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CONSERVATION INTERNATIONAL

USAID "Biodiversity in Regional Development " (BiRD) Cooperative Agreement LAG-A-00-98-00059-00

January 15, 2001 FY00 Semi-Annual Report

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Conservation International
1919 M Street NW, Suite 600
Washington, DC 20036

Biodiversity in Regional Development (BiRD)

Cooperative Agreement No. LAG-A-00-98-00059-00

January 23, 2001

Ms. Cynthia Gill
Biodiversity Specialist
Global Bureau, Environment Center
USAID
Ronald Reagan Bldg 3.08-151
1300 Pennsylvania Ave., NW
Washington, DC 20523-3800

Re: January 15, 2001 Semi-Annual Report

Dear Cynthia,

Please find attached two copies of the January 15, 2001 Semi-Annual Report for Conservation International's *Biodiversity in Regional Development (BiRD)* project. This report covers the period from April 1, 2000 through September 30, 2000 for activities completed under our cooperative agreement with USAID/Global Bureau, Cooperative Agreement No. LAG-A-00-98-00059-00.

Please note that there are several "Report Bolivia" files in addition to a few Brazil documents which are not included in the Semi-Annual Report document due to their lengthiness. They will be forwarded both electronically and in hardcopy format as separate documents along with the Semi-Annual Report to the Global Bureau and to the Bolivia and Brazil Missions respectively.

I am submitting this report both in email format to you directly, as well as in hardcopy format via the US Postal Service. I look forward to answering any of your questions or providing more detailed information as requested. I can be reached at (202)912-1407 or via email at t.drake@conservation.org.

Best regards,

Theresa M. Vermeulen Drake
Manager, USAID Program Management

CC: Cynthia Gill, USAID/G/ENV
D. Mason, USAID/Bolivia
E. Stoner, USAID/Brazil
A. Paterson, USAID/Indonesia
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USAID/CDIE/DI

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Conservation International
Biodiversity in Regional Development (BiRD)

January 15th Semi-Annual Report
FY00: April 1, 2000 – September 30, 2001

Biodiversity in Regional Development (BiRD)
Cooperative Agreement No. LAG-A-00-98-00059-00

Introduction

This report covers the second six-month period of FY00 from April 1, 2000 through September 30, 2000 for activities completed under the USAID BiRD cooperative agreement. For FY00, obligated funding for the BiRD cooperative agreement supported activities in Bolivia, Brazil, Indonesia, and Papua New Guinea.

Highlights

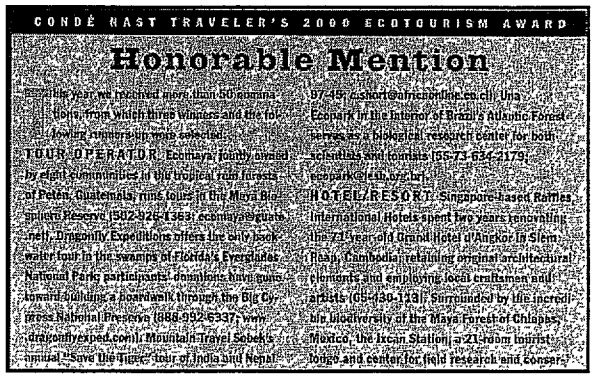
1) CI-Bolivia

- Some of the most important results of the BiRD Project in Bolivia during FY00 include: the results obtained from the collection and systematization of existing secondary data about natural resources; the execution of biological and ecological impact studies; socioeconomic analysis of threats, development policies and public opinion; the design of a monitoring program; the establishment of a GIS database; and the design and implementation of a communications strategy for Madidi National Park.

- Another important aspect to mention is that the results for the first year of the BiRD project are due to the close collaboration between CI-Bolivia and the Direction of the PN ANMI Madidi, Servicio Nacional de Áreas Protegidas (SERNAP), and other organizations and individuals (professionals, students and local experts) - all who have collaborated and supported the work in Madidi National Park.

2) CI-Brazil

- In July, the Una Ecopark received an "Honorable Mention" in the Sixth Annual Condé Nast Traveler Ecotourism Award – USA. The Ecopark also received outstanding note as one of the best "Cocoa Coast Ecotourism Tours" in the "Quatro Rodas 2000" guide-book.


CONDÉ NAST TRAVELER'S 2000 ECOTOURISM AWARD

Honorable Mention

This year we received more than 50 nominations, from which three winners and the following runners-up were selected:

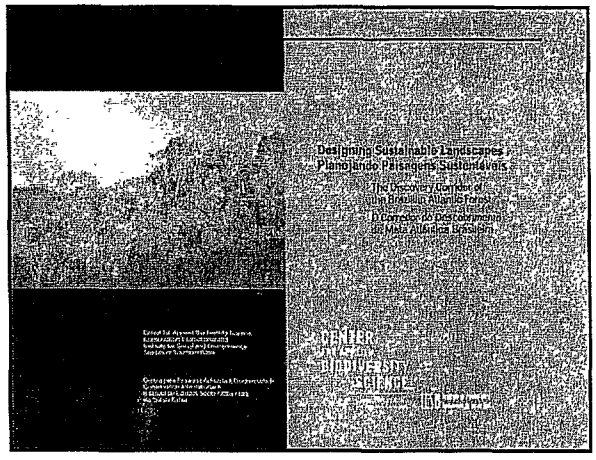
TOUR OPERATOR: Ecomaya, jointly owned by eight communities in the tropical rain forests of Petén, Guatemala, runs tours in the Maya Biosphere Reserve (502-926-1363; ecomaya@guate.net). Dragonfly Expeditions offers the only book-a-water tour in the swamps of Florida's Everglades National Park; participants' donations have gone toward building a boardwalk through the Big Cypress National Preserve (888-992-6337; www.dragonflyexped.com). Mountain Travel Sobek's initial "Save the Tigers" tour of India and Nepal

97-49; ecshort@africaonline.co.ci). Una Ecopark in the Interior of Brazil's Atlantic Forest serves as a biological research center for both scientists and tourists (55-73-634-2179; ecopark@ceb.uvc.br).

HOTEL/RESORT: Singapore-based Raffles International Hotels spent two years renovating the 71-year-old Grand Hotel d'Angkor in Siem Reap, Cambodia, retaining original architectural elements and employing local craftsmen and artists (65-430-1313). Surrounded by the incredible biodiversity of the Maya forest of Chiapas, Mexico, the Lacan Station, a 21-room tourist lodge and center for field research and conser-

- In April, IESB took over the coordination of the Atlantic Forest Biosphere State Committee, the institution responsible for the administration of the Ecological Corridors Program in the state of Bahia. Twelve Governmental and NGO institutions participate in the Committee, which will administrate a PPG-7 fund.

- Keith Alger published the booklet "Designing Sustainable Landscapes". It was published in collaboration with IESB, CI and the World Bank Development Research group (DECRG). Funding was provided by the Brazilian Ministry of the Environment's Conservation and Sustainable Use of the Brazilian Biological Diversity project (PROBIO), DECRG and CI's Center for Applied Biodiversity Science (CABS). The publication focuses on a landscape-level biodiversity corridor proposal for the coast of Southern Bahia and Northern Espirito Santo, one of the most endangered ecosystems in the world.



- In September, IESB, in partnership with UESC and UFBA, organized a regional seminar on the production and commercialization of organic products. The event assembled 240 rural producers. As a result, the Sustainable Agriculture State Commission was created—a legal requirement for the establishment of the State Certification Institutions—which could lead the installation of a Certification Office in Bahia, reducing the cost of certifications for the farmers.

- In August, IESB's work was a cover story in an issue of the *San José Mercury News*, a leading daily newspaper of Silicon Valley.

- IESB concluded its project with the State of Bahia promoting environmental education and ecotourism in the APA of Itacaré-Serra Grande funded by the State of Bahia. For 16 months, IESB maintained a monthly newsletter which introduced a strong environmental conservation culture around the Serra do Conduru State Park. In the 16th Newsletter, the environmental education team asked local people their opinion of the program. Part of these interviews is reproduced below:

  "The Environmental Education Program gave to the local people a precise idea of the value of preservation, now it is up to all of us not to let this work die in order to better maintain our healthy environment...Today we can see how the children and most of the adults value the place where they live and are proud to live in a APA (Environmental Protected Area). It must not stop, this program must by no means stop. Let's roll up our sleeves and give continuity to this important work."

3) CI-Indonesia

4) CI-Papua New Guinea

- The Kamea/Watut people of Tekadu and Nukeva have decided on boundaries for the Ivimka Research Station. The boundaries were determined during a meeting among the Kamea/Watuts of Tekadu and Nukeva villages at the Ivimka Research Station (IRS). The landowners of the IRS gathered and indicated on their map the boundary of the research area at Ivimka and presented it to the other Kamea/Watuts for approval. Eventually, the villagers developed a consensus map on land and resource uses in their area. In the process, several landowners indicated that they wanted conservation work extended onto their lands, which they also included on the map. The project officers will continue to consult with the landowners and do a proper boundary description of the research area in FY01.

- The people of Tekadu and Nukeva agreed on land and resource use maps for incorporation into project planning and implementation. This is a direct result of CI's efforts to involve the local Kamea communities in regional development planning.

- Discussions are under way among the Kamea/Watuts on the establishment of a Wildlife Management Area (WMA) on their lands, including the area surrounding the Ivimka Research Station. CI-PNG will be raising awareness of WMAs this year and working to organize community involvement in the process.

Progress by Activity Component

1) CI-Bolivia

Objective 1:
Increase scientific understanding of Madidi National Park's biodiversity in order to raise awareness of the Park's importance and counteract existing threats.

Activities:

A) In conjunction with the Institute of Ecology (Instituto de Ecología), CI-Washington, CI-Peru, General Directorate for Biodiversity (Dirección General de Biodiversidad), Madidi National Park, Bolivian scholarship students and local communities, CI-Bolivia will complete the GIS-database for Madidi National Park, including its Multiple Use Zone and Buffer Zone. This database will be used for planning purposes and for monitoring and evaluation - highlighting the threats to the Park. More specifically, this activity will include: FY00-01.

