>8/93 – Sustainable Forestry Management (BOLFOR) Project agreement signed and design carried out under innovative Design and Performance (DAP) modality.</p>

<b>Events and Developments in the Environment Sector in Bolivia</b>	<b>USAID Events, Actions and Activities in the Environment/Natural Resources and Forestry Sector</b>
<p>1993 – Executive Branch reforms lead to the creation of the Ministry of Sustainable Development.</p> <p>1993 – NEAP (Planificación y Gestión del Medio Ambiente: Políticas e Instrumentos) published.</p> <p>1994/95 – Leyes de Participación Popular and Ley de Descentralización Administrativa enacted.</p> <p>12/95 – Reglamentos de la Ley del Medio Ambiente enacted.</p> <p>1995 – Madidi and Gran Chaco National Parks created.</p> <p>6/96 – Bolivia hosts Hemispheric Summit on Sustainable Development in Santa Cruz.</p> <p>7/96 – new National Forestry Law passed.</p> <p>1997 – new Mining Code makes mining companies responsible for pollution flows and stocks.</p> <p>1997 – Noell Kempff Climate Action Project approved; largest JI project in the world at the time.</p> <p>4/99 – Dialogo Ambiental en Bolivia.</p> <p>1999 – Centro de Promoción de Tecnologías Sostenibles created with USAID/World Bank and Sweden/Danish funding support.</p> <p>1999 – Eastern slopes of Andes identified by CI as global biodiversity HotSpot # 1.</p> <p>1999 – SNAP becomes Servicio Nacional de Áreas Protegidas (SERNAP).</p> <p>1999 – Creation of Asociación Boliviana de Conservación (ABC) including: FAN, PROMETA, TROPICO &amp; EBB.</p>	<p>1995 – USAID sponsored evaluation of FONAMA and EIA Environment Account.</p> <p>1995 – Environment Team first team created in re-engineered USAID.</p> <p>1995 – AID/W funded Environmental Pollution Prevention Project (EP3) activities in Bolivia.</p> <p>1995 – Donor Environment Group founded to work on FONAMA issues.</p> <p>1997 – Environment Strategic Objective Agreement signed with GOB, first SOAG in Mission.</p> <p>1997 – Environment Team formalized as part of new USAID team management structure.</p> <p>1997 – Donor Environment Group expanded to include all interested donors and engages GOB on issue of lack of ENV policy and programs.</p> <p>1998 – USAID support w/G Bureau mechanism for CI work in Madidi park.</p> <p>1998 – Reg. 216 work begins with PL 480, Title II Cooperating Sponsors</p> <p>1998 – USAID chairs Donor Environment Group.</p> <p>1998 – WWF engages w/ full country program and USAID support for work in the Pantanal.</p> <p>9/99 – CONCADE project approved, w/ agroforestry and env management components.</p> <p>9/99 – USAID Regional Environmental Advisor posted to USAID/Bolivia.</p> <p>1999 – EAI Board agrees to pull EAI/Bolivia program out of FONAMA and establish private foundation.</p> <p>1999 – Proactive engagement w/ OPIC &amp; ENRON on impacts of Cuiaba lateral gas pipeline.</p>

## **1.6 Ties – A New Environmental Landscape**

USAID/Bolivia entered the decade of the 1990's without a major environment sector project supported by D.A. funds but it was, nevertheless, well prepared, as the many experiences mentioned above attest, to continue with its leading role in the sector. In 1992, environment/natural resources concerns were elevated to the status of a Mission Strategic Objective. Specific program outputs for this SO initially included:

- “building consensus among the Bolivian public and private sectors on key environmental and natural resources management problems and opportunities;
- improving public and private sector institutional capacity for sustainable resource use and environmental protection; and
- increasing public awareness of environmental protection and sustainable natural resources management issues.” (Unpublished USAID report by M. Yates, December 1992).

Responding to a world-wide cable (State 173242), the Mission Environmental Officer prepared a comprehensive summary Tropical Forest and Biodiversity Assessment which focused a multi-office Mission team's attention on what had been done in the past and the existing problems and opportunities. This report clearly indicates that the Mission had already embarked on a path that would maintain its role as a key development player in the environment sector in Bolivia which is still very true. The decade included so many activities that it is beyond the scope of the present exercise to report on them in detail, however, the following highlights some of the major achievements of Mission initiatives.

### **1.6.1 Bolivia Fellowship Programs**

Starting in the mid-1980's, USAID embarked on an ambitious formal training and education program, sending large numbers of Bolivians from all walks of life, both public and private sector to the United States and elsewhere. More than US\$15 million were expended over the ten year life of this effort (B. O'Brien, personal communication). An interesting and informative Directory of Former USAID Fellowship Holders, prepared by the Mission Training Office, records these activities and shows that 110 person/months went to environment sector related training in the early 1990's. These included: a group of 24 urban high school directors who went to the U.S. for technical skills training in environmental education; a group of 14 professionals from various regions of the country who went to the U.S. for training on sector policy and planning; a group of 19 forestry sector professionals who went to the U.S. for environmental conservation training; and a Masters degree fellowship in ecology at the University of New Mexico.

## 1.6.2 Joint USAID/Washington-Mission Supported Activities

USAID Mission personnel were quick to point out, and the record amply records, the strong support they received from Washington in promoting environment sector activities and development. This type of assistance was significant for a number of reasons: the grants provided a mechanism for harnessing the comparative advantage of a range of U.S. based international conservation organizations (PVO's) in working on issues of tropical forestry and biodiversity conservation, many of which are still active in the country, both with USAID resources (see below) and with their own private resources; because of the nature of the cooperative agreements which characterized these grants, they leveraged considerable amounts of incremental funding for the sector; for the most part, these PVO's partnered with local Bolivian NGO's thus enhancing their institutional skills and capabilities; and, because of the U.S. and international constituencies of the PVO's, an understanding of Bolivia's unique biodiversity assets, many of global significance, became much better known. Table 3 below provides a summary of these cooperative agreements.<sup>8</sup> The Table does not include the cooperative agreements that are part of the current USAID/Bolivia Environment Portfolio. These are described in the section below on USAID/Bolivia's Present Environment Sector Activities and Portfolio.

### Rapid Assessment Program (RAP) of Conservation International:

The RAP exemplifies the benefits to a country from the dynamic partnership between USAID and the U.S. based conservation community. Conservation International's first RAP report contributed to the subsequent establishment of the Madidi National Park. RAP publications on Bolivia include the following RAP Working Papers:

- No. 1- A Biological Assessment of the Alto Madidi Region and Adjacent Areas of Northwest Bolivia (1991).
- No. 8- A Rapid Assessment of the Humid Forests of South Central Chuquisaca, Bolivia (1997)
- No. 10- A Biological Assessment of Parque Nacional Noel Kempff Mercado, Bolivia (1998)
- No. 15- A Biological Assessment of the Aquatic Ecosystems of the Upper Rio Orthon Basin, Pando, Bolivia (1999)

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<sup>8</sup> It is possible that this list is not comprehensive, and apologies are due to any organization that was overlooked because the records of their activities could not be identified.

## **Pushing the Envelope Title II Microfinance and Reg. 216**

- For the past several years, USAID/Bolivia has been proactively “pushing the envelope” on Reg. 216 implementation. Starting in 1997, it became one of the first Missions in the LAC Region to insist that Title II Cooperating Sponsors make Reg. 216 review an integral part of their programming cycles. Building on pioneering work of USAID’s Africa Bureau and working in close coordination with the Bureau Environment Officer of the Bureau for Humanitarian Response, the Mission hosted several regional Reg. 216 training sessions for Cooperating Sponsor staff.
- Wearing its “Reg. 216 compliance hat,” the ENV Team convinced the Economic Opportunities Team to undertake a study of the environmental impacts of micro-enterprises being funded by USAID/Bolivia’s well known microfinance program, despite the fact that there is a “categorical exclusion” for these activities. A study is underway and its findings and recommendations will be incorporated into the Mission’s on-going programs.
- In both cases, rather than using Reg. 216 as a “stick” or as an impediment to programs, it has been used as a means of raising consciousness about putting these programs on a solid sustainable footing. The goal is not to have USAID acting as an environmental policeman but rather to have the implementing organizations become conscious of the environmental implications of their programs and to train their staffs so as to ensure that negative impacts are either avoided or effectively mitigated.



**Table 3**

**Environment Sector Related Grants/Contracts funded by AID/Washington with USAID/Bolivia**

<b>Title/Topic</b>	<b>Grantee</b>	<b>Fund Source</b>	<b>Dollar Amount</b>	<b>Duration</b>	<b>Observations</b>
Prepare national strategy for conservation and sustainable use of Bolivia's flora, fauna and native habitats.	Conservation International	USAID/Bolivia	\$27,389.	October 26, 1988 to January 31, 1989.	In addition to analyzing status of biodiversity conservation, this in-country team had a programming
Conservation, Sustainable Development, and PV O Leadership: Creating and Sharing Strategies for Success.	The Nature Conservancy	AID/W/FVA/PVC	\$375,000 plus more than matching funds from TNC itself	Sept. 1, 1990 to Aug. 31, 1993.	This Cooperative Agreement was approved for activities in Belize, Bolivia, Guatemala and Jamaica
Botanical Inventory of the National Parks of Santa Cruz, Bolivia	New York Botanical Garden with Fundacion Amigos de la Naturaleza and other local NGOs.	USAID/Bolivia	USAID/B- \$74,550. With funds from NYBG (\$165,726) and GOB (\$50,000- from PL-480, budget line no. 16 of amendment no. 4 of 1986 PL-480 agreement.	Sept. 29, 1990 to Dec. 30, 1993	work carried out with Fundacion Amigos de la Naturaleza (FAN), working in Noel Kempff Mercado and Amboro National Parks.
Biological and Economic Analysis of Sustainable Selective Logging in Bolivia's Lowland Tropical Forests	The Wilderness Society, working in collaboration with the Programa Chimanes	AID/W/LAC Environmental Support Project (598-0780)	\$141,000	Oct. 91 to Oct. 94	early work on the potential for sustainable forestry management.
Support for conservation activities in Bolivia.	The Nature Conservancy	USAID/Bolivia	\$200,000.	July 20, 1992 to August 31, 1992	Provided personnel services: - Senior Program Advisor acting as Executive Director of FONAMA - Parks in Peril in-country advisor.
Wetlands of South America: An Agenda for Biodiversity Conservation and Policy Development	Wetlands of the Americas/ Manomet Bird Observatory	USAID/Bolivia plus contribution from Grantee	\$150,000  \$230,000 from Wetlands of the Americas	Dec. 93 to June 95	intention was to finance two wetland studies in Bolivia and allow for South American Wetlands conference in Santa Cruz and publication of report.

<b>Title/Topic</b>	<b>Grantee</b>	<b>Fund Source</b>	<b>Dollar Amount</b>	<b>Duration</b>	<b>Observations</b>
Collaborative Assistance to the Ministry of Sustainable Development and the Environment	Environmental Law Institute, working with the MDSMA	USAID/Bolivia	\$125,000.	One Year- mid-94 to mid-95 ?	- follow-up to assistance provided as a result of VP Gore visit in 1993. - companion grant to World Resources Institute to allow it to work together with ELI to support the MDMSA - also expected support for MDMSA staff from PL-480 ES
Collaborative Assistance to the Ministry of Sustainable Development and the Environment	World Resources Institute working with the MDSMA	USAID/Bolivia	\$250,000	One Year- mid-94 to mid-95 ?	- see above.
Rapid Assessment Program in Biodiversity Conservation Needs of Protected Areas	Conservation International working with FAN and the Direccion Nacional de la Conservacion de la Biodiversidad	Cooperative Agreement with the Global Bureau	N.A.	Has been operating since early 1990's.	Four Bolivia specific RAP studies completed to-date; see Box on page 14 for additional details.
Livestock-Natural Resources Interfaces at the Internal Frontier	Global Livestock Collaborative Research Support Program (CRSP)	Global Bureau- formerly the Small Ruminant CRSP	N.A.	Long standing CRSP	- Bolivia is one of the targeted countries for this particular research theme, using a watershed approach to working with rural communities in highland areas.

### **1.6.3 P.L. 480- Title III Earmarks for Environment Investments**

Although as the section above documents, the P.L. 480 programs began to work on natural resources management and environmental issues and opportunities in the 1980's, it was not until the 1990's that the program really blossomed.<sup>9</sup> The Title III mechanism was specifically designed as a Government to Government modality (the U.S. Government and the Government of Bolivia, in this case) to support long-term economic development, with primary emphasis on the agriculture sector. In addition to the funding mechanism for development activities, it typically also included policy conditionality related to overcoming what were seen as constraints to a dynamic agriculture sector in the recipient country.

The Title III program in Bolivia was re-subscribed through a series of agreements ("Convenios") signed by USAID and the Government of Bolivia. In 1992, both environment sector conditionality and a specific earmark for activities in the sector were included in the Agreement, primarily, as the document attests, due to significant achievements on the part of the Government of Bolivia in policy reform in the sector. Accordingly, the 1992 Agreement three policy reform areas as conditionality, including: the development of a new Environment Law, the sustainable development of agroforestry resources, and improvements to the structural basis of land tenure. Section A-1.5 of the Agreements says that the local currency resources generated under this agreement would be used, as a development objective, to develop more sustainable use of natural resources targeted at programs for improving reforestation, watershed management and sensible economic practices related to the environment. The language of the Agreement was even more specific as to the policy reform expectations and obviously related to USAID intentions and programming based on its understanding of the constraints and opportunities in the sector; it mentions the following:

- Approval by the Bolivian Congress of a comprehensive environment law designed to protect and support the sustainable use of the natural resources of the country;
- Development of the regulations necessary for implementing the specific components of the law;
- Conclusion of all the steps necessary to establish and implement the National Fund for the Development of the Environment (FONAMA);

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<sup>9</sup> Natural resources conservation and rehabilitation seem to have been part of even the earliest P.L. 480, Title III activities, albeit, with less specificity in the early years. In the 1986 Agreement, the equivalent of \$500,000 was earmarked for renewable natural resources planning and management. The 1990 Agreement mentions sustainable agriculture and the administration of natural resources and conservation and programmed \$5.5 million for that purpose. The 1991 Agreement included a component that linked increased agricultural productivity with rational use of the natural resources base. All of the agreements also highlighted support for local non-governmental organizations.

- Development and implementation of a plan of action to strengthen the capabilities of the entities charged with effectively executing the prohibitions related to the five year Ecological Pause, especially as related to timber concessions. This plan was to include a program for improving the Forest Guards training school and enhancing the position of Forest Administrator;
- Development of a program for measuring the results of the Ecological Pause;
- The beginning of the studies and analysis needed for the elaboration of the norms and regulations for the development of a new system of authorization and administration of forestry concessions aimed at the development of the sustainable use of the forest resources of the country; and
- Decentralization of the responsibilities for forest management to the regional forestry agencies, with equal representation of the public and private sector, including the non-governmental organizations.

These activities in the environment/natural resources sector continue to-date and form a significant part of the present allocation of these resources. With the increasingly active role of the USAID Mission in the sector, the programming of P.L. 480, Title III resources has become more proactive and more specific, targeting existing sector opportunities (e.g., the support for the National System of Protected Areas) and also serving as counterpart funds for D.A. funded development projects. The following section lists some of the highlights of the program (see Appendix E for the full details of P.L. 480 supported environment/natural resources sector projects) in the decade of the 1990's.