A1) Completion of a GIS database initiated in year one, and further compilation of geographic information, including historical data (including satellite imagery already in existence).

FY00 Obj1 A1	O	N	D	J	F	M	A	M	J	J	A	S
Hire GIS technician	X											
Input of information in text format into GIS database		X	X	X	X	X	X	X	X	X	X	X
Map the human settlements areas			X	X								
Map the slash and burnt areas			X	X							X	X
Input BALA impact assessment into GIS database			X									
Input La Paz Dept. land-use plans into GIS database			X	X								
Map the mining concessions and other mining areas			X	X					X	X		
Map the Madidi tourism trails		X	X	X	X	X	X	X	X	X	X	X
Input (Madidi) road impact assessment into GIS database		X	X	X								
Input vegetation map (large scale) into GIS			X	X					X	X		
Input human settlements located within Madidi into GIS database								X	X	X	X	
Buy digital satellite imagery	X	X										
Process satellite imagery	X	X	X									
Purchase satellite imagery processing software	X	X										

Progress to-Date:

During the first six month period of the FY00, accomplishments include: the hiring of the GIS technical staff person; the digitization of the basic cartography 1:100.000, the development of simulation models for the Bala's Hydroelectric Project, the assessment of the existing secondary information; and inter-institutional coordination meetings to share information were carried out.

The work performed during the second six month period of the FY00, has allowed CI-Bolivia to obtain and feed the database for the PN ANMI Madidi and the area of influence (5 – 10 Km from the established limits) with the following information:

- Old unplanned human settlements (ownership rights in sanitation process)
- Identified areas for new human settlements
- Capacity for Major Use of the Land
- Forestry coverage by Forest Units
- Oil concessions
- Mining concessions
- Private and community forestry concessions
- Populated centers
- Existing primary and secondary roads and projected roads
- Political division
- Generalized eco-regions
- Biological studies of fish, small mammals, herpetofauna, epiphytes
- Ethnographic study of the Leco Indigenous population
- Threats analysis
- Development policies study
- Socioeconomic study of human settlements
- Public opinion study about awareness, attitudes and practices regarding Madidi Park
- Study about environmental monitoring indicators
- RAP 1992 study
- Proposal of the Plan for Soil Use
- Tourist sites and camps
- Taxonomic sub orders of Prevalent Soils
- Community Origin Lands
- Land Units
- Areas of holdridge life

With the existing information in the PN ANMI Madidi database, seventeen thematic maps for Madidi National Park's area of influence for the BiRD project have been generated. All the thematic maps are attached to this report (see Attachments Bolivia-1 and 1a).

With the purpose of supporting the threats analysis, the monitoring program and other specific studies; digital satellite imagery from 1993-1994 and ERDAS image software have been purchased. Currently, the purchase of new satellite imagery (from 1999-2000) is being coordinated with the Biology Department at George Mason University and other institutions. It will be provided in the first six-month period of FY01.

During the last month of the FY00, after the database was completed (in its first stage) this information was delivered, in printed and digital documents, to the following institutions:

- National Service of Protected Areas (Servicio Nacional de Áreas Protegidas)
- Management of the National Park Natural Area of Integrated Management Madidi (Direction of the PN ANMI Madidi)
- Prefectura del Departamento de La Paz
- City Hall of Ixiamas, San Buenaventura and Apolo
- Institute of Ecology
- Research Center in Development Sciences of Universidad Mayor de San Andres
- Wildlife Conservation Society
- Wildlife World Fund
- National Institute of Agricultural Reform (Instituto Nacional de Reforma Agraria)
- CARE
- USAID Bolivia Mission

The activities planned for this component during the second year are related to the permanent and continuous feeding of the database, with the information generated by the project itself and other institutions, as well. Simultaneously training in the use and handling of the database will be provided to the strategic partners, to whom all the information has been presented (according to the requirements).

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 1, Activity A-A1

1. GIS database for the Madidi National Park updated and ongoing **(Partially Completed).**
2. Geographic information compiled (**Completed**).

B) *Complete targeted biological research and ecological impact assessments. This activity will be carried out by both Bolivian scientists and Bolivian scholarship students, with direction provided by the Institute of Ecology and CI-Bolivia. In addition to original scientific research in Madidi National Park. Results of the targeted research and assessments will be peer-reviewed and published in professional scientific journals. FY00-01.*

B1) Targeted biological research will include:

a) Fish inventory of the Tuichi River FY00.
b) Small rodent and epiphytes inventory/study FY00.
c) Ethnic-botanical study of Madidi using the vegetation map FY01.
d) Coordinate with other NGOs and institutions working in the area, such as WCI who is running a program entitled "Ecosystem Species" focused on large mammals, to gather complimentary biological and ecological data and research. FY00-01.

B2) Ecological and/or environmental impact assessments and monitoring of the following:

a) Monitoring of gold-mining along the Tuichi River and assessment of its contamination impacts. FY00.
b) Monitoring of future prospective oil exploration and production using the environmental impact assessment done by TOTAL INC. during their exploration phase. FY01.

FY00 Obj1 B1 a	O	N	D	J	F	M	A	M	J	J	A	S
Fish Research; Tuichi River Contamination Research												
Put together Research Team	X											
Develop Research Plan		X										
Select Graduate Students				X								
Conduct Research					X	X	X	X	X	X	X	X
Graduate Student Theses Research completed; documents completed							X	X	X	X	X	X
Publish Results												X

FY00 Obj1, B1, b	O	N	D	J	F	M	A	M	J	J	A	S
Small Rodent Research												
Put together Research Team	X											
Develop Research Plan		X										
Select Graduate Students				X								
Conduct Research					X	X	X	X	X	X	X	X
Graduate Student Theses Research completed; documents completed												X
Publish Results												X
FY00 Obj1, B1, b	O	N	D	J	F	M	A	M	J	J	A	S
Epiphytes Research												
Put together Research Team	X											
Develop Research Plan		X										
Select Graduate Students				X								
Conduct Research					X	X	X	X	X	X	X	X
Graduate Student Theses Research completed; documents completed												X
Publish Results												X
FY00 Obj1, B2	O	N	D	J	F	M	A	M	J	J	A	S
Fish Research; Tuichi River Contamination Research												
Put together Research Team	X											
Develop Research Plan		X										
Select Graduate Students				X								
Conduct Research					X	X	X	X	X	X	X	X
Graduate Student Theses Research completed; documents completed												X
Publish Results												X

Progress to-Date:

B1) During the first six-month period of the FY00, an agreement was signed with the Institute of Ecology (IE) for the selection of students and professionals from the Universidad Mayor de San Andrés to perform biological studies. In addition, the selection of the research areas was coordinated with Wildlife Conservation Society (WCS); all of the legal requirements from the Dirección General de Biodiversidad (DGB) and the Servicio Nacional de Áreas Protegidas (SERNAP) were followed. Following this, both the studies of small mammals and herpetofauna in the area near the Serranía El Tigre, and the ethnographic study of the Leco Indigenous Community in the Apolo Municipality were carried out.

Between April 17th and May 5th, the first epiphytes research work was completed in Serranía Eslabón and in the Chalalan hiking trails for tourists. From August 9th to 11th, the second epiphytes study was completed along the new road between Tumupasa - San José de Uchupiamonas. The fish study was completed between July 22nd and August 8th in the Chalalan and Santa Rosa lakes, both of which are located near the Tuichi River basin. The most important results from the completed biological studies were the ones related to epiphytes, where three new species were identified for science and five new species for Bolivia. Complete reports of the performed biological studies are attached (Report Bolivia-1 through 1e; will be provided to USAID and are not included as attachments).

B2) Initially, it was believed that there would be no prospecting, exploration or exploitation activities of hydrocarbons inside the PN ANMI Madidi and the area of influence. Therefore, for now, we do not believe it is necessary to perform specific analysis of possible ecological and environmental impacts. With mining however, it is necessary to perform studies in order to evaluate the ecological and environmental impacts. Therefore, in coordination with the Institute of Ecology (IE) and the Institut de Recherche Pour le Development (IRD) the study of water contamination, sediments, fish and human hair; was initiated in the basin of the Tuichi river and in the communities of Asariamas and San José de Uchupiamonas.

This research, initiated on June 16th, will conclude on December 2000, during FY00. However preliminary results show that the contamination levels in the basin of the Tuichi River are below, but close to the limits established by the World Health Organization (WHO). Information obtained from other projects that do studies in the basin of the Beni River, of which Tuichi River is tributary, confirm that the contamination levels are between 2 to 5 times higher than the limits established by WHO. The studies that are being carried out in the basin of the Tuichi River and in the Asariamas and San José de Uchupiamonas communities are a complementary part of student Lucia Alanoca's bachelor's degree thesis for the Chemistry Engineering Faculty.

Claudia Cardona, who is a student of George Mason University, is developing another ecological impact study. She has also completed a study on ecological and environmental impacts caused by the human settlements in the communities of El Tigre and 5 de Junio. The results of her work will be published during the FY01, after the defense of her Magister of Science thesis.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 1, Activity B, B1-2

1. Targeted biological research and ecological assessments carried out. **(Completed)**
2. Theses completed **(Completed).**
3. Results published in scientific journals. **(Not Completed).**

C) *In collaboration with local communities and other stakeholders, CI will design a long-term monitoring and evaluation program which will be fed information from different sources, that will be applied (e.g.) in the Madidi Management Plan and others.*

FY00 Obj 1 C	O	N	D	J	F	M	A	M	J	J	A	S
Monitoring Workshops with the local communities					X							
Develop initial Monitoring program					X	X						
Input solicited from Botanist and Zoologist (meetings/workshop)						X						
Solicit further international and/or national financing						X	X	X	X	X	X	X

Progress to-Date:
In the second six-month period of FY00, the threats monitoring program for PN ANMI Madidi and its area of influence, was developed with the participation of an interdisciplinary team formed by biologists, economists, agronomists, communicators and expert farmers. The variables and indicators that will be monitored in the mid- and long-term were identified for all the planned studies (biological studies, socioeconomic assessment of development policies and public opinion). The proposal for Threats Monitoring Indicators (Report Bolivia-2; will be provided to USAID and is not included as an attachment) contains the preliminary information for the first year. Nevertheless, it is necessary to incorporate into the

proposal, variables and indicators for the monitoring of the flora, fauna and collection and hunting activities in the communities. During FY01, CI-Bolivia plans to add a full-time biologist to the team in order to incorporate the variables and indicators for flora, fauna and collection and hunting activities. At the same time, the work will be developed in farmer communities in order to pilot implement the monitoring program. Once the proposal for the monitoring program is completed, CI-Bolivia, in coordination with other stakeholders, expects to implement it during FY01.

Problems, delays, shortfalls and proposed solutions:

The delay in the design and implementation of the monitoring program is due to the existence of fear and susceptibility in the communities, when sharing their information. With the purpose of avoiding the problems that took place during the first six-month period of FY00, informational meetings will be held with the community members in order to make them understand the advantages and benefits of the implementation of a monitoring program. In addition, CI-Bolivia will coordinate meetings with the communities in order to provide explanations about the information and the way this information is obtained.

FY00 Outputs/Benchmarks for Objective 1, Activity C

1. Monitoring and evaluation program designed with the community **(Completed).**
2. Data collection to be used in implementation phase from community **(Completed).**

Objective 2:
Influence economic and policy decisions in Bolivia to counter threats to Madidi National Park.

Activities:

A) *CI-Bolivia proposes to carry out economic and policy analyses, utilizing accumulated data, in order to understand the forces that influence regional and local land use decisions. Analyses will be used to demonstrate the economic benefits associated with protected areas and the impacts of proposed development projects which threaten the biodiversity of the Park. Topics for analysis will be defined by threats determined to be most critical. FY00-01.*

A1) Complete thorough social, economical and political study. FY00-01.

A2) In conjunction with other partners working in the area, such as CARE and WCS, CI-Bolivia will carry out a baseline threats analysis of Madidi National Park. FY00-01.

FY00 Obj2 A1	O	N	D	J	F	M	A	M	J	J	A	S
Develop monitoring and evaluation plan	X											
Develop baseline analysis of human settlements (social, economic and political context)		X	X	X	X	X						
Develop mitigation plan							X	X	X	X	X	X
Begin Incorporation into overall monitoring and evaluation program (see Obj. 1C)										X	X	X
FY00 Obj2 A2	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**
Gather information	X	X	X	X	X	X	X	X	X			
Develop Threats Analysis documents	X	X							X			
Internal meetings within CI-Bolivia and others stakeholders to discuss results								X		X		
Begin dissemination of results		X			X		X				X	X

Progress to-Date:

A1) During the first six-month period of FY00 the methodology to be used for the socioeconomic analysis was designed, the study area was divided by zones and all the existing secondary information was reviewed. During the second six-month period of FY00, the socioeconomic analysis of human settlements located inside and outside of the PN ANMI Madidi (inside the buffer zone of the project) was carried out with the collaboration of the PN ANMI Madidi Park Administration, forest rangers, community representatives, local experts and project consultants (37 people in the whole team).

The sample covered 3 - 5% of the target population; this being a representative sample if we take into account that the quantitative study is based on statistical information and is backed with the qualitative study. The socioeconomic analysis in the field was carried out during May, June and July (Report Bolivia-3; will be provided to USAID and is not included as an attachment).

After applying three criteria to identify representative human settlements (community's location, kind of settlement and productive economic activity), the results of the socioeconomic analysis were grouped into three main indicators:

- Population pressure: Demographic Indicator that allows measuring and analyzing the level of human threats that each town or village represent for the PN ANMI Madidi. Indicators include variables for total population, growth rates, and migration and population density.

- Poverty incidence: Indicator of human development that allows the identification of the degree of dissatisfaction with basic needs of the population, and their analysis in relation to environmental conservation and the capacity to carry out sustainable economic alternatives to improve their own life conditions.

- Economic income: Indicator of economic development that allows the identification and measurement of the economic gain from sustainable economic alternatives versus traditional activities that represent human threat, based on the calculation of annual average incomes per family according to the type of activity.

Socio economic Indicators of the Municipalities of the PN ANMI Madidi and the area of influence

Municipalities	Total Population	Poverty Incidence	Percapita Economic Income GNP ($us)*
Ixiamas	8.890	98.99 %	643
San Buenaventura	6.255	89.06 %	658
Rurrenabaque	12.766	82.84 %	2.234
Apolo	14.203	95.77 %	686
Pelechuco	5.230	97.53 %	784
Total for the Area	47.344	92.82%	789

Source: Atlas Estadístico de Municipios de Bolivia. COSUDE.1999
* Indicators for Human Development. PNUD.1999

The following are some of the most important results presented by the study:

- Population Pressure in the PN ANMI Madidi and the area of influence is not significant if it is analyzed within the national context. However, it becomes more relevant if its potential growth and concentration within the limits of the PN ANMI Madidi is analyzed according to the economic activities, mainly extractive, that are being currently developed in the area, such as mining and natural resources exploitation (soils, water, fauna and flora) and the "unsustainable" agricultural and livestock system, based on the overexploitation of soils and expansion of the areas for agricultural production.

- There is a high percentage of poverty in the area of influence of the project. More than 90 % of the population lives in extreme poverty, with unmet basic needs in the areas of housing, basic services, health and education. Families living in such conditions, consider it normal to exploit natural resources for their subsistence. This situation associated with the lack of employment opportunities for young people, impedes the socioeconomic development of the local population.

- In the area of influence of the project, the most important economic activity is agriculture which is carried out by 80% of the population. The productivity index is low and therefore family income is also low (about $US400 per year). This rebounds in the expansion of the areas for agricultural production and in the search of a secondary employment (mainly for young people) in mainly extractive activities,: mining in the southern area and forestry exploitation in Northeast area. Only 3% of the populations have an average income above $US2000 dollars per year. Most of these families live in the area of influence, and they work in agricultural and livestock activities, trading and services, mining extraction and forestry exploitation.

- Access to high school and university is very difficult for the people living in the area. Communities have problems even in supporting primary schools. This situation, in addition to the serious health problems of the population, results in the low capacity of the people to conduct their socioeconomic development in a sustainable way.

- Women seek better nourishment, housing and education for their children. They want to work in order to make money for their families. They think that the man's contribution is not enough to meet the needs of the family.

- Livestock is an important economic activity, mainly in Apolo and Ixiamas because of the large natural pastures of the area. Unfortunately its profitability is based on soil over exploitation.

- Hunting and fishing activities for commerce have increased due to population pressure and tourism activities. Indigenous communities still prefer to eat bush meat instead of domesticated livestock and poultry.

- Commerce and services activities were based on food, materials and equipment for timber exploitation (Rurrenabaque) and mining (Pelechuco) provision, but now it shows and important growth associated with sustainable activities such as eco tourism, mainly in Ixiamas, Pelechuco and Apolo.

Based on the experiences of Rurrenabaque and San Jose de Uchupiamonas, tourism is a sustainable economic activity (profitable and feasible) with great potential in the area, but the majority of the population is not yet taking advantage of its benefits. Tourists are exploring potential areas such as Ixiamas, Pelechuco and Apolo, but there is also the risk that this kind of tourism could be a threat for the PN ANMI Madidi, if it is not duly regulated.

Due to the importance and major dynamics that human settlements present with Bolivian and foreign citizens inside the Municipality of Ixiamas, a more detailed socioeconomic analysis within this municipality for those areas promoting migration will be carried out in FY01. This data is the baseline for year 2000 for this component (Report-Bolivia 3; will be provided to USAID and is not included as an attachment).

During FY01, the project will also coordinate with National Institute of Agricultural Reform (INRA) and all the involved municipalities with new programs for human settlements (if there are any) including agro-ecological and agroforesty activities, ecological service and conservation components of biologic diversity with the aim to reduce environmental impacts.

A2) During the first six-month period of FY00 the threats analysis was coordinated with Wildlife Conservation Society (WCS) based on an initial analysis that they carried out. During the second six-month period of FY00, the threats analysis for the following productive activities was carried out:

Oil exploration and exploitations concessions. Results show that at present there is only one concession that belongs to Repsol Exploration Secure and Perez Company S.A. This is the same company that is in prospecting phase in an area adjacent to the PN ANMI Madidi and the area of influence. There is a possibility that this concession might be returned to the Bolivian Government due to the fact that until now they have not found any noticeable volume of commercial hydrocarbons.

Mining concessions: Results show that there are 44 concessions inside the PN ANMI Madidi and the area of influence. Unfortunately only two of these concessions were granted prior to the creation of the protected area; the remaining 42 were granted from 1996 through the present.

Roads and colonization: Results show that the construction of the road San Buenaventura – Ixiamas – Puerto Heath is a priority for national and departmental governments and for all the involved municipalities. Necessary financial agreements were signed to build this road in the mid-term. One section of this road goes through the PN ANMI Madidi. Estimated consequences of the construction of this road include: a 7.6% increase in the population, loss of 32,977 hectares near San Buenaventura - Ixiamas, loss of 20,161 hectares near Ixiamas – Alto Madidi and use of 18,000 hectares near the area located between Alto Madidi and Puerto Heath.

Planned migration processes: Results show that the National Institute for Agricultural Reform (INRA), has identified two areas inside the Municipality of Ixiamas (polygon 2 with 6.205 Has and polygon 5 with 12.212 Has) where Planned Programs for Human Settlements will be implemented. 138 families from North Potosi were moved to the area identified as polygon 2. INRA is planning the execution of a new program of planned human settlements inside polygon 5 for year 2001.

Forestry concessions and selective logging: Results show that presently there are no forestry concessions inside the PN ANMI Madidi. There is a private forestry concession in the area of influence (North section) and a Forestry Area for Community Municipality Use (AFRM) in the area of influence (East Section). Results also show that 88 forest species are being exploited in the municipalities of San Buenaventura and Ixiamas, exploitation volumes for the ten most representative species reaching 11.623 cubic meters for sugar cane harvest 1999 – 2000.

Bala Dam Project: Results show that the project has lost support even from national and departmental authorities. During the last six-month period a bid was called for the development of the requirements for the technical studies. However, there is still no information about the results of this process.