- Support to the General Secretariat of the Environment for the preparations, including studies, public consultations and publications leading to issuance of the National Environmental Action Plan.
- Study of the conservation potential and priorities and the preparation of a management plan for the Rios Blanco y Negro Wildlife Reserve with FAN.
- Publication of the LIDEMA Report on Biodiversity Conservation in Bolivia.
- Management of natural resources in Rio Chico, Chuquisaca with CARE.
- Network for the control and protection of biodiversity in Beni Department, with the Prefectura del Beni.
- Support for Environmental Summit of the Americas in Santa Cruz, with FONAMA and the Ministry of Sustainable Development.
- Construction of facilities in Noel Kempff Mercado National Park with CORDECRUZ.
- Trust fund for the establishment of the National System of Protected Areas (SNAP).

- Operational and infrastructure support for CUMAT, LIDEMA and FAN.
- Institutional support for the operations of FONAMA (counterpart funding).
- Support to the Sustainable Forestry Management (BOLFOR) Project (counterpart funding).
- Provision of infrastructure and equipment for the Superintendencia Forestal.

Very clearly, the local currency invested through P.L. 480 resources and the capabilities of its Executive Secretariat have had a significant and leading role in the development of sector activities and capabilities. The program, however, was not without its critics although here again, reconstructing the history of what actually happened is mainly hearsay and conjecture, with one exception. In 1991, at the behest of the USAID Mission, an evaluation of the natural resources management and environment activities of P.L. 480, Title III program was carried out by an independent consultant.

The report of the consultant mentions complaints about an overly bureaucratic approach to project identification and approval, from local NGO's that were both successful and unsuccessful in obtaining this support. The consultant, however, saw the issue as being more fundamental, namely the lack of a programmatic framework and action priorities to be supported by the program. In his view, the "projects were at their best when P.L. 480 integrated various project activities into a series of complementing interventions." He recommended that the P.L. 480 Executive Secretariat and USAID "determine priorities based on environmental analysis..."and that..."Goals should be set which resolve the prioritized problems and a strategy should be determined which indicates how the goals will be attained"(Riggin, 1991).

#### **P.L. 480 Assistance for SERNAP**

- In 1999, the Executive Secretariat, with USAID concurrence, committed approximately US\$ 600,000. equivalent for support to the National System of Protected Areas (SERNAP). These resources were to be used to assist in the continuity of the management of five protected areas:
  - Reserva Nacional de Fauna Andina Eduardo Avaroa (Potosi)
  - Parque Nacional Sajama (Oruro)
  - Reserva Nacional de Fauna Ulla Ulla (La Paz)
  - Reserva Nacional de Flora y Fauna Tariquia (Tarija)
  - Parque Nacional y Area de Manejo Integrado Kaa-lyá del Gran Chaco (Santa Cruz)
  - The funds were also to be used to begin the management of the Parque Nacional Toro Toro (Potosi) and to support the operational capabilities of the Central Office of SERNAP.

There is some evidence that these recommendations were heeded, witness the greater specificity in subsequent P.L. 480 Agreements and notable enhanced working relationships

between the USAID Mission Environment Team and the Executive Secretariat. Further evaluation of this issue was not part of the terms of reference of the present study and certainly beyond its scope. In the view of the present author, the anticipated close-out of the P.L. 480 mechanism (no new agreements since 1996) and its Executive Secretariat is an opportunity to draw some interesting conclusions and learn some lessons from this wealth of effort and experience that could provide a sound basis for thinking about the future of environment sector funding in Bolivia. The future of the existing Documentation Center set up by the Executive Secretariat should also be decided so as not to lose the important records and documents it contains.

#### **1.6.4 National Environment Fund (FONAMA)**

Early in the decade of the nineties, Bolivia embarked on a pioneering effort related to environment sector funding that was to become a model for similar actions worldwide. At the outset of the decade, Bolivia was recovering from a deep economic crisis, putting its financial house in order through structural adjustment and a renewed commitment to sound economic policies favoring stability and growth. At the same time, the Government was embracing a deepening commitment to environmental sustainability as a parameter of development but found itself pressed to make scarce resources available for the sector. Fortunately, the donor community was increasing its sector support at about the same time.

Recognizing that its own and donor funding could best be used in a sound programmatic context, the Government set up the National Environment Fund (FONAMA), under the aegis of the Office of the President, as a mechanism for attracting donor funding and channeling it in a coordinated way to national priority actions. In August, 1991, the Governments of Bolivia and the United States signed two debt reduction measures (that reduced Bolivia's official debt with the United States by more than 80% or US\$372 million, from US\$454.6 million to US\$82.7 million) which provided core funding for FONAMA. Under the framework of the Enterprise for the Americas Initiative (EAI), as authorized under the 1991 Farm Bill, Bolivia's P.L. 480 debt was reduced from US\$38.4 million to US\$7.7 million. Interest on the balance, totaling approximately US\$1.8 million was paid in local currency into an EAI account established as part of FONAMA. Similarly, the remaining foreign assistance debt was substantially reduced and in return, the Government of Bolivia agreed to provide US\$2 million per year to the EAI account with FONAMA for a total of US\$20 million over ten years.

The financial resources associated with these two agreements—US\$21.8 million—have been managed by FONAMA under an Environmental Framework Agreement signed in November, 1991. This agreement allowed EAI funds to be used to support projects that “preserve, protect or manage the natural and biological resources of Bolivia in an environmentally sound and sustainable manner.” The agreement was intended to primarily support the activities of non-governmental organizations. An Administrative Council was elected/appointed under the leadership of LIDEMA and the National Secretariat of the Environment (SENMA) at the time with a majority of its representatives (7) nominated by the national environmental NGO community and its academic and scientific institutional partners. Spurred on by these arrangements, a number of other multilateral and bilateral donors (including

the World Bank/GEF and the Governments of the Netherlands, Switzerland, Germany, England and Canada) and P.L. 480 provided additional funding to be channeled through similar account agreements with FONAMA, totaling almost US\$85 million equivalent.<sup>10</sup>

At the outset, the establishment of FONAMA and its EAI account, and successful transactions in obtaining wide-ranging support from other donors, as well as its early portfolio of projects (see Appendix F for a complete list of EAI/FONAMA supported projects), proceeded as planned and was highly appreciated. It was so successful that FONAMA staff were called upon to provide technical assistance to similar funds in other Latin American countries (in varying degrees of intensity in Ecuador, Peru, Chile, El Salvador and Honduras). Among its achievements was support for the National Environmental Action Plan which subsequently became a guide for program priorities and support from its own and the resources of others. It also had a very positive impact in continuing to promote the participation of civil society in the environment sector by taking a very proactive posture towards public consultation on sector policy matters and providing institutional strengthening advice and assistance to its local partner organizations.

Unfortunately, the dream could not be sustained. In 1993, with the change in Government, FONAMA was relegated to the status of an agency under the Ministry of Sustainable Development and Environment (MDSMA). Shortly thereafter, and as a result of the loss of its operational and conceptual autonomy, many issues began to arise. There was a period of significant institutional instability; seven general directors were appointed and changed in a period of two years. Decision-making over internal staffing and the awarding of resources was politicized and bureaucracy replaced functionality. A number of the donor sponsors withdrew and other government and non-governmental agencies began to look elsewhere for funding and support arrangements, undermining the entire concept of the Fund.

By the time of the 1995 evaluation of the EAI Account commissioned by USAID, the situation within the organization had become dramatic.<sup>11</sup> The evaluation found that serious implementation problems, including: a large backlog of pending legal and technical reviews, delayed disbursements, lack of Government support for administrative costs, and a general hue and cry among the NGO community about arbitrary solicitation procedures and lack of transparency. Despite a series of recommendations about the operations of the EAI Account and

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<sup>10</sup> Having seen the workings of this debt-for-nature swap up close, the J.P. Morgan Bank which was the original holder of the EAI/FONAMA investment account, donated its entire portfolio of Bolivian debt (US\$11.5 million) to two U.S. based conservation organizations– the World Wildlife Fund and The Nature Conservancy, generating an additional US\$1.38 million for conservation activities in Amboro and Noel Kempff National Parks, under the aegis of the centrally funded, USAID-supported “Parks in Peril” program.

<sup>11</sup> Attempting to deal with the issues with FONAMA, USAID commissioned two parallel evaluations. One looked at the operations of the EAI Account and another, carried out by the same team, in close coordination with the other donors who had agreements with FONAMA, looked at the institutional problems of FONAMA as a whole. The evaluations were carried out by a team fielded by Management Systems International in 1995.

on the overall institutional needs of FONAMA in general, the evaluation concluded that real reform under a governmental structure was “not likely to occur” and “recommended privatization of FONAMA in its entirety” (MSI, 1995). At present, although the EAI Account and FONAMA continues to operate, arrangements are underway for identifying the mechanism that will allow it to be privatized.<sup>12</sup>

### **1.6.5 Noel Kempff Mercado Climate Action Project**

USAID/Bolivia has played a special role in facilitating the creation of the largest forest based carbon project in the world. Two USAID partners– The Nature Conservancy (TNC) and the Fundacion Amigos de la Naturaleza (FAN) have joined with the Government of Bolivia and three U.S. based energy companies–American Electric Power, PacifiCorp and British Petroleum America in setting up effort to deal with the impact of carbon stocks on global warming. The Project, based in and around Noel Kempff Mercado National Park, is estimated to have a net carbon benefit of 15 million metric tons of carbon, achieved over an area of over 600,000 hectares. This area will be safeguarded through three components: forest conservation and prevention of deforestation; the development of income-generating activities to assure future forest conservation; and, leakage avoidance and mitigation, assisting the surrounding communities with economic development. The three energy companies have provided an initial ten year tranche of funding of US\$ 9.6 million which includes US\$ 1.5 million for a permanent endowment. The Project is proving that a well-designed forest conservation and management project can: produce significant net carbon benefits that are scientifically valid and long-lasting; protect biodiversity and ecosystems; improve local environmental quality; and meet the goals of sustainable development by creating economic opportunities for local people. The project was accepted by the U.S. Initiative on Joint Implementation (USIJI) in 1996, and serves as an outstanding example of how forest-based projects can help to meet the climate protection goals of the Kyoto Protocol.

### **1.6.6 USAID’s Farmer-to-Farmer Program**

Another organization that has been working effectively for the last four years in promoting sustainable development by targeting short-term technical assistance to facilitate the development of producers and entrepreneurs in an environmentally responsible way in Bolivia is the ACDI/VOCA administered Farmer-to-Farmer program. The program is currently supported by the AID/Washington (BHR Bureau) funded Farmer-to-Farmer program and with local resources from P.L. 480. ACDI/VOCA has been a leading provider of technical assistance in Bolivia since the early 1970’s, completing more than 400 technical assistance assignments to 75

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<sup>12</sup> Those interested or involved in planning the future of FONAMA may wish to consult a recent report of the Global Environment Facility (GEF) on “Experience with Conservation Trust Funds,” GEF Evaluation Summary Report No. 1-99, published in January, 1999. The full text of the report is available on the GEF web site ([www.gefweb.org](http://www.gefweb.org)) or by requesting it from the GEF Monitoring and Evaluation Team at the following e-mail address: [geflessons@gefweb.org](mailto:geflessons@gefweb.org).



local organizations. Since the inception of its current environment/natural resources program in 1996, its volunteers have completed 102 consulting assignments with local (mostly NGO) organizations involved in natural resources management. Their volunteers have provided assistance in areas such as integrated pest management, ecotourism development, protected area management, environmental education, waste management, soil and water management and “green” enterprise development. These assignments have in many cases also addressed strategic and business planning for beneficiary organizations. Volunteer assistance has resulted in institutions with improved organizational structure, progressive planning and development of attractive programs that have secured additional incremental funding on the order of US\$2.5 million for program implementation and expansion. Some recent examples of their work include:

- A volunteer assisted VIVE, a private, non-profit organization in Tarija to develop a methodology for integrated management of the Tolomosa River watershed.
- PROBIOMA, an environmental and rural development organization working primarily with women horticulture producers, has progressed rapidly in the production and marketing of bio-regulators that were discovered, formulated and reproduced with the assistance of two volunteers.
- With the assistance of volunteers, the environmental organization Friends of Nature Foundation (FAN) established a subsidiary genetic resource development business, Biodiversidad Sostenible to produce and export products with the dual purpose of conserving and utilizing native plant materials while also financing FAN’s conservation responsibilities under the 30-year term of the Climate Action Project.

These and many other accomplishments were made possible by the goodwill and hard work of more than 80 individual volunteers who donated some 20 thousand person-hours of time and expertise, valued at more than US\$1.2 million.

## **1.7 USAID/Bolivia’s Present Environment Sector Activities and Portfolio**

In the past, one might have been able to describe typical USAID activities in a given sector by reviewing the breadth of their project portfolio. Under the “Re-engineered USAID” approach, now being implemented by USAID/Bolivia, a mere description of sector projects would not do justice to the efforts and impacts of a consolidated Team effort to promoting sustainable development and rational use of the environment and natural resources. Here again, a full description of the activities of the USAID/Bolivia Environment Team is beyond the scope of

the present study, and as such, the section that follows will only highlight some of its most important features.<sup>13</sup>

### Engaging the Ambassador and Senior U.S. Mission Staff

USAID/Bolivia has been very successful over the past two years in engaging the Ambassador and senior U.S. Mission staff on environmental issues. This has been achieved through two mechanisms:

- **Environmental Working Group:** established in 1998 and staffed by the ENV Team, chaired by the USAID Director, the group includes the Ambassador, Deputy Chief of Mission, the Peace Corps Director and Section Heads from key elements of the U.S. Mission. Meeting once every three months, it serves as a forum for keeping senior staff abreast of developments in the environment sector. Its joint action agenda is built around the 5 ENV objectives of the Mission Performance Plan.
- **Mission Performance Plan:** For the past three years, the State Department has required U.S. Missions overseas to prepare these plans. They are intended to synthesize and present what all U.S. Government agencies are doing in a particular country. In Bolivia, environment was identified as one of the key objectives from the beginning. The Environment Section of the MPP includes the following 5 objectives:
  - Strengthened GOB commitment to environmental goals as part of its overall development strategy.
  - GOB agreement secured for adoption of emissions growth targets for greenhouse gases.
  - Increased public environmental awareness and participation of civil society in sector policy and management.
  - Strengthened sustainable forest and wildlife management in target areas.
  - Increased environmentally responsible investments and U.S. private sector involvement in the environment sector in Bolivia.

#### 1.7.1 Real Team Spirit and Effectiveness

It is especially important to note that the Environment Team at USAID/Bolivia has been particularly effective in bringing its influence and resources to bear on the country's sector needs and opportunities precisely because it functions as a team, has been delegated the authority for

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<sup>13</sup> For the interested reader, a fulsome description of the USAID/Bolivia activities and impact in the environment/natural resources sector can be seen in the "Environment Team Management Charter of September, 1998."

matching USAID resources to agreed-upon results, and enjoys close working relationships with a wide spectrum of representatives of its partners and customers. In addition to the core and extended teams within the Mission, the Expanded Team includes some of the most knowledgeable and experienced Bolivian sector specialists who facilitate consultation, diffusion of information and wider contacts that allows the whole team to insert itself in the reality of the sector. The Virtual Team, including representatives of the Global and LAC Bureaus allows the team to reach out for support from and to contribute to regional and global initiatives in an efficient manner. Similarly, the Strategic Objective Team has been granted a delegation of authority for program design and implementation that enables them to implement their collective decisions effectively and efficiently.