Complete results of the analysis about threats are attached (see Report Bolivia-4; will be provided to USAID and is not included as an attachment).

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A3) Gather information of development plans held by municipalities and regional government in order to determine potential effects on land-use in the Madidi area.

FY00: Obj2, A3	O	N	D	J	F	M	A	M	J	J	A	S
Gather information						X						
Incorporate results into upcoming workshops/GIS database and Threats Analysis Document.						X	X	X	X	X	X	X

Progress to-Date:

During the first six-month period of FY00 all the existing secondary information at the level of the General Plan for Economic and Social Development (PGDES), Departmental Plan for Economic and Social Development (PDDES) and Municipality Development Plans (PDM) from Ixiamas, San Buenaventura and Apolo was gathered. During the second six-month period of FY00, policies and development plans and their effects on land-use were analyzed. Results show that at all Government levels the construction of roads, support to agricultural and livestock production, forest use (wherever it corresponds) and the support to migratory processes were a priority as a geopolitical strategy. These policies are effectively translated in the budget allocated for the productive and development sector that has 90 - 95 % and for the activities directly related with environment and conservation between 1 – 5 %. The proposal of the existing soil-use plan for La Paz Department, that includes the PN ANMI Madidi and the area of influence, was also introduced into the Geographic Information System (GIS). Results of policies and development plans analysis are attached (Report Bolivia-5 will be provided to USAID and is not included as an attachment). During FY01 the monitoring of the advance and accomplishment degree of the plans from PGDES, PDDES and PDMS will be carried out.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A4) One-two day coordination meeting with WCS, CARE, Ecobolivia, the Institute of Ecology, FAN, WWF and other interested parties. FY00.

FY00: Obj2, A4	O	N	D	J	F	M	A	M	J	J	A	S
Organize meeting		X										
Hold meeting		X										

Progress to-Date:

This activity was completed during the first 6-month period of FY 00 and reported on in the previous semi-annual report.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 2, Activities A1-A4

1. Human settlement study completed **(Completed).**
2. Baseline threats analysis completed **(Completed).**
3. Development plan information gathered **(Completed).**
4. Coordination meeting held **(Completed).**

B) *CI-Bolivia will facilitate and carry out a FODA (Fortalezas, Oportunidades, Debilidades y Amenazas) Workshop. FY00.*

FY00: Obj2, B	O	N	D	J	F	M	A	M	J	J	A	S
Organize workshop				X	X							
Hold workshop						X						
Produce Workshop Results Report							X	X				
Disseminate Report								X	X	X	X	X

Progress to-Date:

During the first six month-period of FY00 in coordination with the Direction of the PN ANMI Madidi and based on a FODA developed for the park's administration, with the technical support of CI-Bolivia, the situation analysis was developed (FODA) as the main input for the 4P Workshop.

The Direction PN ANMI Madidi and SERNAP did not express their agreement to carry out the FODA analysis with other organizations and international cooperation because they think it is repetitive. A threats reduction strategy workshop will present the existing FODA in order for it to be analyzed and enriched. This inter-institutional workshop for the FODA analysis, development of strategies and recommendations to improve the conservation area will be performed during FY01. At the same time, the results of the threats analysis (Objective A2) will be presented. The existing situation analysis (FODA) is attached (see Attachment Bolivia-2).

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 2, Activity B

1. Carry out FODA workshop **(cancelled).**
2. Overview of strengths, opportunities, weaknesses and threats of the Madidi National Park in document form **(Will be completed in FY01).**
3. Document of recommendations and consensus completed **(Will be completed in FY01).**
4. Results disseminated **(Will be completed in FY01).**

Objective 3:
Improve regional, national and international awareness of the importance of Madidi National Park and surrounding region to biodiversity conservation in the tropical Andes.

Activities:
Very little national awareness exists on both the importance of Madidi National Park as a biodiversity reservoir, as well as the impacts which are threatening its ecological richness and health. In association with staff already working in the region, there is a need to involve the participation of others - both key people and institutions - in order to create a communications strategy and awareness raising tools for this protected area.

A) CI-Bolivia will gather baseline information at the local level with social surveys. FY00.

FY00 Obj3 A	O	N	D	J	F	M	A	M	J	J	A	S
Develop survey/questionnaires	X											
Hire surveyors	X											
Carry out surveys	X											
Analyze and process information		X										

Progress to-Date:

During the first six-month period of FY00 the Awareness, Attitudes and Practices (CAP) "Public Opinion" of the PN ANMI Madidi study was designed. During the second six-month period of FY00, with the collaboration of university students, and a recent graduate from the Communications department of the Universidad Católica Boliviana who worked as a practitioner, the CI-Bolivia team carried out the CAP study as part of the socio-economic analysis of human settlements. Following the CAP study, a similar study for authorities and journalist was developed in La Paz city.

CAP Results in interviewed groups

Awareness, Attitudes and Practices	Local Population	Authorities and Journalists
Knowledge about the existence of the Madidi Park	33%	70%
Knowledge about the location of the Park	21%	18%
Knowledge about the Park's rules	16%	20%
Rules and regulations compliance	10%	
Advantages	29%	100%
Disadvantages	21%	36%
Willingness to collaborate with the Park	79%	100%
Knowledge about Park Administration	15%	
Favorable opinion of the Park's administration	12%	
Knowledge about CI-Bolivia	7%	
Recognition of the importance of Madidi National Park	do not know/no answer	100%

Following are the most important results of the CAP study:

- The majority of the local population within the indigenous and farmer communities are not familiar with PN ANMI Madidi. In more populated areas, people who have heard about the "Madidi National Park" do not have a clear idea of what it means. People that understand the meaning of the PN ANMI Madidi have a favorable attitude because they know about the importance and the benefits of the protected area. Therefore they are able to cooperate with the park and to follow the rules. People that do not know about the Park or that do not fully understand the meaning of protected areas can only perceive the limitations involved.

- Regarding hunting, fishing and logging activities, the people that follow the rules are the ones living in populated centers because they do not hunt or fish. However, they do buy the products from hunting, fishing or logging from the farmers or indigenous. They use these products in their commercial activities. In indigenous and farmer communities, people claim that they do not carry out hunting or fishing practices for trading because they protect nature. Many people follow the rules because it is not allowed and there is control over hunting, fishing, logging and burning practices.

- Written press is the best way to reach journalists and national authorities. Although the advantage of radio is that it is the most popular means of communication for local (municipality authorities, populated centers, indigenous and farmer communities) and urban audiences (journalists, national authorities). In addition, TV is also an important means of communication for information dissemination in urban and local centers.

- Knowledge about concepts such as biodiversity and protected areas is not clear for the two interviewed groups (journalists and national authorities).

- Government authorities are more informed about the PN ANMI Madidi than journalists. However both groups do not know the location of the Park. Only 18% of the people interviewed know that the Park is located in the department of La Paz.

- 80% of the interviewed people are not aware of the regulations for protected areas.

- 100% of the interviewed people recognize the importance of the PN ANMI Madidi. Most of them think that it is important for flora and fauna conservation.

- A small percentage, 21%, think that the limited use of natural resources is a disadvantage that impedes the socioeconomic development in local populations.

- The complete results of the CAP study, are attached to this report (see Attachment Bolivia-3).

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

B) *CI-Washington and CI-Bolivia will carry out a 4-P Strategic Communications Workshop on Madidi National Park. FY00.*

FY00 Obj3 B	O	N	D	J	F	M	A	M	J	J	A	S
Planning workshop			X	X								
4p workshop (tentative date)					X	X						
Strategy product							X					

Progress to-Date:

During the first six-month period of FY00 the 4P Workshop was planned and carried out. The communication, promotion and dissemination strategy for the PN ANMI Madidi was obtained as a product of this workshop. This Communication Strategy has been adopted by the Park Administration of PN ANMI Madidi and will be implemented in the short- and medium-term.

CI-Washington International Communications Department, CI-Bolivia, the Program for Sustainable Development and Ecotourism with the Community San José de Uchupiamonas, the Park Administration of PN ANMI Madidi and SERNAP jointly funded and implemented the communication, promotion and dissemination strategy for the PN ANMI Madidi, during the "Madidi Week."

During these two weeks, activities included: Press conferences, broadcasting of radio and TV spots, visit to Chalalan of journalists, presentation and dissemination of the Madidi logo (in posters, folders, T-shirts, buttons, school materials, etc.), presentation of the Chalalán video, environmental games with school children, painting of an ecological boat, poetry, art contests, children's festivals with ecological dances, exhibition of institutional informative panels, sporting events, sponsorship of a classical music concert, fireworks, dinner for political authorities and the general population, and the presentation of the results for the first year of the BiRD project.

During FY01, the project will implement the strategy at the local level (communities and schools) within the area of influence of the PN ANMI Madidi. In collaboration with CI-Washington International Communications Department and CI-Bolivia, materials for dissemination will be developed in order to implement the strategy at the national and international levels.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 3, Activity B

1. 4-P Workshop completed **(Completed).**
2. Conservation awareness campaign developed **(Completed).**

2) CI-Brazil

Objective 1:
Reduce deforestation, soil degradation, and landscape degradation in forest fragments critical to biodiversity conservation.

Activities:

A) Obtain conservation commitments from private landowners and communities in strategic forest fragments through agricultural extension activities offering income-generating alternatives. FY 99-00-01.

A1) Institutionalization of a municipal environmental council and a municipal "income and jobs" council for Una. IESB will do the paperwork for agricultural loan applications for the communities with projects approved by the councils, and orient them in sustainable agricultural practices, show them how to diminish hunting, control burning and how to implant nurseries of economic and natural trees for reforestation of river margins and buffers around forest fragments.

FY00: Obj1,A,A1	O	N	D	J	F	M	A	M	J	J	A	S	US$
Rui Rocha – Inter-Institutional Workshop				x	x	x	x	x	x				1,000
Marcelo Araujo - Farm Plans				x	x	x	x	x	x	x	x		1,000
Joaquim Blanes -Reforestation Demo.				x	x	X	x	x	x	x	x	X	500
Joaquim Blanes and Gabriel Santos - Bandeira		x	x	x	x	X	x	x	x	x	x	x	0
Total Obj1,A,A1													2,500

Progress to-Date:

- In August, IESB supported the creation of the Protected Private Areas Owners Association of Bahia, which includes the 15 new Southern Bahia RPPN (Private Reserve) owners. Eight of these new RPPNs represent a direct result of the USAID Program.

- Monthly meetings with the Una Municipal Council on Environment and with Una Municipal Council on Income and Jobs have been organized by IESB to discuss environmental issues. These meetings have replaced the planned workshop. IESB is now a member of the Una Municipal Council on Environment, a deliberative body on municipal environmental policies, according to the municipal legislation approved in May 2000.

- Legal Reserves have been planned and demarcated (500 ha) on 10 farms. The planning of the Legal Reserve on one agrarian reform settlement with 15 rural producers has been discussed and has received financial support from FUNBIO.

- The environmental education and extension program organized monthly meetings to train the members of four rural producer associations in the Una Reserve buffer zone about the risks and safety measures in the use of fire in agriculture.

- One demonstration area for reforestation with native plant species was set in the Rio do Engenho Basin, in partnership with UESC and the local Rural Producers Association.

- The negotiations to protect the Bandeira Region have progressed. It is possible that the area will be regularized and incorporated into Una Reserve by the end of 2001.

- Three agronomy students (2 from UESC and 1 from UNESP-SP) received training in biological control and organic production in demonstration areas maintained by IESB in partnership with M&M Mars.

Problems, delays, shortfalls and proposed solutions:

- Due to the lack of aerial photos covering the areas beyond the Una Reserve and Conduru Park buffer zones, the project has not succeeded in supplying the demand of the farmers interested in the planning and delimitation of the legal reserves. Therefore, the project is restricted to the areas around Una Reserve and Conduru Park.

- There are many difficulties in the relationship between the Una official rural extension technicians and IESB. They are very conservative and not open to innovations, which make the expansion of the IESB program difficult.

- In the forest recovered demonstration areas, the farmers do not have financial resources to support the labor to plant and maintain the reforested areas. To plant and maintain the areas would be the farmers' counterpart in the program.

A2) Also at the Una municipal level, IESB has collaborated with the Secretary of Education in the development of teacher education workshops and the recuperation of rural schools. IESB will work with municipal educational authorities on improved curricula, teacher training, and proposals to obtain governmental funding for improved educational services.

FY00 Obj1,A,A2	O	N	D	J	F	M	A	M	J	J	A	S	US$
Gabriel Santos – Teacher training	x	x	x	x	x	x	x	x	x	x	x	x	350
Joaquim Blanes – Infrastructure	x	x	x	x	x	x	x	x	x	x	x	x	350
Total Obj1,A,A2													700

Progress to-Date:

- Gabriel Santos and Joaquim Blanes held two workshops to train Una municipality teachers. They also supported the renovation and installation of the water supply system in two schools.

- In August, Joaquim and Walter Lima organized, together with the local agriculturists, a participatory (mutirão) renovation of the rural school in Bandeira.

Problems, delays, shortfalls and proposed solutions:

Nothing to Report at this time.

A3) IESB plans to continue to support the cooperative we helped Una farmers to establish for agroforestry product commercialization. (The elaboration of a municipal coastal tourism development plan including Una is under Objective 2, Activity A2)

FY00 Obj1,A,A3	O	N	D	J	F	M	A	M	J	J	A	S	US$
Evandro Santana – Cooperative legalization and infrastructure	x	x	x	x									500
Evandro Santana – Exports with CAPINA			x	x	x	x	x	x	x	x	X		1,000
Joaquim Blanes – Organic cacau export logistics	x	x	x	x	x	x	x	x	x	x	x	X	1,000
CI Conservation Enterprise Support					x	x	x						1,000
Total Obj1,A,A3													3,500

Progress to-Date:

- The Una Rural Producers Cooperative has finally been legalized after many bureaucratic difficulties and is working in a shed ceded by the Una Prefeitura. The cooperative has received support from the Ford Foundation, which includes resources to buy a vehicle to transport the products. About 5 tons of banana, 3 tons of açaí palm heart and 5 tons of guaraná were sold through CAPINA, with IEBS's help. 30 tons of organic cocoa are ready to be exported, which will take place by November 2000.

- The interest in the production of organic cocoa has been increasing in the area beyond Una. The creation of a new cooperative, now including only the organic producers, has been discussed. Eight meetings took place in August and September.

- In September, inspections for organic certifications were conducted by the Biodinâmico Institute on 34 properties. The process to convert the conventional system to organic certificate production is on course on those properties.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A4) Continuing the partnerships developed with landowners of key forest fragments committed to conservation, IESB extension officers have helped them plant acai seedlings to multi-crop rubber and cocoa plantations, establish greenhouses for commercial and natural tree species for reforestation, and learn organic mulching techniques to increase production at low cost. These initiatives increasingly involve partnerships with the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA) and CEPLAC to disseminate these alternatives. These agroforestry extension activities will continue under the cooperative agreement.

FY00: Obj1,A,A4	O	N	D	J	F	M	A	M	J	J	A	S	US$
Joaquim Blanes – Solar Thermal shock				x	x	x	x	x	x	x	x	x	2,500
Joaquim Blanes - Greenhouses	x	x	x	x	x	x	x	x	x	x	x	x	1,000
Joaquim Blanes - Replanting				x	x	x	x	x	x	x	x	x	1,500
Marcelo Araujo - Native plant collections	x	x	x	x	x	x	x	x	x	x	x	x	300
Total Obj1,A,A4													5,300

Progress to-Date:

- Twenty training courses were given in the field for the rural producers. The courses included subjects related to organic production such as biofertilizer preparation and use of organic inputs.

- 80,000 açai seedlings were distributed in this period for the producers associations to be planted between the rows of rubber and cocoa.

- 500 native plant species seedlings were planted in the Rio do Engenho Association and 200 native plant species seedlings were planted in the Japú Association. IESB also gave technical support to Ilheús Prefeitura to recover 3,000 m2 of the galery forest of Rio Una.

Problems, delays, shortfalls and proposed solutions:

The piaçava seed need "thermal shock" for seed germination. IESB has used the "sprouter" (germinador) owned by CEPLAC. The sprouter, however, needs periodic maintenance for which the program does not have sufficient funds. The program has been suspended until this problem is solved.

A5) In partnership with M&M Mars' local research farm, IESB extensionists will cooperate in the field testing and distribution of a biocontrol agent for the witches broom disease of cacau, on the farms of cooperators who are implementing forest-conserving management in the buffer zones of protected areas.

FY00 Obj1 A A5	O	N	D	J	F	M	A	M	J	J	A	S	US$
Joaquim Blanes e Smilya and Technician TBD: Establish test plots and work with farmers				x	x	x	x	x	x	x	x	x	4,000
Joaquim Blanes and Technician TBD: Distribute and accompany application of tricoderma.	x	x	x	x	x	x	x	x	x	x	x	x	14,000
Subtotal Obj1A,A5													18,000

Progress to-Date:

- Clonal garden and biological control (Trichoderma sp.) experimental areas were set up in partnership with M&M Mars in six associations (Bandeira, Lençois, Barro Vermelho, Ribeirão das Navalhas, Colônia e Sabicuar), benefiting 150 producers.
- One new technician was trained and contracted and two others were trained.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 1, A Benchmarks	Measure	By
Agricultural alternatives developed, tested and implemented	3000 piaçava seedlings planted 5000 açai seedlings planted 5 hectares replanted	Jan 2000 Jan 2000 Jan 2000
Product sold though improved marketing	40 tons organic cacau sold 10 tons guaraná sold 20 tons piaçava sold	Jan 2000 Jan 2000 Jan 2000
Results of Tricoderma testing published		Jan 2001
Forest effectively protected as a result of raised incomes	Farmer commitment to conserve areas on farm plan registered with CONDEMA - 200 ha.	Jan 2000

B) Phase-out commercial logging that supplies non-local demand with implementation of command and control procedures and policies mitigating social impact of industry decline. FY 99-00-01.

FY00 Obj1 B	O	N	D	J	F	M	A	M	J	J	A	S	US$
Flavio Leopoldino, Carlos Alberto Mesquita - Accompany Logging Policy	x	x	x	x	x	x	x	x	x	x	x	x	500
Total Obj1,B													500

Progress to-Date:

- The pressure of NGOs on State and Federal government to stop logging in the region caused the suspension of lumber activities around Descobrimento and Pau Brasil National Parks. A survey conducted by Flávio Leopoldino and Gabriel Santos showed that logging is still taking place in the cocoa region, mainly as a result of authorization to replace cocoa by other cultures, which was issued by the Forest State Department (DDF). Flávio sent many formal requests to the DDF to inquire about

the authorizations issued, but the information was denied. Thus, IESB together with the Atlantic Forest NGOs Network, is considering the possibility of requesting the information judicially.

- In September, IESB initiated studies to make a diagnosis of the inspection activities in the state of Bahia. These studies will subsidize a workshop in March/April 2001 on inspections in the entire region covered by the Atlantic Forest Central Corridor.

- In May, IESB together with the NGOs SOS Mata Atlântica and Instituto Pro Mar participated in the Maraú Municipal Council meeting to assure the maintenance of the municipal law that regulated the Peninsula of Maraú APA. The area has exceptional ecotourism potential and was threatened by possible activities of a large titanium mining operation (Mineradora Millenium). Under the pressure of the majority of the council members and community leaders, the Mayor removed the proposed alteration of the law that would permit mining activities in the area.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 1 B Benchmarks	Measure	By
Logging paralysis follow-up study	White paper distributed	Jan 2000
Enforcement plan adopted by multi-agency task force	Implementation of controlled logging on cacau lands pursuant to regulation	Jan 2001
Decline in natural forest logging and increase in use of plantation trees and other alternatives to wood products.	50% fewer cubic meters exported from region compared to 1997	Jan 2001

C) Eliminate incentives encouraging the location of agrarian reform settlements on forested lands with fragile soils. Work with government to achieve the implementation of policies integrating forest conservation with land reform on sites appropriate to small-farmer agriculture. FY 99-00-01.