The most important outcome of the team approach is the fact that by its very nature—inherently cross-sectoral—it represents the essence of how environmental issues should be treated in a developing country context. Rather than viewing environment only as a set of distinct sector specific goals and activities (projects), however important, the team approach reinforces the fundamental importance of environmental stability and sound use of natural resources as the base on which sustainable development must be built. Continuing to promote this basic notion among its partners, customers and stakeholders will ultimately prove to be a result as tangible as many of its physical achievements.

### **1.7.2 Working with the Environmental Donor Group**

USAID has been an active member of the Environmental Donor Group since its inception. Even before the group was formed, however, USAID resources were supporting efforts to work together against an agreed sector agenda. P.L. 480 resources were extensively used to support the preparation of the National Environmental Action plan as a blueprint for sector needs and opportunities. The Mission/U.S. Government support for the creation and funding of FONAMA, with its EAI resources, also reinforced the effort to build a nationally recognized, Government of Bolivia sanctioned coordination mechanism to optimize the impact of donor resources flowing to the sector. Although the present difficulties with FONAMA suggest that this is still a challenge to be reckoned with, a viable donor coordination mechanism working collaboratively with its Government counterparts can help to ensure that program decisions respond to genuine national sector priorities.

USAID has accepted responsibility for leading the Environment Donor Group, in effect connecting its SO Environment Team horizontally across the sector.<sup>14</sup> This working relationship will enhance the SO Team's ability to contribute to the Environment Component of the Mission Performance Plan (the U.S. Government wide programming document) and four of its five key elements: strengthened GOB commitment to environmental goals as part of its overall development strategy; increased public environmental awareness and knowledge; increased

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<sup>14</sup> It should be noted that the Environment Donor Group was led by Switzerland in 1997/98, by USAID in 1998/99 and by GTZ/Germany for the period 1999/2000.

participation by civil society in environmental policy and management; and strengthened sustainable forest and wildlife management in target areas. Furthermore, the collaborative working relations with the other donors and the GOB sector entities supports the achievement of IR 1.1- Legal and regulatory framework in place to promote sustainable management of renewable natural resources.

### **1.7.3 USAID/Bolivia’s Environment Sector Portfolio**

Although many of the activities mentioned above contribute to USAID’s Environment Strategic Objective, performance based monitoring of the achievement of its two intermediate results focus on its formal sector portfolio.<sup>15</sup> The intermediate results under this SO are as follows:

#### **IR. 1–**

Sustainable Forest and Wildlife  
Management in Target Areas

#### **IR. 2–**

Industrial Pollution Reduced in Target  
Areas

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<sup>15</sup> The USAID/Bolivia Environment Team reworked the Results Framework during the present consultancy and the program is now divided into three IRs.

### **Engaging the U.S. Private Sector: the Bolivia-Brasil Gas Pipeline**

The partnership between CABI, WCS and USAID has had important impacts at the regional and national levels. These included the negotiation of a landmark agreement between the indigenous organizations and the sponsors of the Bolivia-Brasil Gas Pipeline. USAID/Bolivia played a crucial supporting role in reaching the agreement, by facilitating communication among the indigenous organizations, the pipeline sponsors and the donor agencies funding construction. It also included working with the U.S. Embassy to help the pipeline sponsors understand that the indigenous organizations were raising serious concerns that had not been address during the consultation process and design of the project. Several aspects of the agreement are extremely relevant to the conservation objectives of the Kaa-lya Project, including:

- The provision of \$1.5 million for the implementation of a titling program for the indigenous peoples located in the area of influence of the pipeline which is also the periphery of the Kaa-lya National Park. It includes a \$1.0 million trust fund to support the development of conservation activities in the KINP.
- Similarly, the process of securing the support of the World Bank and IDB revived a moribund discussion in IDB about addressing the medium and long-term impacts of hydrocarbon development and other sectors involving large infrastructure investments. The IDB subsequently contracted for a Strategic Environmental Assessment of the Santa Cruz-Puerto Suarez Transportation Corridor.

The experience with the Bolivia-Brasil Gas Pipeline established important precedents for future relationships between energy companies and local organizations. For example, in the past, the companies sought to bypass indigenous organizations, making deals with individual local leaders or with government officials that claimed to speak on behalf of the indigenous peoples. While not perfect, subsequent negotiations between companies sponsoring the San Miguel-Cuiaba pipeline project and indigenous peoples did for the most part respect the institutional structures of indigenous organizations.

To achieve intermediate result 1 requires attention to three important elements of the sustainability equation. USAID's sector activities have long been targeted at the policy dimensions of the sector and this will continue to be a critical measure of success. Putting in place an appropriate and functional "legal and regulatory framework to promote sustainable management of renewable natural resources" constitutes IR 1.1. This element of the program focuses on both rights and responsibilities of those who use and manage natural resources. The second element (IR 1.2), and one that has been proven worldwide, is to create greater empowerment for localized management of areas critical to biodiversity conservation. Lofty goals of conserving globally significant biodiversity will rarely be achieved if those living in or adjacent to protected areas are not fully involved in the decision-making related to management options and see their interests reflected in these plans. Finally, fully valorizing the resource base (IR 1.3) so that it embodies the values associated with sustainable development amplify the potential for local and national benefits and further justify the trade-offs and costs associated with sustainable management of natural resources. By enhancing the opportunities for "green" certified products, ecotourism related employment and enterprise opportunities, or sustainable off take of wildlife for subsistence consumption can all lead to tangible benefits for local

populations who will come to better appreciate and be able to accept the values of the forests and wildlife.

The present portfolio also addresses the need for industrial pollution control and reduction in target areas of the country as intermediate result 2. This set of activities tap the well-recognized U.S.-based comparative advantage in private sector oriented pollution prevention/cleaner production technologies and applications. USAID has had good experience elsewhere in the world in transferring technology for the voluntary adoption by industries of cost-effective pollution prevention practices (IR 2.1).

To achieve these results, USAID has budgeted approximately US\$ 7–8 million per fiscal year over the last five years, approximately US\$5.0 million of which came from D.A. resources, US\$2.0 million from EAI/FONAMA and the balance from P.L. 480, Title III funded as counterpart budgets. The following specific projects and activities constitute the formal environment sector portfolio of the Mission which address the above-mentioned IRs.

#### **1.7.4 Bolivia Sustainable Forest Management Project (BOLFOR)**

First approved and obligated in FY 93, this comprehensive tropical forestry management project is about to complete a first three-phased period of seven years. A further phase of three or four years is expected to get underway in FY 2000. The goal of the project reflects the overall SO– to reduce degradation of forest, soil and water resources and to protect biological diversity of Bolivia’s forests. The purpose is to build Bolivian public and private sector capacity to develop and implement programs for sustainable, certifiable forest use. The project is divided into three major components and three supporting elements, including: the natural forest management component; the policy and institutional analysis and development component; and the product development component, and the elements: research coordination, training coordination, and environmental monitoring, evaluation and communications.

As a result of its concerted activities, BOLFOR is widely credited with having introduced a new forestry utilization and management model, based on a new forestry law and its regulations and under the aegis of a new institutional framework. New skills, capabilities and understandings about forest management in the lowland tropics have emerged from the project’s work. Over 6.0 million hectares are under approved management plans, opening the door for a national voluntary forest certification process that will lead to “green” markets for the country’s timber and non-wood forest products. As part of both, new species are being harvested from these forests that were formerly high-graded for only a few precious hardwoods.

#### **1.7.5 Kaa-Iya Gran Chaco Indigenous Resources Management Program**

The Gran Chaco National Park, covering 3.4 million hectares in southern Bolivia, is one of the largest expanses of tropical dry forest under protection anywhere in the world. Since 1995, USAID has been providing support through the Wildlife Conservation Society for the

management of this park by the Capitanía de Alto y Bajo Izozog (CABI)—the only such example in South America of a national park established and managed by the representatives of local indigenous people resident in the area. Through the Kaa-Iya Program, USAID and WCS have supported CABI's efforts, strengthening it as a management institution, elaborating a protected area management plan, carrying out applied research on community-based management for sustainable uses of natural resources outside the park, and implementing an environmental education program for all people whose livelihoods are affected by the park. USAID views this project as leading to a potential model that might be applied in several of other areas of the country where natural and protected areas overlap recognized indigenous territories (TOC's).

### **1.7.8 Cleaner Production and Pollution Prevention Program**

This program, started in 1996 with the assistance of USAID's Global Bureau-funded Pollution Prevention Program (EP3), is the principal vehicle for addressing IR 2. Early program success led to the establishment of the Center for the Promotion of Sustainable Technologies (CPTS), established jointly with the World Bank ESMAP program. The Center is now addressing the needs for clean production, reduced pollution and increased energy efficiency with key industries through the National Industries Chamber (CNI). The program is helping the industries to re-design their production processes, saving money because of increased raw materials and energy efficiencies, enhanced technology and reduced pollution. By saving polluting industries money, the approach provides a strong financial incentive to adopt clean production and reduce pollution. In addition to the financing from USAID, the Center is also now attracting finance from other donors.

### **1.7.9 Bolivia Activities under the "Parks in Peril" Program**

The Nature Conservancy (TNC), under its cooperative agreement with the LAC Bureau of USAID in Washington has been working with two Bolivian conservation NGO's to strengthen national capabilities for protected area management. Working with TROPICO, a La Paz based NGO that was responsible for the development of the Conservation Data Center, the Parks in Peril resources are being used to develop a management plan for the Eduardo Avaroa Andean Fauna Reserve located in the extreme southwestern corner of Bolivia. Similarly, The Nature Conservancy is partnered with PROMETA, an environmental NGO based in Tarija. PROMETA has signed an agreement with the National Service for Protected Areas to take on the management authority of the Tariquia Flora and Fauna Reserve in that Department. This work also includes assistance for institutional strengthening of this prominent sector NGO, work on a cross-border corridor from Tariquia into northern Argentina and a study to quantify the water and other benefits coming from Tariquia in the context of an on-going debate on the possible construction of a series of dams in the area. Parks in Peril funding is also providing TNC with support for a national Global Climate Change Workshop that will take place in Santa Cruz later this year.

### **1.7.10 Conservation International's Support for the Madidi National Park**

Conservation International has long been an active participant in the development of biodiversity conservation programs in Bolivia. The Madidi National Park, covering 1.9 million hectares, is a spectacular biodiversity reserve straddling the high elevations of the Andes and the foothills and lowlands of the Amazon watershed. It was established as a park by the Bolivian Government in 1995 with assistance from a number of U.S. and Bolivian conservation organizations. Because of its diversity, Madidi is expected to become one of the premier ecotourism destinations in the Andes and the Chalalan Ecolodge, funded with finance from the Inter-American Development Bank, is now operating there.

With support from USAID, Conservation International is also: carrying out a threats assessment for the park; developing an information system for planning, management, monitoring and educational purposes; continuing its efforts to develop and promote sustainable ecotourism opportunities and benefits, centered on the Ecolodge and in the Multiple Use Zone of the Park; working with the community of San Jose de Uchupiamonas on developing their capabilities to participate as local residents in the management of the Park and to improve the benefits they receive from it; carrying out a series of biological inventories, ecological impact assessments and research; and, cross-border work between Bolivia and Peru for this important ecosystem.

### **1.7.11 World Wildlife Fund's Work on Conservation of the Southwestern Amazon Ecoregion**

With support from USAID, WWF initiated activities in 1999, focussing on the conservation of the southwestern Amazon Ecoregion which covers more than 200,000 square miles in the western Brazilian Amazon, northern Bolivia and southeastern Peru. It is part of the world's largest intact rain forest, ninety-four percent of which remains forested today. In Bolivia, the most important areas for conservation are a string of national parks and indigenous reserves located along the eastern foothills of the Andes beginning with Amboro National Park at the southern limit and extending northward to the Madidi National Park and into Peru. USAID's support is making it possible for WWF to work in both countries to develop sound management of these areas, forming an ecological corridor that will link Tampopata-Candamo, Bahuaja-Sonene, and Manu protected areas in Peru.

WWF also received support from USAID in 1999 to support a participatory planning process to develop programs in the Bolivian Pantanal. A focus will be involving local communities in the conservation of San Mathias Integrated Management Area, the largest protected area in this part of the country.



## 2. Findings and Suggestions

The original scope of work for this study did not imply the need for conclusions, analysis or program related suggestions; the sole intent was to produce a reasonable written record of past USAID support for the development of the environment sector in Bolivia. However, in the course of carrying out the work, and the intense consultations that ultimately turned up many of the facts recorded above, some interesting points came to light. *The most salient of these is the fact that USAID has been a major, if not “the” major, player as a donor partner in the emergence of the environment sector as a force for sustainable development in Bolivia over the years.* A number of other pertinent facts also emerged. These are recorded here in the hope that they might be useful to those concerned with the development of the environment sector in Bolivia and with USAID’s continuing contribution to it.

The amount of support has been significant, especially considering relatively short history of DA commitments to the sector. As Table 1 indicates, there has been approximately US\$ 135 Million provided to the sector in Bolivia since the 1970’s, and this is only an estimate of the most obvious and easily identified commitments. Several mechanisms– notably, P.L. 480 and EAI resources as well as AID/Washington funded central and regional projects– contributed to sector development in the country, before DA resources come on-stream in 1993. This array of support demonstrates USAID’s robust capabilities and comparative advantage in supporting environment sector activities, something the Mission should continue to count on in the future. Because of its long-term involvement in the sector and strong working relationships with many of the most senior players, *USAID is well positioned to use its influence and resources with maximum effect*; no other donor is in this position. It is also an example of the substantial multiplier effect and synergy that can be achieved with relatively small contributions linked together in a program approach, for example, in areas such as policy dialogue and reform or institution building which go a long way towards making progress possible on countless other fronts.

Some of these *relatively modest efforts had very important results*. For example, the study on the emerging environmental NGO community, carried out in the mid-1980’s made recommendations about strengthening their capabilities and working together that added impetus for creation of LIDEMA. LIDEMA has clearly become a major player and a spokesperson for civil society and NGO views about policy issues with the Government. Similarly, the work in 1980’s on environmental profiles served in lieu of a defined governmental program, created a sense of ownership among sector supporters, and helped to address priority concerns and opportunities effectively with the modest amount of financial resources available at the time.

The policy/programming and field program mix has also provided an avenue for *expanding the playing field by engaging others*, including: the U.S. Embassy working with USAID under the Mission Performance Plan and its environmental component, and the all agency Environmental Working Group; working relations with other U.S. Government agencies not represented in-country, such as OPIC which has been involved in promoting active U.S.

involvement in the expanding hydrocarbon sector in Bolivia; positioning USAID to play a most appropriate and field-informed role in oversight of and cooperation/coordination with the multilateral development agencies such as the World Bank, the GEF and the Inter-American Development Bank. USAID's role with its peer agencies and other bilateral donors has been most effectively seen in the strong engagement of the local Environmental Donor Group, culminating in *a strong and well-informed voice on environmental issues at the last three meetings of the Consultative Group for Bolivia*.