FY00: Obj1,C	O	N	D	J	F	M	A	M	J	J	A	S	US$
Keith Alger, Rui Rocha, Salvador Trevizan - Survey and Maps			x	x	x	x	x	x	x				0
Rui Rocha – Organize seminar with Incra, MST		x	x	x	x	x	x	x	X				
Rui Rocha - Conduct Seminar										x	x		557
Total Obj 1, C													557
Total Obj 1 Supplies, Equip													13,058

Progress to-Date:

- Salvador Trevizan and Keith Alger presented the results of their research at The World Congress of Rural Sociology (Congresso Mundial de Sociologia Rural). The paper entitled "The landless social movements and the ecosystem sustainability" was published in the congress annals.

- IESB has organized several meetings with INCRA on the current forest fragment distribution in Southern Bahia as a way of avoiding agrarian reform settlements close to forested lands.

- IESB and INCRA are organizing a database on Southern Bahia socioeconomic and biological information.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 1, C Benchmarks	Measure	By
Study on incentives conducted and disseminated	White paper distributed	Jan 2000
Meetings, and or seminar held with landless movement	Seminar or Workshop held	Aug 2000
Land reform policy officially revised to eliminate incentives for degradation of forested sites	Sites ineligible for disappropriation enunciated as policy	Jan 2000

Objective 2:
Public policy alternatives reversing existing incentives favoring forest degradation implemented, with subsequent adoption of environmentally and socio-economically sustainable land-use practices beyond demonstration sites.

Activities:

A) *Implementation of new fiscal incentives for private reserves (federal private nature reserve legislation - RPPN - reinforced, creation of state-level private reserve law), for municipalities with conservation areas (ICMS ecologico), and for tourism practices that contribute to conservation and community development. FY 99-00-01.*

A1) *CI and IESB have produced model legislation for a Bahian ICMS ecologico, and additionally will work to provide legislators with background on how this serves local interests.*

FY00 Obj 2 A A1	O	N	D	J	F	M	A	M	J	J	A	S	US$
Rui Rocha and Pablo Villanueva – Prepare seminar				x	x	x							1,000
Rui Rocha and Pablo Villanueva – Conduct seminar							x	x					2,000
Gustavo Fonseca, Keith Alger – Probio Research and Publications	x	x	x	x	x	x	x	x	x	X	x	x	600
Total													3,600

Progress to-Date:

- Keith Alger published "Designing Sustainable Landscapes" (two hard copies will be submitted to USAID-Global with submission of this report).
- The CRA is organizing a database on protected areas that will support the discussions on ICMS ecologico.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A2) *Support sustainable tourism development. Last year CI-IESB engaged in a variety of planning exercises with municipalities and the state government, including additional financing from Bahiatursa to examine and promote sustainable tourism in the area called the "Costa do Cacau" (Cocoa Coast). The "Costa do Cacua" includes the counties of Itacare, Ilheus, Una and Canavieras. The Una Ecopark continues to serve as CI/IESB's landmark demonstration of sustainable ecotourism. Last year a second independent representative, working on commission, was contracted to market the attraction, 5 additional university interns were trained as guides,*

and various improvements were added. In FY00, the park will consolidate communications and continue to seek funding for a bona fide visitor center.

FY00: Obj2, A, A2	O	N	D	J	F	M	A	M	J	J	A	S	US$
Carlos Alberto Mesquita, Flavio Leopoldino Cacau Coast	x	x	x	x	x	x	x	x	x	X	x	x	
Oliver Hillel, Carlos Alberto Mesquita, Rui Rocha and Flavio Leopoldino: Regional Tourism Planning products.				x	x	x			x	X	x		800
Dissemination: Video, (Haroldo Castro), mass media, print (Heloisa							x	x	x	X			10,000
Keith Alger, Oliver Hillel, Flavio Leopoldino, and Ecopark operator, Opening		x	x	x	x	x							0
Keith Alger, Carlos Alberto Mesquita Oliver Hillel, Flavio Leopoldino, Ecopark Communication, Water				x	x	x	x						3,500
Keith Alger, Oliver Hillel, Flavio Leopoldino, Ecopark artesenal, guide, foodservice training							x	x	x	X	x	x	2,700
Total													17,000

Progress to-Date:

- In April Oliver Hillel, Rui Rocha, Carlos Alberto Mesquita and Stephen Edwards met with the team from the State Secretary of Culture and Tourism and SEBRAE to organize the Ecoutorism Incubator Program. The attempt by the Conservation International Ecoutourism Department and IESB resulted in the financial support received from PRODETUR for the program's first year, which begins 2001.

Una Ecopark Visitation Table

The total number of visitors and the paying visitors between April and September 2000.

Month	Total	Paying
April	259	201
May	170	138
June	340	194
July	324	236
August	320	173
September	290	146
Total	1703	1088 (64%)

- The percentage of non-paying visitors is represented mainly by school groups from Una Municipality that increased its visiting frequency after the support from IESB for the Environmental Education Project and social integration activities promoted in the Ecopark.

- The communication system installed in the Ecopark has been fundamental in organizing visits and helping to increase the number of visitors.

- An agreement signed between Unyahana, a university located in Salvador, and the Ecopark has resulted in the visit of two student groups and two Bachelor's monographs on the Ecopark. Two other

research projects were initiated in partnership with UESC, one a profile of the visitors and another on the regional economic importance of the Ecopark.

- In September, IESB published the 16th APA Newsletter which introduced the concept of biodiversity, ecological corridors, ecotourism and ambiental aministration in protected areas to the population of around 15,000 who lived around Serra do Condurú State Park. Even though the Bahia State government has terminated its funding, the forecast is that the newsletter will continue to be published with resources received from local businesses.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 2, A Benchmarks	Measure	By
Fiscal incentives for municipalities and landowners analyzed, promoted	Probio white papers, ICMS proposal supported by Bahian prefeitos	Jan 2001
Tourism Participatory Planning Workshop	Zoning maps produced and disseminated	Jan 2000
Infrastructure and product improvement at Una Ecopark	2000/tourist/yr rate goes to 10,000/tourist/yr with 2 new microenterprises in artesenry and food services	Jan 2000

B) *Define strategies to eliminate incentives that promote monocrop plantations in detriment of biodiversity friendly agriculture. FY 99-00-01*

FY00 Obj2 B	O	N	D	J	F	M	A	M	J	J	A	S	US$
Anita Akella: White paper on debt, coffee.	x	x	x	x	x	x	x	x	x	x	x	X	Salary Buy-in
Jared Hardner: White paper on cacau prospects	x	x	x	x	x	x							World Bank
Jim Cannon: White paper on enforcement mechanisms				x	x	x	x						Salary Buy-in
Heloisa Orlando: Focus Group results								x	x	x	x		500
Pablo Villanueva: legal strategy						x	x	x	x	x	x	x	0
Total Obj2,B													500
Total Obj2, Supplies, Equip.													16,128

Progress to-Date:

- Anita Akella completed an Internal White Paper for Review"Debt Relief and Conservation in Southern Bahia: Opportunities and Impedments". The white paper will continue to be revised in FY01 for release to a wider audience (See Attachments Brazil-1 and Brazil-2).

- Heloisa Orlando concluded her research on the focus groups and is analyzing the results.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 2, B Benchmarks	Measure	By
Growth in public awareness of economic risks from monoculture transformation currently promoted by government agricultural agencies.	White papers disseminated.	Jul 2000
Mainstream agricultural loan programs revised to encourage mixed agroforestry systems.	Policy change	Jan 2001

Objective 3:
Increase knowledge about the significance of region's biodiversity while assisting in the design and implementation of management plans for biodiversity conservation units, zones, and corridors.

Activities:
A) Prepare conservation planning maps for use in planning, monitoring, biodiversity research, and park management. FY 99-00-01.

FY00: Obj3, A	O	N	D	J	F	M	A	M	J	J	A	S		US$
Marcelo Araujo, Allessandro Marques, Keith Alger - Catalog of Maps from Air Photos, Private Reserve Maps, Maps for Park Managers	x	x	x	x	x	x	x	x	x				Software, Supplies	3,333
Marcelo and Keith upgrade equipment	x	x	x	x	x	x							Computer, printer, other equipment, service.	8,700
Marcelo and Keith collaborate with govt. agencies to obtain photos						x	x	x	x	x	x	x	Images	5,000
John Musinsky, Marcelo Araujo, Allesandro Marques						x	x	x	x	x	x	x	Training	4,687
Total Obj3A														21,720

Progress to-Date:

- The catalogue, including the aerial photos of the Una Reserve buffer zone, Serra do Conduru State Park and Itacaré- Serra Grande APA areas, was completed.
- The Una Reserve and Itacaré-Serra Grande APA mosaics were analyzed/interpreted.
- Marcelo Araújo is coordinating efforts to obtain funds for the purchase of new aerial photos. CRA will give US$ 5,000 and FUNBIO US$ 9,000. Additional resources will be sought to cover the remaining funding needs for this activity.
- Marcelo and Alessandro Marques presented the results of their research at the XII Brazilian Meeting on Management and Conservation of Soil and Water. During the meeting, Marcelo coordinated a discussion about Sustainable Soil Use in the Atlantic Forest.

- The aerial photo maps have been used in many research projects and in protected areas management:
  - Master's thesis on land use in the Serra Grande region basin – Federal University of Santa Catarina;
  - Master's thesis on forest fragments in the Conduru region – State University of Santa Cruz;
  - Doctoral dissertation on landscape dynamics in the Una region – State University of Campinas;
  - Doctoral dissertation on geomorphology in the region on North of Ilhéus – Coimbra University (Portugal);
  - Research on mangroves distribution in the southeast of Bahia – São Paulo State University, IESB and UESC;
  - Serra do Conduru State Park Management Plan – DDF;
  - Una Reserve Land Regularization – IBAMA;
  - Itacaré City Urban Expansion Plan – CRA and CONDER;
  - Serra Grande Urban Reference Plan - Uruçuca Prefeitura and Culture and Tourism Secretay;
  - Ilhéus City Urban Expansion Plan - Ilhéus Prefeitura.