*P.L. 480 and FONAMA-EIA mechanisms meant that USAID support has penetrated in many directions.* This vertical and horizontal thrust, reaching throughout the Country, kindled interest and enthusiasm for the sector when and where it was needed. There is reason to believe that this approach probably had more significant impact on sector because these *resources created human and institutional capabilities outside the Government entities* than would have occurred had this amount been channeled through one or more conventional technical assistance projects. In short, these resources have helped to strengthen a constituency for sustainable environmental management and conservation that has helped the Government to understand that these issues are priorities for its people and for development.

There is probably some truth to the concern expressed about a *lack of a programmatic context* or list of sector priorities as guidance for P.L. 480 funding decisions. For example, the World Bank environmental issues report (World Bank, 1997) mentions an assertion by some that too much funding has gone to the "green" side with lack of attention to pollution and urban environmental quality. This allegation is not surprising; similar situations have occurred in other developing countries. Green side issues have traditionally gotten more attention because they are more glamorous, politically palatable and possibly, of greater priority to a country with such a small industrial base. What is, however, also manifestly clear is that the *P.L. 480 and EAI/FONAMA and USAID support for many of the present sector policy, planning and program documents, has been critical* in efforts to address these inconsistencies. Having a plan is always a better way to achieve impact.

This report has noted observations and complaints about *the bureaucratic nature of P. L. 480 and FONAMA*, particularly as regards the latter. These matters are something different from the issue of political interference in the administration and management of FONAMA, and should be understood as such. Many national conservation funds have encountered similar problems; the challenge is to learn from them and develop more practical, effective and efficient mechanisms. This author believes that *the legacy of P.L. 480/FONAMA experience* has important implications for a future privately-run environmental fund. It is suggested that those concerned with putting it in place *may want to thoroughly examine the lessons that can be learned through a final evaluation* as both these programs come to a conclusion.

## 2.1 Beyond accountability

The demands regarding financial reporting requirements for P.L. 480 or EAI/FONAMA projects, however seemingly onerous, may have forced many organizations to become more business-like and professional. As a result, it would appear that many of these organizations are well positioned for finding additional resources from other sources to sustain their programs and thus provide incremental funding for the sector. This author is convinced that this same level of *cost accounting capability is needed for identifying sound and cost-effective interventions* for natural resources rehabilitation. Cost effectiveness is a vital dimension to replicable solutions to large-scale natural resources degradation problems. Many seemingly successful pilot NRM interventions run aground because the cost per unit area treated is too high to be widely replicated.

In general, the development community in Bolivia seems to have moved *beyond the old issue of “environment or development”* but only recently, and the paradigm of the environmental dimensions of sustainable development continues to need reinforcement. There were *some ambivalent attitudes*; for example: *CORDEP*: the USAID environmental assessment done as part of and available for design and led to a range of activities oriented to sustainable development in fragile areas. Little, however, apparently was done or at least it was not reported on, in final report of project; for example, there is no mention of agroforestry, forestry, range management, or environmental monitoring. The reaction of the CORDEP Coordinator to pesticides issue was: “USAID money not to be used for pesticides,” and thus the budget line earmarked for pesticides (\$750,000) eliminated from project. *Avoiding the implications of Reg. 216 and the need for mitigative activities can no longer be prevented by simply avoiding using USAID funds directly for actions likely to have negative environmental impacts*; indirect impacts must be assessed as well. Fortunately, the recently approved follow-on project—CONCADE— seems indeed to have been specifically designed taking account of an Environmental Assessment done for the area by the Regional Environment Advisor. Additional resources were added to the design for the inclusion of agroforestry investments and a subcontract for the environmental monitoring to be undertaken under the aegis of a partner FAO project operating in the area.

## 2.2 Cutting Edge Program on Forest Certification

World-wide interest in the sustainable management of forests is receiving growing recognition in the marketplace with the emergence of forest certification. The BOLFOR program has been instrumental in developing this modality in Bolivia, helping to establish the Bolivian Council for Voluntary Forest Certification. As of the end of 1999, approximately 1,200,000 hectares of forest in Bolivia have been independently certified as being well-managed, making it a leader in this area in Latin America.

## 2.3 Genuine and Meaningful Participatory Natural Resources Management

USAID/Bolivia has been providing assistance through the Wildlife Conservation Society (WCS) for the Kaa-Iya Gran Chaco Indigenous Resource Management Program. The Capitania de Alto y Bajo Izozog (CABI) is managing the Gran Chaco National Park, an area of 3.4 million hectares of tropical dry forest and the largest protected area of its kind in the world. It is also the only protected area in South America established and administered by the Indigenous People who live in its area of influence. Through this innovative Kaa-Iya Project, USAID and WCS have supported CABI's efforts through an institutional strengthening program, the elaboration of a management plan for the protected area, applied research focusing on sustainable uses of natural resources outside the park and possibilities for community-based management, and implementing environmental education program for Indigenous and non-Indigenous people whose livelihoods are affected by the Park.

Need to Continue to bear in mind that *good agriculture is natural resources management*. Soil and water are the most basic natural resources. By definition, natural resources management is a matter of matching land-use to land capability. These principles continue to have important implications for Mission efforts in alternative development, poverty alleviation and PL 480, Title II. Deriving *tangible, real-time benefits for local people* in coca eradication/alternative development, tropical forestry management and biodiversity conservation will be one of the keys to achieving the longer-term benefits for a larger world

Although *the biggest opportunities* for sector development may be in the lowlands, i.e., tropical forestry and biodiversity conservation, *the biggest challenges* may be in the highlands (watershed integrity, over-grazing, deforestation, soil erosion), their direct relationship to poverty, and the fact that the latter continues to impact the development opportunities in the former. The shift from emphasis on the Highlands, albeit with very few environment/natural resources management activities slipped to lowlands when environment got more support from USAID and other donors because of international concern for tropical forests and biodiversity conservation. This author believes that metaphorically, *“water is going to run uphill,”* driving more and more sector programming resources into the watersheds and catchments to ensure water quantity and quality for the growing demands of an urbanized and industrialized Bolivian society, as is happening in Cochabamba and elsewhere among the Andean countries.

The national *NGO/Civil Society Community Is Playing a Critical Role* in all aspects of sector development and USAID can be justifiably proud of its investments in fostering these capabilities. It might, however, be useful to review the present status of these efforts and consolidate the gains to-date and guide the future. For example, USAID may wish to consider additional support that will: contribute to ensuring *an understanding of the different roles of different NGO's*, so that they are not all lumped together as the same type of organization; by working to improve the emerging capabilities for field based, natural resources management projects, focusing in *a more integrated manner and dealing with the causes of land-use problems* and not just the symptoms (trees may not be a solution to over-grazing!); support the existing NGO Community and the opportunity for addressing development needs of the many

organizations through *an apex organization approach, such as LIDEMA* which could take on a series of service-oriented functions that would meet the strengthening needs of the member organizations; and look into the matter of the degree to which the *P.L. 480, Title II Cooperating Sponsors work with the local conservation-oriented NGO community*, as an area of opportunity for multiplying and (eventually) sustaining the Title II program thrust.

*Governmental institutional capabilities and resolve*, related to proactive environment policy, despite some recent achievements, still seems to have *lost some impetus*. Nothing succeeds like success and there is a need to draw the government agencies into the process of sector development. In most countries, *overcoming the peaks and valleys in sector development* happens through promoting the *career paths and civil service recognition for its professionals*. As important as it is to have a conservation constituency and NGO/civil society backing for sector endeavors, continuity at the senior and mid-level personnel is essential if government is going to implement society's wishes. This will be difficult so long as there is no civil service in Bolivia and government positions at all levels are filled through political patronage. The GOB is starting to address this important issue through the Institutionality Pillar of its overall program. Progress to-date has been limited due both to inertia and to the strong vested interests supporting continuation of the current system.

*An unfinished policy agenda* remains as a challenge to all concerned with sustainable development and environmental conservation in Bolivia. For example, land tenure policy is an overarching issue for both environmental conservation and natural resources management. Certainty of tenure has been a key element in inducing changes in attitudes and practices related to the longer-term investments and safeguards required for real progress in the sector. Similarly, there is presently a lack of coherence, overlaps and real contradictions between the legislation and implementing regulations covering forests, protected areas including parks, mining, and hydrocarbon development. These and other policy issues are signaled in the document *Memorias del Dialogo Ambiental en Bolivia, Abril 1999*, a document which provides a clear base for moving forward on the unfinished environment agenda in Bolivia.

# Appendix A

## Scope of Work

The assessment team, consisting of a Senior Natural Resources Policy/Economics Specialist, research assistant will carry out the assessment with a series of activities to include: review of available project and program documentation, a series of semi-structured interviews and consultations with key sector personnel, and a number of field visits to program and project sites throughout the country. It will be accomplished in two phases: a scoping phase and an actual assessment phase.

**Phase I: Scoping Phase–December 13- 18, 1999:** The objective during this first phase, of one week duration, is to draft both the conceptual and logistical framework for the subsequent assessment phase. It will also be important during this phase to make an initial series of contacts with local sector personnel, both governmental and non-governmental, on which to build an important public consultation dimension into methodology for this analysis. More specifically, the Senior Natural Resources Policy/Economics Specialist will undertake the following activities:

- **Preliminary Discussions/Briefing with USAID/Bolivia staff:** A proper orientation for the assessment team regarding the needs and expectations for this assessment from USAID will be vital to ensuring that the team delivers a useful product. These discussions will also enable the team to get an idea of the substantive concerns and issues which USAID would like to see particular attention given.
- **Compilation of Relevant Literature and Reports and Initiation of Literature Review:** The Team with assistance from USAID and a local research assistant will compile a list of pertinent documentation relevant, both conceptually and programmatically, for this assessment and begin to assemble copies of same. Time permitting, the Team could begin to read through some of these materials.
- **Interviews with some of the Key Players of the Environment Sector in Bolivia:** It will also be useful to develop some preliminary ideas regarding the viewpoints, concerns and issues related to environment sector activities as further orientation for the inquiries of the Assessment Team. A limited number of interviews will be scheduled during the week in La Paz. It will also enable the Assessment Team to develop a full list of key informants to be contacted during Phase Two.
- **Issues Agenda:** The Senior Natural Resources Policy/Economics Specialist will develop a preliminary and annotated list of issues to be fully analyzed during the assessment. This list will be circulated, along with a two page briefing note about the objectives of the assessment, both translated into Spanish, for the purposes of informing any and all interested parties, including those who will be contacted

directly for their inputs and others who might have a professional interest in the outcome of the assessment.

- **Planning and Programming:** With USAID assistance and direction, the Specialist will also put together a preliminary program for Phase Two, including both potential field sites to be visited and a work plan that takes account of the practicalities and logistics of carrying out Phase Two of the assessment.
- **Issues Agenda:** The Senior Natural Resources Policy/Economics Specialist will develop a preliminary and annotated list of issues to be fully analyzed during the assessment. This list will be circulated, along with a two page briefing note about the objectives of the assessment, both translated into Spanish, for the purposes of informing any and all interested parties, including those who will be contacted directly for their inputs and others who might have a professional interest in the outcome of the assessment.
- **Planning and Programming:** With USAID assistance and direction, the Specialist will also put together a preliminary program for Phase Two, including both potential field sites to be visited and a work plan that takes account of the practicalities and logistics of carrying out Phase Two of the assessment.
- **Assessment Tools and Methods:** Two assessment tools will be developed during the first phase— a semi-structured interview protocol that will guide the inquiry and its interactions with key informants, and a site-wise questionnaire to gather preliminary narrative or descriptive information about key sites or project areas to be visited. The latter will be translated into Spanish, and in consultation with USAID, will be circulated to the site managers or concerned organizations in order to prepare the ground for subsequent site visits.

The Senior Natural Resources Policy/Economics Specialist will debrief with USAID before departure from Bolivia, and leave a brief inception report regarding the findings and plans for the next phase with the Mission. The discussions will include arrangements for circulating the briefing note cum issues agenda and site-wise questionnaires as appropriate. Based on the outcome of these discussions, USAID in consultation with the Specialist will finalize the plans for the implementation of Phase Two of the assessment.

**Phase II: Assessment Phase–January 10–February 5, 2000:** In agreement with the work plan described, the Senior Natural Resources Policy/Economics Specialist will return to Bolivia to carry out the implementation of the assessment during a period of approximately four weeks. The work will include the following more specific tasks:

- **Continued Review of Pertinent Literature:** It is expected that USAID will have assembled a working collection of reference materials for the use of the Assessment Team and that these will be available on their return to the country. The Team will review these materials and identify other relevant documentation that may be required for their efforts.

- **Semi-Structured Interviews with Key Informants:** The Team will undertake governmental, non-governmental and perhaps representatives of other important donors to the sector, to ascertain their views about the issues, identify other matters worth analyzing and interchange a wide variety of information and ideas as part of a public consultation component for this assessment.
- **Field Visits:** It is foreseen that the Assessment Team will visit a reasonable sample of the environment sector activities and projects that have been supported by USAID/Bolivia over the last ten years. Although these visits are not expected to be evaluations per se, the intent will be to explore with the site managers their views of the successes and constraints to the activities and what they might suggest as Lessons Learned or improvements for future such activities based on their field experience.
- **Half-Day Workshop for Discussions of Preliminary Findings and Conclusions:** The Assessment Team, with support from USAID, will prepare and conduct a half-day workshop, bringing together many of the key informants with whom they have been interacting in the course of the assessment, to discuss their preliminary views of findings and conclusions and seek feedback and further information.
- **Final Debriefing with USAID:** Based on the outcome of the Workshop, the Team will prepare a debriefing note for USAID as the basis of an informal discussion related to findings, conclusions and recommendations for future actions and investments in the environment sector. This debriefing note will also include an annotated outline of the final report of the assessment.



# Appendix B

## Interview Questions

Please identify what you believe have been the most salient events, individuals, programs, projects, features and documents that were of special relevance, either in shaping the nature of the USAID assistance to the environment sector in Bolivia, or which influenced the outcome or impact of that assistance to the sector.

Please identify and explain what you believe were the most important issues of the past for the development of the environment sector in Bolivia and how USAID responded to them, if at all.

Please suggest how, if at all, you might have done things differently if the choice had been yours to do so, in the light of what you knew then or on the basis of your experience of how things turned out.

Do you believe that USAID investments in the environment sector were successful and were the principal constraints and opportunities to sustainable development properly understood and addressed?

**Special thanks** is due to the following individuals who responded, often in considerable detail, to these questions:

- Gary Alex, now at the World Bank.
- Sher Plunkett, now serving with USAID in Peru.
- Howard Clark, now a private consultant based in Ecuador.
- Bruce Kernan, now a private consultant based in Ecuador.
- Charles Hash, now in private practice in the United States.
- Joshua Dickinson, now with the Forest Management Trust.
- Mike Yates, now serving with USAID in the Philippines.
- Ray Victorine, now a private consultant in the United States.

# Appendix C

## Reference Materials Consulted

(partially annotated)

<i>Forestry Oriented Documents</i>	
BOLFOR 1997.	<b>Seminario Internacional de Capacitacion en Investigacion sobre Aprovechamiento Forestal de Impacto Reducido y Manejo de Bosques Naturales: Resultados.</b> Proyecto de Manejo Forestal Sostenible (BOLFOR), Centro Internacional de Investigacion Forestal (CIFOR), FAO y USAID. Santa Cruz de la Sierra, Agosto 1997. pp.- 103 + anexos.
Proceedings of a training seminar that took place in Bolivia at which 14 participants representing a variety of institutions (NGOs, international research organizations, government agencies and universities) worked together to further the state of knowledge on the mechanics of applied research in the field of tropical forestry management. Papers presented by the participants focused on the following themes: soil compaction, site conditions, logging impacts, natural regeneration, fire impacts and species mix. All of the papers were prepared by the participants as a result of field observations in a study area of secondary forest near Concepcion, Bolivia.	
Kraljevic, I. 1997.	<b>El Legado de BOLFOR: Sostenibilidad Institucional.</b> Proyecto de Manejo Forestal Sostenible (BOLFOR), Documento Administrativo 32/1997. Chemonics International under USAID Contract: 511-0621-C-00-3027. Washington, November 1997. pp.- various + anexes.
Williams, J.T. & Wilson, D. 1998.	<b>Report on the Brazil Nut (<i>Bertolletia excelsis</i>) Aflatoxin Problem in Bolivia.</b> Report prepared by the University of Georgia under the auspices of the BOLFOR Project and USAID/Bolivia. La Paz, November 1998. pp.- 19 + appendices.
In light of the new regulations governing the import of Brazil Nuts into the European Union expected in 1999, USAID funded this technical inquiry into the issue of Aflatoxin contamination of Brazil nuts produced in Bolivia. The lack of an effective aflatoxin management program in the producing areas jeopardize over 50% of the traditional markets for this commodity which is the basis for 70% of all economic activity in the northern forest regions of Bolivia. The report offers a review of the problem and a series of recommendations for the short, medium and long-term to counter it as well as advice on upgrading the returns from Brazil nut production and export.	
ITTO 1996	<b>Promocion del Desarrollo Forestal Sostenible en Bolivia.</b> Report presented to the ITTO, 21 <sup>st</sup> . Period of Sessions, November 1996. Yokohama, Japan, October 1996. pp.- 226 + anexes.
<i>Natural Resources Management Oriented Documents</i>	
TROPICO n.d.	<b>Diagnostico Participativo: Recursos Naturales y Patrimonio Cultural del Parque Nacional y Area Natural de Manejo Integrado Cotapata.</b> TROPICO- Asociacion Boliviana para la Conservacion. This Study was financed by the Fondo Nacional para el Medio Ambiente (FONAMA) using resources provided by the Enterprise for the Americas Initiative (EIA).
Stewart, R. & Gibson, D. 1994.	<b>Environmental and Economic Development Consequences of Forest and Agricultural Sector Policies in Latin America (A Synthesis of Case Studies of Costa Rica, Ecuador and Bolivia).</b> DESFIL Report, Washington, April 1994. pp.- 26.
Cspedes, J., Paredes, X. & Scholz, S. 1995.	<b>El Intercambio entre Beneficios y Conservacion de Pastizales en el Altiplano (Caso- Comunidad San Jose Llanga).</b> Small Ruminant Collaborative Research Program (SR-CRSP), Convenio MACA/IBTA/USAID/SR-CRSP. La Paz, Septiembre de 1995. pp.- 43.
Peña, O. & Coudrain-Ribstein, A. 1995.	<b>Evaluacion de los Recursos Hidricos del Canton San Jose Llanga- Provincia Aroma del Departamento de La Paz.</b> Small Ruminant Collaborative Research Program (SR-CRSP), Convenio MACA/IBTA/USAID/SR-CRSP. La Paz, Agosto de 1995. pp.- 36.

<i>Biodiversity Oriented Documents</i>	
CDC 1988.	<b>Diagnostico de la Diversidad Biologica de Bolivia.</b> Report prepared by Centro de Datos para la Conservacion (CDC), Herbario Nacional, Museo Nacional de Historia Nacional (MNHN), Centro Interdisciplinario de Estudios Comunitarios (CIEC) and Conservation International. La Paz, 1988. pp.- 142 + annexos.
UMSA 1999.	<b>Tacana— Conozcan Nuestros Arboles, Nuestras Hierbas.</b> Report produced under the aegis of the Project: "Conservacion ambiental a traves de la valoracion etnobotanica y etnofarmacologica en Bolivia, II. Estudios en la etnia Tacana," carried out by the Universidad Mayor de San Andres (UMSA) with the participation of Instituto de Investigaciones Farmaco Bioquimicas (IIFB), Instituto de Investigaciones Quimicas (IIQ), Instituto Boliviano de Biologia Andina (IBBA), Instituto de Investigacion para el Desarrollo (IRD-Francia), Herbario Naciona de Bolivia (HNB-LPB) y Fulbright, in coordination with the Consejo Indigena de los Pueblos Tacana (CIPTA). La Paz, Mayo de 1999. pp.- 497. The Project was financed by the Fondo Nacional para el Medio Ambiente (FONAMA) using resources provided by the Enterprise for the Americas Initiative (EIA).
CDC 1996.	<b>Libro Rojo de los Vertebrados de Bolivia.</b> Edited by Patricia Ergueta S. and Cecile de Morales for the Centro de Datos para la Conservacion (CDC)- Bolivia. La Paz, January 1996. Supported with resources from the Secretaria Ejecutiva del Programa PL 480 (USAID Title III) through the Liga de Defensa del Medio Ambiente (LIDEMA), and with some additional support from the Dutch Technical Cooperation Mission.
UMSA 1991.	<b>Historia Natural de un Valle en Los Andes: La Paz.</b> Edited by Eduardo Forno and Mario Baudoin. Instituto de Ecologia, Universidad Mayor de San Andres (UMSA). La Paz, 1991. pp.- 559. A study financed by the Secretaria Ejecutiva del Programa PL 480 with support from GTZ and coordination by LIDEMA.
CDC 1997.	<b>Catalogo Bibliografico sobre Conservacion y Medio Ambiente.</b> Compiled by Ninoska Sanchez and Carlos Ernst for the Centro de Datos para la Conservacion, under the Project: "Problematica Forestal y Areas Protegidas: Aportes a la Conservacion de la Biodiversidad Biologica en Bolivia." La Paz, 1997. pp.- 85. The Project was financed by the Fondo Nacional para el Medio Ambiente (FONAMA) using resources provided by the Enterprise for the Americas Initiative (EIA).
CDC 1997.	<b>Directorio de Areas Protegidas de Bolivia.</b> Edited by Patricia Ergueta S. and Humberto Gomez C. for the Centro de Datos para la Conservacion under the Project: "Problematica Forestal y Areas Protegidas: Aportes a la Conservacion de la Biodiversidad Biologica en Bolivia." La Paz, 1997. pp.- 186. The Project was financed by the Fondo Nacional para el Medio Ambiente (FONAMA) using resources provided by the Enterprise for the Americas Initiative (EIA).
PROMETA 1999	<b>Tariquia Flora and Fauna National Reserve: Parks in Peril Program- Financial and Technical Report</b> (Fourth Trimester- July- September 1999), Tarija, October 1999. pp.-26 + annexes. (Includes Informe de avance del Plan de Manejo 2000-2004 for the Tariquia Reserve, pp.- 65 + annexes.)
Conservation International 1998.	<b>A Biological Assessment of Parque Nacional Noel Kempff Mercado, Bolivia.</b> Rapid Assessment Program, Working Paper No. 10. Conservation International with Fundacion Amigos de la Naturaleza, Missouri Botanical Garden, Museo de Historia Natural Noel Kempff Mercado, Washington, 1998. pp.-216 + appendices.
TROPICO 1999	<b>Recursos Naturales y Patrimonio Cultural del Parque Nacional y Area Natural de Manejo Integrado Cotapata: Diagnostico Participativo.</b> Prepared by Tropico– Asociacion Boliviana para la Conservacion (Subcentrales Pacallo y Chucura). By Ergueta, P., Coordinator, La Paz, 1999. pp.- 259 + maps.
<i>General Environment Sector Oriented Documents</i>	
IIED 1986	<b>Perfil Ambiental de Bolivia.</b> Report prepared by the International Institute for Environment and Development (C.E. Brockmann, editor) for USAID. La Paz, July 1986. pp.- 166.

Chatelain et al, 1990.	<b>Evaluation of Water Resources in Bolivia, South America</b> by Chatelain, D.J., Baehr, J.H., Whittington, H.M., and Rogers, C.M. US Army Corps of Engineers. Report prepared for USAID. Mobile, Alabama, December 1990. pp.- 33 + Department-wise appendices, etc.
SEGMA 1992.	<b>Que Camino Debemos Andar..Elementos para una Politica Ambiental Boliviana.</b> Presidencia de la Republica, Secretaria General del Medio Ambiente (SEGMA), Plan de Accion Ambiental de Bolivia (PAAB). La Paz, Marzo de 1992. pp.- 89.
A document elaborated as a guide to the discussions for a series of national working groups for environmental planning. These planning efforts were part of the Environmental Action Plan for Bolivia (PAAB) that came about shortly after the Presidential Decree for a Pausa Ecologica Historica— a defining moment in the history of the development of the environment sector in the country. The work was supported with resources from the USAID PL 480, German GTZ and Dutch Technical Cooperation programs.	
SENMA 1992.	<b>Politiclas Generales para un Sistema Nacional de Gestion Ambiental</b> (version preliminar). Presidencia de la Republica, Secretaria Nacional del Medio Ambiente (SENMA), Plan de Accion Ambiental de Bolivia (PAAB). La Paz, Diciembre de 1992. pp.- 86.
This policy paper was the outcome of the participatory consultative process carried out through three regional workshops and a national level workshop that took place in 1992. It covers the following sector themes: general policy framework, the national system for environmental management, training of human resources and technological development for environmental management, and the development of financial capacity for environmental management in Bolivia. The project under which this document was prepared— the Environmental Action Plan for Bolivia (PAAB) was supported with resources from the Secretaria Ejecutiva PL 480 USAID/Bolivia, FONAMA and the German GTZ and Dutch Technical Cooperation programs.	
Freeman, P. (et al) 1980.	<b>Bolivia: State of the Environment and Natural Resources— A Field Study.</b> Authored by Freeman, P., Cross, B. Flannery, R.D., Harcharik, D.A., Hartshorn, G.S., Simmonds, G. and Williams, J.D. under the aegis of JRB Associates, Inc. for AID Contract No. PDC-C-Q247, McLean, Virginia, July 1980. pp.- various w/ annexes.
First USAID supported (LAC Bureau and Mission) comprehensive, field-based environmental study, updating earlier (1979) Library of Congress desk study on the same topic. It was carried out by a seven person team in Sept./Oct. 1979, most of whom were specialists in the green side of environmental issues. It identified the most serious problems affecting the environment as: (on the NRM side): soil erosion, range degradation, illegal settlement, hunting and logging and deforestation; and (on the brown side): water pollution, pesticides pollution and water pollution by industry. Includes a table identifying on-going foreign assistance to the environment/natural resources sector. It provides a series of recommendations for the sector and specific ones directed at AID.	
World Bank 1997.	<b>Bolivia— Issues in Environmental Management.</b> Report No. 16760-BO. Environment and Infrastructure Division, Country Department III, Latin America and the Caribbean Regional Office, World Bank. Washington, June, 1997. pp.- 46 + appendices.
FOBOMADE 1998.	<b>Crisis en el Financiamiento de la Gestion Ambiental— el Caso FONAMA.</b> Edited by Teresa Flores Bedregal and Jenny Gruenberger for the Foro Boliviano sobre Medio Ambiente y Desarrollo (FOBOMADE). La Paz, July 1998. pp.- 112 + annexes.
Chapter and verse on the possibilities for the restructuring of FONAMA or its independence from government. The book is a compilation of the papers presented at a special panel organized by FOBOMADE: El Futuro del Financiamiento de la Gestion Ambiental carried out on April 1, 1998. It provides a series of insights from the NGOs and other representatives of civil society about the functioning of FONAMA and the urgent need to further facilitate finance for non-governmental efforts for development of the environment sector in Bolivia. The Annexes provide a series of useful, albeit somewhat dated, factual information on the present efforts and investments in the sector as well as on the organizations involved in the sector.	
<b>Sector Related Development Assistance Documentation</b>	
USAID/La Paz 1983	<b>Chapare Regional Development Project.</b> Project Paper. USAID Project 511-0543, USAID/Bolivia, La Paz, May 1983. pp.- 134 + annexes.

	<p>Chapare Regional Development Project was approved as a five year (83–88) effort, funded with \$4.4 million loan and \$10 million grant plus \$21.8 million host country contribution for the following purpose: To modify and improve the agricultural and forestry production system of farmers in the Chapare to repond better to diverse, profitable marketing opportunities provided under sustained, environmentally compatible, medium technology production models. A typical project paper of the time but interesting because it includes information about USAID assistance strategy during the period for which the program objectives focused on support for accelerated economic recovery; response to emergency food situation caused by floods and drought; decrease in illegal coca production; and participation of private sector in the economy. Highlights the use of PL-480 resources for policy reform leverage on a number of macro-economic and agricultural sector issues. The latter was specifically intended as leverage to “lay the foundation for a rational agricultural planning policy which can lead to longer-term growth and development of the sector.” In the Technical Feasibility section (p. 83), it includes an overview of the land-use capability in the Chapare Region. Annex N is an Environmental and Technical Analysis for the Chapare Rural Development Project— Summary Conclusions and Recommendations which was prepared as an input for the preparation of the project paper. Environmental Summary (pp. 87 &amp; 88) constitute environmental analysis and underscore need to modify and improve existing small farmer farming systems rather than replacing them with large scale agro-industrial approach. Environmental summary identifies protection of Isoboro-Secure National Park as an issue and identifies halting construction of Chapare-Beni road through the Park as a condition precedent to the project.</p>
McCaffrey, D. 1984	<p><b>Recommendations for Application of P.L.- 480 Funds to Natural Resources Projects in the La Paz-Cochabamba-Santa Cruz Growth Corridor.</b> Unpublished report to USAID, La Paz, May, 1984.</p>
McCaffrey, D. 1984a	<p><b>Incorporation of Natural Resources Management into the USAID/Bolivia Development Program.</b> Unpublished report to USAID, prepared under Environmental Planning and Management Project of the International Institute of Environment and Development, Washington, October 1984. pp.- 8.</p>
Wood, D. 1985	<p><b>Assessment of Bolivia’s Non-Governmental Non-Profit Environmental Organizations and Recommendations for a Plan of Action.</b> Unpublished report to USAID, prepared under Environmental Planning and Management Project of the International Institute of Environment and Development, La Paz, June 1985. pp.- 32.</p>
<p>This report is thought to have been an important piece in validating the emerging Environmental NGO presence in Bolivia and in the subsequent formation of LIDEMA. It was particularly useful in that USAID assistance strategy at the time focused on private agricultural organizations and indeed there was a bilateral project of that name operating at this time.</p>	
USAID/La Paz 1991	<p><b>Cochabamba Regional Development Project.</b> Project Paper. USAID Project 511-0617, USAID/Bolivia, La Paz, March 1991. pp.- 64 + annexes.</p>
<p>Cochabamba Regional Development Project was approved as a five year (91–96) effort, funded with \$80 million USAID grant and \$40 million host country contribution for the following purpose: “To develop alternative sources of income and employment for people within the Department of Cochabamba and its area of influence.” A USAID project paper which in its section on project rationale discusses the lessons learned in the previous project and emphasizes the need for a more integrated approach to alternative development to discourage people in the Chapare from growing coca. This project added a component to shift activities into the associated high valleys of Cochabamba from which labor and colonizers migrated to the Chapare and worked in coca production. Also emphasized the need for GOB commitment to effective counter-narcotics law enforcement in order to create the demand and enhance the perspectives for alternative agriculture and agroforestry development. An Environmental Assessment of the project was carried out in lieu of an IEE and it concluded that the project “conforms to USAID environmental regulations”(copy of EA not part of this version of PP although mentioned in table of contents). Short report (pp. 63-64) on EA note attention to tropical forests mandates under 1986 amendments to FAA and mention that project includes finance for “a continuous environmental monitoring to ensure that project activities are implemented in an environmentally sound manner.” Project paper includes interesting “story of a coca eradicator”— the impact on a farm family that eliminates coca voluntarily and participates with the project, and also a very short section analyzing the thinking regarding natural resources management issues in both the high valleys and the tropical lowlands.</p>	
DESFIL 1988	<p><b>The Associated High Valleys Project in Cochabamba, Bolivia.</b> By Dickinson, J., Painter, M., Ehrlich, M., French, E.C. and Oosterkamp, J.O. Prepared for USAID by DESFIL (Development Strategies for Fragile Lands Project), under contract no. DHR-5438-C-00-6054-00. Washington, August 1988. pp.- 61.</p>
Hanrahan & Rivas 1991	<p><b>Natural Resources Management in the High Valleys of Cochabamba Department: A Strategy for USAID Assistance/A Proposed Strategy for Watershed Rehabilitation.</b> La Paz, December 1991. pp.- 35.</p>
USAID/La Paz 1992	<p><b>Tropical Forest and Biodiversity Assessment: USAID/La Paz Mission Update,</b> La Paz, December 1992. pp.- 11 + 7 page attachment with Bolivia wise sector bibliography.</p>