- Trained: 10 students were trained (40 hours each). 2 geography and agronomy students were trained from May to November 2000 (20 hours/month each). 1 student receiving a scholarship from CNPq/UESC has been trained from September 2000 until September 2001 (20 hours/month).

- 9 maps were produced to demarcate Legal Reserves in 9 farms, together with organic Cocoa Program/IESB.

- A CD-rom including the database of the entire South Bahia region has been produced in partnership with UNICAMP and with the financial support from CRA-Bahia. It will be completed by February and initially 1,000 copies will be produced.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 3, A Benchmarks	Measure	By
Maps produced.	Catalog complete, available for use.	Jan 2000
Geographic database constructed	Database available for use on internet.	Jan 2001
Park management improved.	Explicit policies and procedures implemented on pasture, fire, hunting threats.	Jan 2001

B) Obtain baseline data on biodiversity associated with land uses to prioritize conservation policy. FY 99-00-01.

FY00 Obj3 B	O	N	D	J	F	M	A	M	J	J	A	S	US$
Cristina Alves, Raquel Teixeira - Publish mammal results, popular information for Ecopark			x	x	x	x	x	x	x	x	x	x	3,000
Cristina Alves, Raquel Teixeira Research on mammals regionwide				x	x	x	x	x	x	x	x	x	1,105
Field support for Probio biology consultants Paulo Cordeiro (Birds), (Reptiles), Adriano Paglia (Modeling), Paulo Ignácio (Database)										x	x	x	2,000

Total Obj3, B													6,105
Total Obj3 Supplies, Equip.													24,492

Progress to-Date:

- By September 2000, about 420 bird species were observed and identified in the Southern Bahia region. During the mammal survey, by September 2000, 16 small mammal species (rodents and marsupials) were captured and 28 medium and large mammal species were identified in the region. A survey of amphibian species was initiated and by now 87 species have already been identified. The fauna survey is still going on and has received financial support from PROBIO/MMA.

- The information compiled from a survey of the literature—1,427 occurrences of mammals in 400 localities—has already been registered in the databank. The register of the plant species from CEPLAC herbarium has already been initiated. A CD-rom with all the information about the region covered by the Atlantic Forest Central Corridor/Bahia, collected in the field and cited in the literature will be produced in partnership with the government of the state of Bahia.

- Adriana Martini (UNICAMP/UESC) is collecting data for her doctoral dissertation on the impact of fire in the Una Reserve. She intends to conclude her work by April 2001.

- 3 new biology students from UESC were trained in the collection of data in the field.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

Obj 3 B Benchmarks	Measure	By
Mammal Publications produced	1 scientific, 1 popular	Jan 2001
Data on corridor feasibility	2 systems besides cacau researched.	Jan 2001
Bird information produced	1 scientific report, 1 popular publication	Jan 2001

Other Activities and Accomplishments

Presentations

- In April, Carlos Alberto Mesquita gave a presentation on Private Protected Areas at the World Ecotour meeting, in Salvador. Two-hundred people participated in the event.

- In April, Rui Rocha was interviewed by TV Santa Cruz about the threats to Itacaré and Ilhéus local mangroves alongside urban areas.

- In August, Marcelo Araújo and Gabriel Santos gave a presentation on Remaining Forest Fragments in Southern Bahia to the International Birdlife Brazilian Program members, in Curitiba.

- In August, Joaquim Blanes gave a presentation on Organic Cocoa Production and Commercialization in Southern Bahia, at a seminar promoted by Barry-Calebut, in CEPLAC/Ilhéus.

- Flávio Leopoldino gave a presentation on IESB's RPPN Program in the II Bahian RPPN Owners State Meeting, that took place from August 25 to 27,in the Serra do Teimoso RPPN, Jussari.

- On August 24th, Carlos Alberto was interviewed on a program of BATV from Santa Cruz TV, the local Rede Globo branch, about the II Bahia RPPN Owners State Meeting.

- In September, Joaquim gave a presentation on Organic Cocoa Production and Commercialization in Southern Bahia at a seminar promoted by Federal University of Bahia in CEPLAC/Camamú.

- In September, Joaquim gave a presentation on Strategies to Involve Communities in Conservation and Development Projects, at a regional seminar organized by IESB/UESC/UFBa.

- In September, Paulo Inácio presented the preliminary results of POBIO/IESB Corridor Project, in Salvador, to a group of NGOs, federal and state researchers.

- In September, Marcelo and Alessandro gave a presentation on Remaining Atlantic Forest Fragments and the corridors initiative at the national meeting of the Brazilian Soil Science Society, at the Ilhéus Convention Center. Seven-hundred people participated in the event.

Visitors

- In April, Bruce Loriman from the British Council and Luis Serrano from the Bahia Urban Development Company – CONDER visited IESB to learn about IESB's experience in ecotourism development and Atlantic Forest conservation.

- In April Dr Jaqueline Goerk, coordinator of the Brazilian Program of Birdllife International visited IESB to discuss a research program to evaluate the status of the preservation of Serra das Lontras. Serra das Lontras is located 15 km from Una Reserve and it is a refuge for many endemic birds threatened by extinction in South Bahia.

- In April, IESB held in Olivença, Ilhéus, the Mata Atlântica NGO Network-Bahia meeting and the Bahia Environment Permanent Defense Assembly (APEDEMA) meeting.

- In April consultants from the Ilhéus Prefeitura, responsible for the Ilhéus Directive Plan visited IESB. Marcelo Araújo, Rui Rocha, Gabriel Nascimento and Pablo Villanueva proposed the delimitation of the city limits in the contact zones with fragile ecosystems such as mangroves, forests, *restingas* and rivers.

- Visits to the Ecopark: In May the botanic curator of Montpelier (France) Botanic Gardens visited IESB and the Ecopark. In May, representatives of 12 Global Travel & Tourism Partnership countries visited the Ecopark. In May, Paul Rogers, reporter from The San José Mercury News, visited IESB and the Ecopark.

- Visits to the demonstration areas in Una: In May, M&M Mars. Inc researchers visited demonstration areas in Una. In September, Dr João Carlos Canuto, Director of the Agropecuária Research Foundation of Rio Grande do Sul visited the IESB's demonstration areas in Una.

- In September, Dr Maristela Simões do Carmo from the Agrarian Sciences College of Botucatu (SP), visited IESB.

Training

- Flávio participated in the Natural Protected Areas Management course, which took place in Curitiba, from July 1 to 16, supported by USAID/SUNY. In April, Carlos Alberto traveled to Central América to learn about the ecotourism work that has been done there. He received financial support from Conservation International.

3) CI-Indonesia

Objective 1:

Strengthen CI-Indonesia's (CI-IP) institutional capacity to be an effective participant, and partner to government and other local institutions, in natural resources management in Indonesia.

CI will continue to carry out a range of socialization activities, aimed at relevant government agencies, NGOs, bilateral and multilateral agencies and the private sector, in order to communicate its program, its activities and resulting lessons learned and best practices developed. This will be particularly important during the current dynamic political context in Indonesia, and with the new administration in place. With anticipated policy changes from the new Administration, and continued implementation of decentralization in government, CI-Indonesia will spend considerable effort to keep updated, assess implications of changes for conservation, and develop relationships with new staff and new agencies.

A. Develop CI-Indonesia's institutional capacity to develop and manage conservation programs utilizing USAID's Institutional Development Framework (IDF) for an in-depth institutional self-assessment to refine institutional development activities, and to monitor and report on progress

A1) The development of and investment in the new Deputy Director (DD) will continue in order to improve overall management and administration of CI-Indonesia.

FY00 Ob1 A A1	O	N	D	J	F	M	A	M	J	J	A	S
DD orientation visit to Jayapura office	X											
PCM training												X
CI Annual Planning Meeting in Washington, D.C.								X				
Socialization presentations in Jakarta & Jayapura	X				X		X					

Progress to-Date:

DD has increased her level of involvement in Irian Jaya program. She facilitated the management change in Jayapura office, clarified their Terms of References and supported the Irian Jaya program during the time of high intensity activities in July, August and September when Irian Jaya program held 3 trainings (Experimental Design and Proposal/Grant Making training, RAP training and Mini RAP) in a very short period of time.

DD attended a follow up PCM (Project Cycle Management) training now being called Strategic Management Approach (SMA) in Whitefish, Montana on 25-30 September 2000. Suer Suryadi could not join SMA training since the Mini RAP in Mamberamo had just finished several days before. DD was accompanied by 2 junior staff from INDECON (Indonesia Ecotourism Network), Indriani Setiawati, and CI Gunung Gede Pangrango Program, Ni Putu Sarilani. They both received scholarship from the Smithsonian Institute to a attend 3 week Conservation Leadership Training before attending the SMA training. CI partially funded their attendance to the SMA training in Montana.

The SMA training provides tool for monitoring and evaluation of programs in the field level. CI Indonesia will follow it up by direct communication with Peter Kristensen, Director of Operation for Asia Pacific who just joined CI Asia Pacific after helping to develop the SMA tool with the Monitoring and Evaluation Department at CI.

DD facilitated CI Indonesia's Annual Planning on April 2000 (to be described in A2) that resulted the development of the CI Indonesia Country Strategy which was presented at the CI Annual Meeting in Washington, DC. Due to family problem, DD cancelled her trip to DC in May 2000. Suer Suryadi,. (IJPM)

and Yance de Fretes (SCB) joined Jatna Supriatna (CD) at the CI Annual Meeting in Washington, DC, 1-12 May, 2000.

Suer Suryadi, IJPM leads CI's work in Irian Jaya which has become widely known due to his extensive socialization work with local stakeholder and actual implementation work especially during the July Experimental Design and Proposal/Research Grant Making Training; the August, RAP Training; and during the September Mini RAP in Mamberamo. These activities have become very important to local stakeholders in better understanding CI's priorities and programs in Irian Jaya which required active participation among stakeholders.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A2) IDF assessment and implementation

FY00 Ob1 A A2	O	N	D	J	F	M	A	M	J	J	A	S
Continued implementation of recommendations from IDF assessment	X	X										
CI-Indonesia Annual Planning							X					
Second internal retreat for CI-Indonesia (cancelled)												X

Progress to-Date:

Between February and April 2000, DD led an effort to plan and design the first CI Indonesia Annual Planning. With the help of David Richards, a consultant, and Wendy Tan, South East Asia Program Manager based in Washington, DC, the first CI Indonesia Annual Planning was held in Ciloto, Puncak between 10 April 2000 to 14 April 2000. Participants included all CI Indonesia staff based in Jakarta, Palu and Jayapura, and partner NGOs from the field site projects. The 5-day meeting resulted in the CI Indonesia Country Strategy which will include site-level strategy, national level strategy and hotspots/tropical wilderness level strategy (Attachment Indonesia-1).