<p>A very interesting and informative short piece on USAID's response to the Section 118 amendments to the FAA, prepared by M. Yates in response to AID/W's cable State 173242. In addition to a general introduction to the issues in Bolivia, sections include: Previous Tropical Forestry and Biodiversity Assessment; Mission Actions to Protect Tropical Forests and Biological Diversity; Legislative and Institutional Changes; Present Status of Conservation in Bolivia; Current Conservation Needs and How the Mission Will Address Them; List of Assessment since 1988; and Biodiversity and Tropical Forestry Conservation Activities by Other Donors. A fundamental piece for anyone interested in USAID's activities in the environment/natural resources and forestry sector in Bolivia, however, it is mostly about activities and does not discuss programmatic decision-making.</p>	
Riggin, J. 1991	<p><b>Evaluation of PL-480 Title III Activities in Natural Resources Management and Environment.</b> La Paz, Oct. 1991. pp.- 35 + appendices.</p>
<p>An evaluation undertaken in 1991 under the auspices of the Office of Agriculture and Rural Development, USAID/La Paz (Supervising Officers J. Sleeper and J. Calvo). Includes Appendice No. 6 which is a summary of PL-480 Title III projects in the E/NRM area between 1985 and present. Provides information on administrative difficulties experienced by local groups trying to access PL-480 resources but is generally positive about its impact on the development of the sector. Most serious criticism is the lack of a set of development objectives by the Executive Secretariat that provide a framework for focusing the use of the resources.</p>	
Anon. 1993.	<p><b>Environmental Briefing for the United States Delegation to the Inauguration of Gonzalo Sanchez de Lozada.</b> Presented by the Environmental Team commissioned by Vice-President Gore to assist with the Bolivian Transition (Hayes, D.J., O'Leary, J. &amp; Zazueta, A.), pp.- 21 + attachments.</p>
USAID 1993	<p><b>Sustainable Forestry Management.</b> Project Paper. USAID Project 511-0621, USAID/Bolivia, La Paz, August 1993. pp.- various + extensive annexes.</p>
Kernan, 1998	<p><b>Environmental Assessment- USAID Special Objective: Elimination of Illicit Coca from the Chapare,</b> Quito, Ecuador, June, 1998. pp.-82 + appendices.</p>
<p>This E.A. was carried out at the SO level but applies to the activities now being undertaken by the CONCADE project which is the follow-up to CORDEP and its predecessors. E.A. recommends Alternative 3- Coca Eradication with Alternative Development. Significant issues associated with alternative development and coca eradication were noted as: road improvements and erosion, sedimentation, colonization and deforestation (7 suggested mitigation measures); Coca eradication and soil erosion (1 M.M.); disposal of chemicals and ground/water pollution (1 M.M.); type of agriculture (3 M.M.); pesticide use (8 M.M.); and lack of an implementing agency (2 M.M.). Document suggests the need for an investment of approximately \$ .5 million to deal with the mitigation measures.</p>	
USAID 1998.	<p><b>USAID Bolivia Strategic Plan FY 1998-2002.</b> USAID/Bolivia, La Paz, January 1998. pp.- 95 + annexes.</p>
AID/LAC 1995	<p><b>Parks in Peril,</b> Project No. 598-0782 (Amendment No. 4), USAID/Washington, Latin America Bureau, July 1995. pp.- 54 + attachments. Note: This amendment added \$20.75 million and extended the PACD to 9/30/99 to fully fund a new five-year unsolicited proposal from TNC. Total USAID support increased to \$33.721 million since project inception in FY 90.</p>
DAI 1999.	<p><b>Cochabamba Regional Development Project (CORDEP) DAI Final Report.</b> Prepared for USAID/Bolivia by Development Alternatives Inc. under AID contract number 511-C-00-92-2201-10 by Rosholt, J.D., Foster, C., Pattie, P. &amp; Greenwood, W. Cochabamba, May 1999. pp.- 57 + enclosures.</p>

# Appendix D

## List of Persons Met

<b>Name</b>	<i>Organization</i>
George Taylor	Director, Office of Environment, USAID/Bolivia
Robert N. Kenny	Deputy Director, Environment Office, USAID/Bolivia
Douglas Mason	Advisor, Biodiversity and Forest Management, USAID/Bolivia
Victor Bullen	Regional Environment Advisor, USAID/Bolivia
Jorge Calvo C.	Economic Opportunities Team, USAID/Bolivia
Kenneth B. Wiegand	Director, Counter Narcotics Office, USAID/Bolivia
Lawrence Rubey	Director, Food Security Unit, USAID/Bolivia
Sonia Aranibar	Strategy and Operations Services Office, USAID/Bolivia
Hector Diez de Medina	Strategy and Operations Services Office, USAID/Bolivia
Elffy Vasquez	Secretary, Environment Team, USAID/Bolivia
Jeffrey Levine	Economic Opportunities Team, USAID/Bolivia
Beatriz O'Brien	Deputy Executive Officer, USAID/Bolivia
Elizabeth Marcotte	EP3/Energy IQC Support Staff, Hagler Bailly, Washington, D.C.
Bob McLeod	Energy Officer, Global Bureau, AID/Washington
Carlos Arze L.	Director, Centro de Promocion de Tecnologias Sostenibles
Cesin Curi	Centro de Promocion de Tecnologias Sostenibles
Carl Brockmann H.	Executive Secretary, P.L. 480 Executive Secretariat
Luis Jordan S.	Technical Manager, P.L. 480 Executive Secretariat
Oscar Calvimontes D.	Technical Department, P.L. 480 Executive Secretariat
Vilma Rodriguez	Documentation Center Head, P.L. 480 Executive Secretariat
Consuelo Wolfhard	Coordinadora, Cuenta EAI, FONAMA
Waldo Gomez	EAI, FONAMA
Gabriel Valdivia	CEIBO/FONAMA contractor
Jaime Guzman	CEIBO/FONAMA contractor
Eduardo Forno	Adjunct Resident Representative, UNDP/Bolivia
Michael Painter	Bolivia Program Coordinator, Wildlife Conservation Society
John Nittler	Chief of Party, BOLFOR Project

William Cordero	Forest Engineer, BOLFOR Project
Jose Ledezma	Forest Management Specialist, BOLFOR Project
Todd Fredericksen	Forest Ecologist, BOLFOR Project
Daniel Nash	Documentation/Publications Specialist, BOLFOR Project
Marianella Curi C.	Executive Director, LIDEMA
Martin Villarroel G.	Executive Director, PURISANA, Cochabamba
Magdalena Medrano V.	Executive Director, PAAC, Cochabamba
Hugo Rojas	Extensionist, PAAC, Cochabamba
Silvano Trujillo	Extensionist, PAAC, Cochabamba
Hermes Justiniano	Executive Director a.i., Programa de Conservacion del Bosque Chiquitano (PCBC)
Patricia Caffrey	Director/Country Representative, World Wide Fund for Nature (WWF)
Gregory Minnick	Chief Technical Advisor, UNDCP/FAO Forestry Project
Daniel Salas	VIVE, Tarija
Alfonso Blanco L.	Executive Director, PROMETA, Tarija
Monica Ostria	Director, Bolivia Program, The Nature Conservancy, Washington, D.C.
Francois-Xavier Dupret	Research Coordinator, Sama Biological Reserve, PROMETA
Rodrigo Ayala D.	Board of Directors, PROMETA
Juan Arnold Luske	Director, Tariquia Reserve, PROMETA/SERNAP
Claudia Terzo	Prometa, Reserva de Sama
Claude de Patoul	Chief Technical Advisor, INIBREH, Tarija
Delfin Goitia	Forestry Consultant, Cochabamba
Herbert Kohlberg C.	Production Manager, Kohlberg Bodegas y Vinedos La Cabana, Tarija
Glenn Blumhorst	Bolivia Representative, ACDI/VOCA, Santa Cruz
Jorge Baracatt S.	Program Director, ACDI/VOCA, Santa Cruz
Douglas Pool	Natural Resources Management Specialist, IRG, Ltd.
David Joslyn	Vice President, IRG, Ltd.



## Appendix E

### Programas Y Proyectos Financiados Por El Programa P.L. 480, 1978 – 2000

#### Sector: Recursos Naturales Y Medio Ambiente

Titulo	Programas Y Proyectos Ejecutados Y En Ejecucion	Ubicacion: Depto Provincia	Entidad Ejecutora	Periodo De Ejec. Tec.	Monto Compromet (\$US)
<b>Investigacion Para La Conservacion, Manjeo De Recursos Naturales</b>					
I/85	Proyectos	La Paz	MACA	1986-1997	72.267,44
III/78	Control de Pesticidas y Cuarenta de Plantas	La Paz	MACA	1986-1987	912.808,33
III/78	Estudio Recursos Naturales Sud	Potosi	CORDEPO	1986	230.013,02
III/78	Estudio Recursos Naturales La Paz	La Paz	CORDEPAZ	1986	58.532,11
III/78	Pronostico de Cosecha 1985	Nacional	MACA	1986-1987	487.860,19
III/78	Sistema de Recoleccion de Datos	Nacional	MACA	1986-1987	168.803,16
I/85	Programa Reestructuracion de la Reserva Manuripi-Heath F-II	Pando: Manuripiy Madre de Dios	LIDEM	1990-1994	100.119,13
I/85	Control y Ficalizacion de Recursos Naturales Renovables	Santa Cruz, Nuflo de Cahvez, Guarayos	UTD/CDF/SCZ	1991- Suspendido	140.775,35
III/86	EIA Villa Bella-Nueva Esperanza	Pando:F.Roman Beni: Vaca Diez	OSTEC-Ing.	1994-1996	54.392,25
III/86	Plan de Manejo para EBB	Beni: J. Ballivian	LIDEMA	1986-1991	58.386,19
III/86	Diagnostico Recursos Naturales de La Paz	La Paz: Murillo	LIDEMA	1986-1991	20.837,35
III/86	Programa Reestructuracion de la reserva Manuripi-Heath F-I	Pando: Manuripi y Madre de Dios	Consultores	1989	4.427,27
III/86	Cuenca Rio Guadalquivir	Tarija	PERTT	1988-1991	161.753,10
III/86	Perfil Ambiental	La Paz: Murillo	PL480/LIDEMA	1988	21.608,70
III/86	Censo de Poblacion Campensions en Parque Nal. Amboro	S. Cruz: Florida	UTD/CDF/SCZ	1989-1990	8.674,47
III/86	EIA Puente Maniqui	Beni: J. Ballivian	LIDEMA	1989-1991	19.079,50
III/86	Diagn. 3 Cuenas Hidrograficas	La Paz	IBRH/MACA	1988-1989	42.686,57
III/90	Elaboracion y Publicacion de Gula de Arboles de Bolivia	La Paz: Murillo	LIDEMA	1991-1992	54.455,56
III/90	Efecto del pastoreo en diversidad floristica de la EBB	Beni: J. Ballivian	LIDEMA	1995-1998	84.786,95
III/90	EIA por construccion de carretera y puentes Yucumo-Rurrenabaque	Beni: J. Ballivian	LIDEMA	1993-1995	58.207,44
III/90	Prioridades de conservacion, potencial y Plan de Manejo para Reserva V.S. Rios Blanco y Negro	Santa Cruz: Nuflo de Chavez, Guarayos	FAN	1992-1995	338.976,32
III/90	Evaluacion estado de flamencos en Reserva Eduardo Avaroa	Potosi: A. Quijarro	M.N.H.N.	1993-1994	22.722,85
III/90	EIA Explotacion de Oro en Araras-Pando	Pando: F. Roman Beni: Vaca Diez	LIDEMA	1992	123.702,10
III/91	Conservacion del Oso Jucumari	La Paz: Lambate	P.A.H.S.	1993-1995	34.018,47
III/91	Publicacion: Conservacion de Biodiversidad en Bolivia	La Paz: Murillo	LIDEMA	1994-1996	40.180,92
III/91	Plan Operativo p/Reserva Nal. De Fauna Andina Eduardo Avaroa	Potosi: A. Quijarro	M.N.H.N.	1994-1996	74.516,17
III/91	Publicacion Mapas de Chuquisaca	Sucre	CORDECH/LIDE MA	1994-1996	33.717,39

Titulo	Programas Y Proyectos Ejecutados Y En Ejecucion	Ubicacion: Depto Provincia	Entidad Ejecutora	Periodo De Ejec. Tec.	Monto Compromet (\$US)
III/92	Senalizacion Rutas Trekking en La Paz	La Paz: Varias Prov.	FONAMA	1995-Pendiente	26.555,73
III/92	Apoyo al Censo Nacional de Vicunas	La Paz, Or, Psi, Tja	FONAMA/DNCB	1997	12.191,22
III/92	EIA Charazani-Apolo	La Paz: Murillo	CORDEPAZ	1996	41.841,00
III/92	Manejo de RRNN en Rio Chico	Chuquisaca	CARE	1996-Vigente	263.320,45
III/90	Estudio de Manejo Sostenible de Agricultura Comercial en SCZ	S. Cruz: Ciudad	ANAPO	1993-1994	4.125,00
Reflujos	Red p/Control y Proteccion de la Biodiversidad en el Dpto. Del Beni	Beni	Prefectura del Beni	2000	294.359,00
<b>SUBTOTAL</b>				<b>4.070.700,71</b>	

<b>MANEJO FORESTAL SOSTENIBLE</b>					
III/86	Proyecto Forestal DESEC	Cochabamba	DESEC	1988-1990	100.427,95
III/86	Repoblamiento Forestal Ilurl.	Cochabamba	ABID	1988-1989	15.446,32
III/92*	Manejo Forestal Sostenible, Proyecto BOLFOR USAID/B-FONAMA	S. Cruz:	FONAMA	1944-Vigente (*)	3.595.494,24
III/78	Forestacion La Paz	La Paz	CORDEPAZ	1986	131.957,70
III/78	Forestacion Cochabamba	Cochabamba	CORDECO	1986	177.427,64
III/78	Forestacion Potosi	Potosi	CORDEPO	1986	121.711,33
III/78	Forestacion Tarija	Tarija	CODETAR	1986	105.498,11
III/78	Forestacion DESEC	Cochabamba	DESEC	1986-1987	48.758,36
<b>SUBTOTAL</b>				<b>4.296.721,65</b>	

Titulo	Programas Y Proyectos Ejecutados Y En Ejecucion	Ubicacion: Depto Provincia	Entidad Ejecutora	Periodo De Ejec. Tec.	Monto Compromet (\$US)
<b>LEGISLACION Y POLITICA AMBIENTAL</b>					
I/85	Elaboracion Ley Gral. Del Medio Ambiente	La Paz: Murillo	LIDEMA	1986-1988	64.570,38
I/85	Ley de Proteccion del Medio Ambiente	La Paz: Murillo	H. Diputados	1991	40.903,50
III/86	Ley del Medio Ambiente	La Paz: Murillo	Consultor	1989	17.551,46
III/86	Plan de Accion Ambiental	La Paz: Murillo	SEGMA	1991-1993	172.062,82
III/90	Publicacion Innovaciones en Propiedad Agraria	La Paz: Murillo	FONAMA	1993-1994	1.879,25
III/90	Organizacion Agenda Nuevo Mundo para las Americas	La Paz: Murillo	FONAMA	1994-1995	25.000,00
III/90	Ley Diversidad Bilogica	La Paz: Murillo	FONAMA	1992	46.044,54
III/90	Reglamentacion Ley Gral.del Medio Ambiente	La Paz: Murillo	FONAMA	1992-1996	43.565,83
III/91	Plan Accion Ambiental p/Bolivia	La Paz: Murillo	FONAMA-MDS	1993-1995	133.931,65
III/91	Seminario Ley de Tierras	La Paz: Murillo	FONAMA-MDS	1994	29.414,23
III/91	Taller Mercado de Tierras	La Paz: Murillo	FONAMA-MDS	1994	24.692,89
III/91	Cumbre Presidencial: Agenda p/ un Nuevo Mundo de las Americas	Santa Cruz	FONAMA-MDS	1995	225.000,00
III/92	Publicaciones relativ. Particip. Popular	La Paz: Murillo	FONAMA	1996	14.107,27
III/92	Gastos p/evaluacion Pausa Ecologia	La Paz	LIDEMA	1996	2.094,99
III/92	Evaluacion Pausa Ecologia Sec. Forestal	Santa Cruz	FONAMA	1996-1997	43.967,90
<b>SUBTOTAL</b>				<b>884.786,71</b>	

<b>EDUCACION PARA LA CONSERVACION, CAPACITACION Y DIFUSION EN MATERIA AMBIENTAL</b>					
I/85	Educac. Ambiental s/Uso Plaguicidas	La Paz	CIEC	1991	5.970,95
I/85	Reoesent. IV Congreso Parques Nacles	Venezuela	FONAMA	1992	3.385,63
III/86	Video EIA Villa Bella-Nueva Esperanza	Pando: F. Roman Beni: Vaca Diez	Tocando Fondo	1994-1996	2.980,52
III/86	Taller Manejo de Areas Protegidas en EBB	Beni: J. Ballivan	LIDEMA-Smiths Institution	1988-1990	17.396,84
III/86	Taller Admisntracion de Areas Protegidas	Beni: J. Ballivan	LIDEMA-Smiths Institution	1989-1990	10.848,45
III/86	Seminario Desarrollo e Impacto Ambiental	S. Cruz: Florida		1989	12.018,86
III/86	Seminarios y Coordinacion SNAP	La Paz: Murillo	LIDEMA	1990-1992	3.652,38
III/86	Produc. Material Radiofonico para Educacion Ambiental	La Paz: Murillo	CIEC	1989-1991	11.336,44
III/86	Programas Audiovisuales para Educacion para Conservacion	La Paz: Murillo	Consultor	1989-1991	2.936,60

<b>EDUCACION PARA LA CONSERVACION, CAPACITACION Y DIFUSION EN MATERIA AMBIENTAL</b>							
<b>Titulo</b>	<b>Programas Y Proyectos Ejecutados Y En Ejecucion</b>	<b>Ubicacion: Depto Provincia</b>	<b>Entidad Ejecutora</b>	<b>Periodo Ejec. Tec.</b>	<b>De</b>	<b>Monto Compromet (\$US)</b>	
III/86	Extension y concientizacion conservacionista	Tarija	PERTT	1988		12.626,71	
III/86	Serie Televista Bolivia Urgente	La Paz: Murillo	SOMOS/LIDEMA	1990-1994		94.553,11	
III/86	Programa Cursos y Becas 1990	Nacional	LIDEMA	1990-1993		41.988,60	
III/86	Documentales y Spots para TV	La Paz: Murillo	Consultor	1989		9.277,21	
III/86	Publicacion Boletin de LIDEMA	La Paz: Murillo	LIDEMA	1990-1991		4.911,12	
III/86	Progr. "El Pais que Estamos Perdiendo"	Nacional	LIDEMA	1990		883,28	
III/90	Programa Becas 1991	Nacional	LIDEMA	1991-1993		14.578,15	
III/90	Curso Vegetacion y Ecologia Trpocal en la EBB	Beni: J. Ballivan	LIDEMA	1991-1993		9.756,28	
III/90	Apoyo Difusion de Publicaciones	Chuquisaca: Sucre	U.A.S.B.	1991-1993		525,93	
III/90	Exhibicion Bosques Tropicales	Nacional	LIDEMA	1993-1994		54.177,61	
III/90	Serie TV Bolivia Urgente Complemento	Nacional	LIDEMA	1993-1995		30.877,83	
III/90	Programa Becas-1993	Nacional	LIDEMA	1993-1997		26.368,16	
III/91	1a. Exposicion International sobre Rec. Naturales y M. Ambiente	Cochabamba: Cercado	FONAMA	1993-1994		25.549,16	
III/92	1er Simposio de Aplicacion Sist. Informacion Geografica	La Paz: Murillo	FONAMA-MDS	1994-1996		33.746,69	
III/92	Maestria Tecnicas de Ingen. Y Gestion Ambiental	Sucre	UASB/FONAMA	1996-Vigente		72.076,37	
III/92	Capac. Comunit. En Conserv. Y Desarr.	La Paz	H. Alcaldia Mun.	1996- Suspend		36.144,58	
III/92	Congreso 10 anos aportes de la EBB a la gestion ambiental	Tdad. Beni	E.B.B.	1997		26.135,75	
III/92	Educac. Para la Conservacion-EBB	Beni: Yacuma	E.B.B.	1996-1997		60.792,77	
III/92	Maestria en Ecologia y Conservacion	La Paz	FUND-ECO	1996-1997		100.800,93	
III/92	Programa de Becas-LIDEMA	Todo el pais	LIDEMA	1995-Vigente		205.084,34	
III/92	Fdo. P/Semin. S/Participacion Popular	LP, El Alto, S.Cz, Chca	LIDEMA	1996-Vigente		60.396,69	
III/92	Campana por la Calidad de Vida	LP, El Alto, S.Cz, Chca	LIDEMA	1996-1997		17.687,53	
<b>SUBTOTAL</b>				<b>1.009.466,24</b>			

<b>APOYO FORTALECIMIENTO INSTITUCIONAL</b>							
<b>Titulo</b>	<b>Programas Y Proyectos Ejecutados Y En Ejecucion</b>	<b>Ubicacion: Depto Provincia</b>	<b>Entidad Ejecutora</b>	<b>Periodo Ejec. Tec.</b>	<b>De</b>	<b>Monto Compromet (\$US)</b>	
III/78	Capacidad Uso Mayor de la Tierra	La Paz	CUMAT			806.334,01	
I/85	Unidad de Coordinacion	La Paz	LIDEMA			43.945,33	
I/85	Apoyo Institucional	La Paz	LIDEMA			23.774,98	
III/86	Fondo de Operaciones Est. Biol. Beni	Beni: J. Ballivan	EBB	1989-Vigente		150.000,00	

**APOYO FORTALECIMIENTO INSTITUCIONAL**

<b>Titulo</b>	<b>Programas Y Proyectos Ejecutados Y En Ejecucion</b>	<b>Ubicacion: Depto Provincia</b>	<b>Entidad Ejecutora</b>	<b>Periodo Ejec. Tec.</b>	<b>De</b>	<b>Monto Compromet (\$US)</b>	
III/86	Fondo Fiduciario para Sistema Nal. de Areas Protegidas (SNAP)	La Paz: Murillo	FONAMA	1993-Vigente		995.316,16	
III/86	Fortalec. Institucional CUMAT	La Paz: Murillo	CUMAT			4.437,60	
III/86	Apoyo Institucional LIDEMA	La Paz: Murillo	LIDEMA	1991-1992		279.797,71	
III/86	Apoyo Institucional LIDEMA	La Paz: Murillo	LIDEMA	1993		17.766,51	
III/86	Gastos de Operacion	La Paz: Murillo	CUMAT	1990-1991		369.616,16	
III/86	Construccion campamentos en Parque Nal. Noel Kempff M.	S. Cruz:	CORDECRUZ	1989-1992		79.464,32	

III/86	Programa Institucional Fortalecimiento	La Paz: Murillo	LIDEMA	1990-1992	22.634,99
III/90	Apoyo Institucional	La Paz: Murillo	LIDEMA	1991-1992	61.818,45
III/90	Evaluacion Externa.	La Paz: Murillo	LIDEMA	1991-1993	24.408,28
III/90	Centro de Teledeteccion para el Altiplano Boliviano	La Paz: Murillo	ABTEMA	1992	86.579,63
III/90	Construccion de Sendero a las Cataratas del Rio Pausema	S. Cruz:	FAN	1992-1993	3.740,29
III/90	Programa de Implementacion del Parque Nal. Toro Toro	Potosi: Charcas	LIDEMA	1992-1993	15.362,63
III/90	Fondo de Operaciones LIDEMA	La Paz: Murillo	LIDEMA	1992-Vigente	264.174,87
III/90	Unidad de Coordinacion, Gastos de Operacion-1992	La Paz: Murillo	LIDEMA	1992	73.657,99
III/91	Fondo de Operaciones LIDEMA	La Paz: Murillo	LIDEMA	1992-Vigente	113.682,27
III/91	Compra de Infraestructura	La Paz: Murillo	LIDEMA	1992-1994	159.976,37
III/92*	Compra infraestructura FAN, para apoyo logistico Proyecto BOLFOR	S. Cruz:	F.A.N.	1993-1994	245.233,23
III/92*	Construccion Oficinas BOLFOR	Santa Cruz	FONAMA	1997-1998	207.866,10
III/92	Apoyo Institucional FONAMA	La Paz: Murillo	FONAMA	1994-1997	644.360,64
III/92	Evaluacion Externa Programa VOCA	La Paz	Ecologia & Empresa	1996	18.787,89
Reflujos III/85, III/86	Fondo de Contravalor por intercambio de Deuda Externa con Gob. Alemania	La Paz y Cbba.	FUND-ECO	1996-2006	1.650.000,00
III/86	Cuenta Fiduciaria p/establecer SNAP	Nacional	FONAMA	1993-Vigente	1.000.000,00
	Gastos funcionamiento SERNAP 1999	La Paz, Oruro, Tarija, Potosi, Sta. Cruz	SERNAP	1999- Vigente	575.807,00
Reflujos	Dotacion de Infraestructura y Equipamiento p/la Superintendencia Forestal	Nacional	Superintendencia Forestal	2000	515.075,00
<b>SUBTOTAL</b>					<b>8.453.618,41</b>
<b>GRAN TOTAL</b>					<b>18.715.293,71</b>

## Appendix F

### FONAMA/EAI Supported Projects

#### Cuenta Ambiental “Iniciativa para las Américas – EIA”

#### Résumen del Estado de los Proyectos Aprobados por el Consejo Administrativo

#### Listado de Proyectos por Departamentos

##### BENI

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
1	14	Demarcacion de la Linea Roja Territorio Indig. Parque Nal. Isiboro Secure	Centro investig y Documentac. Para el Desarrollo del Beni	CIDDEBENI	ONG	BEN	2	09/09/93	11.025,00
2	16	Apoyo Al Desarrollo de Los Chimanes Reserva de La Biosfera	Acad. Nal de Ciencias-Estacion Biologica del Beni	E.B.B.	ACAD/CIE NT	BEN	25	24/09/93	99.231,51

##### COCHABAMBA

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
3	21	Evaluacion Especies Nativas Cultiv. Andinos P/Extraccion Aceites Esenciales	Program Agroquimico Univ. Mayor de “San Simon”	UMSS/P.A.	ACAD/CIE NT	CBB	24	11/11/93	85.000,00
4	22	Base para el Manejo de Recursos Hidrobiologicos en Depto. CBB	Facultad Ciencias y Tecnolog. Univ Mayor de “San Simon”	UMSS-TECNOL.	ACAD/CIE NT	CBB	24	03/12/93	168.821,53
5	37	Manejo Integral Cuenca Rio Calicanto	Centro de Investigacion y Desarrollo Regional	CIDRE	ONG	CBB	15	20/09/95	64.853,00
6	39	Mejoramiento Piloto de la Conservacion Energ. En Industrias Rurales/CBB	Energia para el Desarrollo	Energetica	ONG	CBB	12	30/11/95	19.790,72
7	58	Manejo Agroforestral Microenueca “Muyukhocha”	Programa de Asistencia Agrobioenergetica al Campensino	PAAC	ONG	CBB	12	18/12/95	46.446,00
8	25	Accion Ecologia Infantil (AEI)	Centro de Comunicacion “Juan Wallparrimachi”	WALLPARRIMA CHI	ONG	CBB	12	05/10/94	46.446,00

## COCHABAMBA

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
11	53	Conservacion de la Ornitofauna Laguna Alalay	Centro Univ. De Ecologia Medio Ambiente y Desarrollo	CUEMAD-UMSS	ONG	CBB	12	17/04/96	60.884,00
12	68	Recoleccion Conservac Y Manejo Germoplasma Esp. Peligro Erosion Genetica	Fundacion Universit. "Simon I. Patino"/C.I.F. Painumani	C.I.F. PAIRUMANI	ONG	CBB	48	09/07/96	75.013,51
13	72	Reforestacion con Tunales en un Aprovechamiento Integral	Agroexportacion para todos	TUKUYPAJ	ONG	CBB	18	06/06/98	73.300,00
14	75	Evaluac. Activ. Biolog. Y Multiplicacion Plantas Medicinales Valles Bajos	Inst. De Invest. Farmaco quimicas UMSS-PROFAC	UMSS-PROFAC	ACAD/CIE NT	CBB	24	08/07/96	80.968,00
15	77	Manejo Agroforest en Cabeceras Microencas Muyu KH'Ocha y Hornillos	Programa Assitenc Agrobioenergetica al Campesino	PAAC	ONG	CBB	24	18/12/98	96.659,00
16	92	Estrategias del Prog. Forestal P/Secc Municipal de Independencia	Fund p/Autogest y el Medio Ambiente	FUPAGEMA	ONG	CBB	12	06/06/98	19.630,00
17	94	Proyect. De Capacit. Y Concient Ecologica a Unid. Educat. Fe y Alegria y Poblac	Celula Ecolog-Movim. Francisc "Justicia y Paz"	JUSTICA Y PAZ	ONG	CBB	12	16/03/98	19.433,00
18	101	Vivero Educativo (*)	Asociacion de Scouts de Bolivia	SCOUTS	O.B.	CBB	12	11/11/99	10.954,76
19		Manejo Integracion de la Zona de Rehabilitacion Ichilo	Asociacion de Trabajadores de Madera	ASTRAMA	O.B.	CBB	24		75.862,07
20		Los Yuracares su Conocimiento Experiencia y Utilizac. Rec. Vegetales en El Rio Chapare	Universidad Mayor "San Andres" (Instituto Ecologia)	UMSA-IE	ACAD/CIE NT	CBB	12		82.824,82

## CHUQUISACA

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
21	86	Gestion y Mejoramiento de los Recursos Forrajeros Nativos de Tomina	Proyecto apoyo al campesino en Microregiones	PRADEM	ONG	CHU	24	14/10/98	96.259,00
22		Recuperacion de Tierras Cultivables Erosionadas	Programa de desarrollo comunitario "PRODESCO"	PRODESCO	ONG	CHU	24		75.526,03
23	1	Banco de datos para la Conservacion de la Diversidad Biologica	Centro de datos para la Conservacion	C.D.C.	ONG	LPZ	12	22/04/93	43.250,00
24	2	Produccion de Matriales y Educacion Sanitaria	Centro de Servicios Integrados para el desarrollo urbano	PROA	ONG	LPZ	4	02/12/93	26.000,00
25	3	Estudio "Mujer y Medio Ambiente" en la Provincia Pacajes	Servicios Tecnicos para la Mujer	SETAM	ONG	LPZ	12	24/06/93	50.420,00
26	15	Rehabilitacion de Takanas en Comunidades Campesinas del Altiplano Norte	Centro de Servicios Agropecuarios	CESA	ONG	LPZ	12	20/09/93	27.540,00
27	20	Conservacion Ambiental y Valoracion Etnobot y Etnofarm en Bolivia (I)	Instituto de Investigaciones Quimicas	USMA-IIFB/IBBA/IIQ	ACAD/CIE NT	LPZ	24	05/10/93	203.904,00
28	23	Educacion Sanitaria y Calidad Ambiental	Centro de Servicios Integrados para el Desarrollo Urbano	PROA	ONG	LPZ	8	30/08/94	34.320,90
29	27	Fricultura Forestacion y Capacitacion en Comunidad Avircato	Promocion Sudamericana p/Desarrollo Economico y Social	PROSUD	ONG	LPZ	12	30/08/94	43.793,00
30	28	Mejoramiento del Medio Ambiente y Agroforesteria en Alto Beni	Asociacion Industrial de Productores del Tropico Boliviano	AGROTROPICO	ONG	LPZ	20	30/9/94	128.314,80

## CHUQUISACA

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
31	4	Conservacion de Suelos en la Provincia Pacajes	Servicios Multiples de Tecnologias Apropriadas	SEMTA	ONG	LPZ	36	24/06/93	96.760,00
32	6	Contratos para el uso de Plantas y Recursos Intelectuales Areas Tropicales	Instituto para el Desarrollo Sostenible de la Amazonia	IDSA	ONG	LPZ	10	28/06/93	52.000,00
33	13	Investigacion y Conservacion de Bosques del Parque Arq. Choquercamiri	Academia Nal. de Ciencias de Bolivia-Herbario Nal.	ANCB(HNB)	ACAD/CIE NT	LPZ	12	31/08/97	29.691,00
34	18	Exhibicion Latinoamericana "Nuestros Bosques Nuestra Herencia"	Acad. Nal. de Ciencias-Museo Nal. de Historia Natural	MNHN	ACAD/CIE NT	LPZ	14	29/09/93	77.115,79
35	19	Estud. Contamin. Lago Poopo-Metales Pesados Cad. Trofica Incluye Hombre	Instituto de Ecologia Universidad Mayor de "San Andres":	UMSA-IE	ACAD/CIE NT	LPZ	12	04/10/93	107.280,00
36	26	Refuerzos Biblioteca y Servicio de Informacion	Liga de Defensa del Medio Ambiente	LIDEMA	ONG	LPZ	36	19/10/94	39.020,00
37	30	Ecologia en Bolivia – Editorial Cientifica (I.E.)	Fundacion para el Desarrollo de la Ecologia	FUND-ECO (I.E.)	ONG	LPZ	24	15/12/94	83.574,00
38	34	"Area Verde" en la Revista Nueva Mente	Asociacion Cultural "Gran Fraternidad Universal"	G.F.U.	ONG	LPZ	24	09/01/95	25.000,00
39	35	Problematica Forestal en Areas Proteg. Conserv. Divers. Biologica en Bolivia	Centro de Datos para la Conservacion/Inst. Tropico	CDC-TROPICO	ONG	LPZ	18	31/08/95	94.010,00
40	41	Aplicacion Paquete Educativo para Lograr una Calidad Ambiental	Centro de servicios Integrados para el Desarrollo Urbano	PROA	ONG	LPZ	19	14/08/96	118.634,50
41	44	Formacion y Preservacion del Medio Ambiente de los Ayllus	Centro Andino de Desarrollo Agropecuario	CADA	ONG	LPZ	24	08/07/96	25.885,36
42	62	Rehabilitacion y Mejoramiento de Taqanas (Terrazas) del Valle Andino	Centro de Educacion Campesina de Bases	C.E.C.B.	O.B.	LPZ	18	22/08/96	19.994,00
43	63	Estacion Piloto de Deteccion y Analisis de la Radiacion Ultravioleta	Planetario "Max Schreier" – Univ. Mayor de "San Andres"	UMSA/IIF	ACAD/CIE NT	LPZ	12	14/03/96	19.789,47
44	66	Difusion Cocinas Lorena en Provincias Loayza y F. Tamayo	Promocion Sudamericana p/Desarr. Economico y Soc. Rural	PROSUD	ONG	LPZ	8	13/01/97	19.268,00
45	71	Conservacion Ambiental P/Valorac. Etnobot-Etnofarmac En Bolivia (II)	Institutos de Unvestgacion-UMSA	UMSA-IIFB/IBBA/IIQ	ACAD/CIE NT	LPZ	12	02/09/96	119.812,00
46	97	Capacitacion de Productoras de Programas Radiales en Medio Ambiente	Centro de Investigacion y Cooperacion Regional	CINCOR	ONG	LPZ	4	29/06/98	9.287,00
47	24	Centro Informacion y Documentacion Agroecologia	Asociacion de Instituciones de Promocion y Educacion	AIPE-CIDAE	ONG	LPZ	36	12/10/94	112.783,00
48	43	"WINAY ALY" (*)	Central de Productores Agropecuarios	CENT. PROD. AGROP.	ONG	LPZ	36	21/08/97	79.618,00
49	50	Construccion y Rehabilitacion Terrazas Pinchas	Centro de Promocion y Capacitacion de la Mujer	CEPROMU	ONG	LPZ	36	30/10/96	151.320,09
50	56	Desarrollo Agroecologico Comunidades de Puerto Acosta	Centro de Servicios Agropecuarios	CESA	ONG	LPZ	36	08/07/96	111.758,49
51	61	"KURMI" (Produccion Forestal en El Centro Laca Laca) (*)	Centro de Organizacion de Mujeres en Cultura Artesanal	COMCA	O.B.	LPZ	24	02/09/97	43.853,08
52	70	Recup. Suelos Salinos y/o Sodicos con Implantacion Kauchi Prov. Villarroel	Centro de promocion y cooperacion "Yunta"	YUNTA	ONG	LPZ	24	08/07/96	73.172,00



<b>CHUQUISACA</b>									
No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
53	73	Manejo y Conserv. Bco. Germoplasma Papas Nativas (Amarg. Y Dulces) Altip L.P.	Estacion Experimental Belen-UMSA	UMSA-E.E. BELEN	ACAD/CIE NT	LPZ	36	08/07/96	42.722,74
54	78	Medicion/Estud. De Gases Relacionad. Radiacion Solar y Efecto Invernadero	UMSA-Instituto de Investigaciones Fisicas	USMA-IIF	ACAD/CIE NT	LPZ	9	27/02/98	98.097,02
55	83	Cosecha de Aguas en Zona Corocoro Mediante Construc. Reservorios de Agua	Servicios Multiples de Tecnologia Apropiada	SEMTA	ONG	LPZ	24	05/05/98	84.685,00
56	88	Diagnost. Partic. RRNN y Patrim. Cult. Parq. Nal. y Area Natur Manej. Integ. "COTAPATA"	Asociac Bolivian p/conserv. Centr. Datos p/Conserv.	TROPICO-CDC	ONG	LPZ	13	27/07/98	90.088,00
57		Program Permanente de Educacion Ambiental (PPEA)	Fundacion Cultural "Quipus"	QUIPUS	ONG	LPZ	30		247.597,93
58		Proyecto Comunitario Floricultura y Forestacion en Huaricana	Promoc. Sudamericana Desarr. Economico y Social	PROSUD	ONG	LPZ	12		92.431,06
59		Construccion y Manejo de Terrazas Agricolas-Takanas	Centro Investig. Y Fomento uso Integrado RRNN	CIFREN	ONG	LPZ	18		88.600,44

## MULTIDEPARTMENTAL

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
60	74	Escuela y Calidad Ambiental	Centro Interdisciplinario de Estudios Comunitarios	CIEC/PROA	ONG	MULTID EP	16	03/03/97	99.985,32
61	87	Contaminac por Mercurio Desechad M.A. P/Activid Auriferas Cuenca Rio Beni	UMSA-Instituto de Investigaciones Quimicas	UMSA-IIQ	ACAD/CIE NT	MULTID EP	24	14/10/98	46.810,24
62	91	Becas P/Invest Medidas Prevenc O Mitigac Impact Ambient Negativ Sect. Indust	Geologia Ambiental y Recursos Naturales	GEARENA	ONG	MULTID EP	25	08/09/98	96.180,180.09
63	82	Biodiversidad Acuatica en la Cuenca Amazonia Boliviana	Proyecto apoyo al campesino en Microregiones	FUND-ECO	ONG	MULTID EP	30		201.184,00

## ORURO

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
64	7	Inventariacion y Estudio Efluentes Sector Minero/Metalurg Depto. Oruro	Asociacion "Agua Andina"	Agua Andina	ONG	ORU	6	01/07/93	49.620,00
65	47	Proteccion Forestal y Camelidos (*)	Federacion de Ganderos del Altiplano	FEGAL	O.B.	ORU	24	27/01/97	51.708,00
66	80	Recuperacion Suelos. Praderas y Forest. Plantas Halofilas	Asociacion no Gubern para el Desaa Integral Nacional	ANDINA	ONG	ORU	12	18/02/98	93.264,00
67	106	Presrvacion y Ampliacion de Biofedales	Asociacion "Yanapanaku"	YANAPANACU	ONG	ORU	24	26/11/99	92.416,11
68	98	Regeneracion y Multiplicacion Masiva de Kenua Mediante Tecnicas in Vitro	Unversidad Tecnica de Oruro	U.T.O.	ACAD/CIE NT	ORU	11		19.993,00

## PANDO

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
69	64	Las Quemadas en Pando y sus Consecuencias Ecologicas Sanitarias	Unversidad Amazonia de Pando	Univ. Amaz. PANDO	ACAD/CIE NT	PAN	4	08/07/96	16.288,42
70	100		Ecologia-Salud-Medio Ambiente	ESAMA	ONG	PAN	6	11/05/99	16.847,37

## POTOSI

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
71	33	Evaluacion de la Contaminacion en Aguas y Suelos Princip. Subcuenc Potosi	Unversidad Autonoma "Tomas Grias" – Ing. Geologica	UATF	ACAD/CIE NT	PTS	18	14/03/95	190.440,93
72	49	Conservacion y Recuperacion de Suelos (*)	Federac. Sind. Unica Trab Camp – Norte de Potosi	FSUTC-NP	O.B.	PTS	24	02/09/97	54.058,50
73	79	Cosecha de Aguas y Manejo de Microcuencas	Accion Cultural Loyola–Potosi	ACLO-POTOSI	ONG	PTS	36	22/06/98	58.114,60
74	96	Proteccion y Conservacion de la Especie Forestal Quenua (Polylepis tomentella)	Centro de Investigacion y Apoyo al Campesino	CIAC-TUPIZA	ONG	PTS	12	25/09/98	19.460,33
75	99	Produccion Apicola en la Comunidad de Titala Corasi	Sociedad Potosina de Ecologia	SOPE	ONG	PTS	12	08/09/98	10.817,52
76	42	Desarrollo Forestal en la Provincia Modesto Miste	Centro de Promocion para el Desarrollo y Educacion Rural	CENPRODER-PRODESU	ONG	PTS	18		46.035,00

## SANTA CRUZ

No.	COD	TITULO DEL PROYECTO	INSTITUCION	INSTITUCION	CATEG.	DEPTO	TIEMPO	F/I	PRESUP.
77	5	Inventariacion de Vegetales y Flora del Parque Nal. "Noel Kempff M"	Museo de Historia Natural "Noel Kempff M" (U.A.G.R.M.)	MHN"NKM"	ACAD/CIE NT	SCZ	12	28/06/93	90.818,00
78	32	Sistemas Agrosil Volpastoriles en "YAPACANI"	Servicios Integrales Agropecuarios	SERVIAGRO	ONG	SCZ	18	02/21/94	131.534,12
79	12	Conservacion de la Diversidad Biologica en Bolivia	Fundacion Amigos de la Naturaleza	FAN	ONG	SCZ	7	31/08/93	65.000,00
80	31	Implementacion de Viveros Forestales con Especies Nativas e Introducidas	Fundacion Integral de Desarrollo	FIDES-PRODEPA	ONG	SCZ	24	24/01/95	66.355,64
81	36	Investigacion Sobre Flora y Vegetac. Del Parque Nal. "Noel Kempff M"	Museo de Historia Natural "Noel Kempff M" (U.A.G.R.M.)	MHN "NKM"	ACAD/CIE NT	SCZ	24	13/11/95	201.730,00
82	40	Agroforestal 'CONCEPCION'	Apoyo para el Campesino Indigena del Oriente Boliviano	APCOB	ONG	SCZ	36	13/11/95	83.452,00
83	51	Repoblamiento Forestal "IGUASURENDA"	Centro de Investigacion y Promocion al Campesinado	CIPCA-SCZ	ONG	SCZ	24	13/11/96	26.411,40
84	65	Estudio Fauna Vertebrados e Inverteb. Como Controles Biolog. Vector Chagas	Universidad Autonoma "Gabriel Rene Moren" Fac. Salud	UAGRM/FAC.SA LUD	ACAD/CIE NT	SCZ	12	30/05/97	16.000,00

**SANTA CRUZ**

<b>No</b>	<b>COD</b>	<b>TITULO DEL PROYECTO</b>	<b>INSTITUCION</b>	<b>INSTITUCION</b>	<b>CATEG.</b>	<b>DEPTO</b>	<b>TIEMPO</b>	<b>F/I</b>	<b>PRESUP.</b>
87	85	Participacion Popular en la Gestion Ambiental Municipal	Centro de Promocion Agropecuaria Campesina	CEPAC	ONG	SCZ	24	16/03/98	71.890,49