Following the meeting, a full week of discussions and articulation of strategies were done in preparation for presentation, discussion, and further refinement at CI's institution-wide Washington office during CI Annual Meeting, May 1-12, 2000.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A3) Financial sustainability strategy

FY00 Ob1 A A3	O	N	D	J	F	M	A	M	J	J	A	S
Financial Sustainability Strategy follow up implemented (prospects list, concept papers, and budgets)	X	X	X	X	X	X	X	X	X	X	X	X

Progress to-Date:

The CI Indonesia Annual Planning described in section A2 was the follow-up to the Financial Sustainability Strategy Workshop held last year. Strong written strategic plans for all CI Indonesia programs -- both for national and hotspots-level initiatives -- will enable Program Managers, DD, SEPM and CD to help fundraise for the program. These strategic plans form the basis and provide information for good concept papers. Moreover, the strategic plans will lead to improved implementation plans, clarify partnership roles and help define more focused prospect listings.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 1, Activities A1-A3

1. DD orientation visit to Jayapura office completed **(Completed).**
2. DD Project Cycle Management training completed **(Completed).**
3. DD visit to CI Washington for CI Annual Planning completed **(Cancelled, replaced by IJPM & SCB).**
4. IDF assessment recommendations implemented **(Completed).**
5. Annual CI-IP strategy plan meeting conducted **(Completed).**
6. Prospects list, concept papers and budgets drafted **(Completed).**

B. *Enhance CI-Indonesia's in-country technical capacity to implement natural resource conservation in partnership with national and local government, academia and NGOs.*

B1) Increase CI-Indonesia capacity in community approaches through continued Community Development Officer (CDO) activities.

FY00 Obj 1 B B1	O	N	D	J	F	M	A	M	J	J	A	S
Orientation (New CDO)	X											
HCI workshop				X								
CDO activities with field sites in community outreach approaches	X	X	X	X			X	X	X	X		
Informal in-house seminar on community approaches					X	X					X	X

Progress to-Date:

Sundjaya, CDO, concluded his second site visit to the Togeans at the end of September 2000. During his 5-month stay in Palu & the Togeans, he shared many lessons and listened to field officers and other groups in the Togeans. He facilitated a more mature development of Sekber Togean group that includes partnership development between CI, Yabshi and Sekber Togean individuals. Togean program has matured in the partnership development area both between local NGOs and local groups. It is hoped that this lesson-learned can be shared with other program, especially with the Irian Jaya program.

The Togeans program has also become increasingly important to the Community Based Coastal Resource Management (CBCRM) initiative in Asia PacificThe Togeans project was chosen among other projects in the area to present a case study and share lessons learned in Iloilo, Philippines, on August 14-18, 2000. CDO together with DD had a chance to discuss and share what works across the region to develop a common framework for Community Based Resource Management. CDO's participation in Iloilo was covered by match funds (The CI-Washington Healthy Community Initiatives).

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

B2) Strengthen the professional and technical capacity of the professional staff members of CI Indonesia

FY00 Obj1.B.B2	O	N	D	J	F	M	A	M	J	J	A	S
GIS & database conference & course attended by JGM and DM							X				X	X
Project Cycle Management training				X								X
Field research internship in PNG: 2 Ecologists		X	X									
In-house English writing course for CI staff in Jakarta and in Jayapura	X						X	X	X			
Tax law & regulation course for FM	X	X										
Administration & Management course for Program Managers							X					
FM visit to DC					X	X	X					

Progress to-Date:

- GIS & Database course: Nanang, Technical Support for Conservation Planning attended a full month training on Microsoft Certified System Engineer (MCSE) to better understand technology information system to support growing needs at CI Indonesia.

  CI also invited a database expert to assist Ermayanti, Database Manager on compiling and refining the existing database to better manage the CI Indonesia database and to develop an integrated dbase & GIS management system.

- Project Cycle Management training: CI commits to continue training field staff to be able to use the Monitoring & Evaluation tool as part of their evaluation program. DD attended the follow up PCM training, now being called Strategic Management Approach (SMA) training in Montana, 25 – 30 September 2000. DD was accompanied by 2 junior staffs from INDECON (Indonesia Ecotourism Network) Indriani Setiawati and from Gunung Gede Program, Ni Putu Sarilani who received partial funding from Smithsonian Institute.

- FM visit to DC: FM did his on-site practice training at CI DC between 14-25 September 2000. His trip overlapped with DD in DC to enable program and budget discussions between the DC-based program and budget staff. His trip enabled him to follow up on his earlier training in Puerto Princessa, Philippines on 27 March-2 April 2000 as reported in June 2000 Semi Annual report.

- Other staff training activities included: Office Manager attended a follow-up on Library Management training in August 2000 and on-site practice development of CI growing library system. IJPM attended the Conservation Economics Training in Philo, California on 30 September 2000. Unfortunately due to sickness during the first 2 days of the training, he had to be hospitalized and later brought home.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 1, Activities B1-B2

1. New Community Development Officer oriented **(Completed).**
2. CDO site visits (GGNP, Togeans) completed **(Completed).**
3. CDO informal in-house seminar conducted **(Completed).**
4. National level GIS technical conference attendance by senior staff; databases courses **(Completed).**
5. Field research training internship in PNG: JE1, JE2 **(Completed).**
6. FM training visit CI Washington office **(Completed).**
7. Courses to improve skills attended by appropriate staff **(Completed).**
8. CDO attends Healthy Communities Initiative Workshop **(Completed).**
9. Other site visits, conference attendance, and training activities to build technical expertise identified, developed and completed. Trip reports written **(Completed).**

Objective 2:
Build institutional capacity within provincial level government agencies, the academic sector and local NGOs on management of natural resources both within and outside the protected areas system in Irian Jaya.

A. *Develop an effective strategy to respond to the changing context of natural resources management in Irian Jaya through revisiting and revision of current strategy.*

A1) Update information base on Irian Jaya, both at the provincial level and for one or two case study sites.

FY00 Obj2 p'b A	O	N	D	J	F	M	A	M	J	J	A	S
Design information collection strategy	X	X										
Collection, assessment, analysis and dissemination of information	X	X	X	X	X							
Design institutional mapping	X	X										
Implement institutional mapping	X	X	X	X	X							

Progress to-Date:
As follow up to the discussion on the case study site, CI has been exploring working in the area of the Mamberamo Basin. Our recent Mini RAP in Mamberamo confirmed the high diversity of the area. The team found at least 20 new species and several new records (for species which had never before been mentioned were found in Mamberamo) for the region. Mamberamo remains a CI priority area for regional conservation. CI continues to fundraise for this area with proposal submissions to Global Environmental Facility (GEF), USAID Mission and Foundations.

CI also realizes that through our investment, results and support gained from stakeholders in Irian Jaya over the past years, it is now obviously important especially in the decentralization era to strengthen natural resources governance and management capacity in Irian Jaya. CI will try to upgrade key enabling conditions to ensure that central government devolution of environmental management to the Irian Jaya province and its districts (kabupatens) and kotas and kotamadya will impact favorably on regional conservation. Starting end of year 2000 CI will also assist in the establishment of a coordination mechanism that engages key regional stakeholders in natural resources management (NRM) decision-making and strengthen the use of conservation management skills resident in Irian Jaya (funded through an FY01-2 EAPEI/USAID Associate Award).

A portion of the activity focusing on the establishment of the coordination mechanism in Irian Jaya is being funded by EAPEI and we are seeking additional funding to develop strong case study (preferably in Mamberamo area) to demonstrate practical application of an improved decentralized NRM decision-making framework that can be developed by focusing specifically on an area facing complex development and conservation issues.

This is critically important in an area as sensitive as Mamberamo in particular, and in Irian Jaya in general, to demonstrate and provide working examples which enable local stakeholders to fully participate in the development, discussion and refinement of the case study.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A2) Key Stakeholder Partner Workshop to discuss the future of biodiversity conservation in Irian Jaya.

FY00, Ob2, A1	O	N	D	J	F	M	A	M	J	J	A	S
Identify key partners	X	X										
Outreach to key partners	X	X	X									
Workshop preparation			X	X	X							
Conducting workshop					X							
Reporting						X	X					

Progress to-Date:

Nothing to report at this time. This whole series of activities under this section is complete.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A3) Strategic Planning Workshop

FY00, Ob2, A1	O	N	D	J	F	M	A	M	J	J	A	S
Workshop preparation (workshop material, determine participants, logistics)			X	X	X							
Conducting workshop					X							
Presentation of draft revised strategy to USAID					X	X						
Presentation of draft revised strategy to CI at Annual Planning						X						
Socialization of revised strategy once finalized							X	X				
Outreach activities with key government agencies, NGOs, and other stakeholders	X	X	X	X	X	X	X	X	X	X	X	X

Progress to-Date:

The draft of Irian Jaya Strategy resulted from the Key Stakeholder Consultation (KSC) and Irian Jaya Strategic Planning Workshop in February 2000 underwent several refinements at the April 2000 CI Indonesia Annual Planning described in A2. It went to another series of discussion and refinement when Irian Jaya team (Suer Suryadi and Yance de Fretes) accompanied Jatna Supriatna, CD to CI Annual Meeting in Washington, DC on May 2000.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A4) Develop at least one case study area(s) assessment to test the feasibility of both the demonstration of specific land-use planning exercise in partnership with government and other stakeholders, and also the development of a site-based research program.

FY00 Obj3 A	O	N	D	J	F	M	A	M	J	J	A	S
Identify case study sites	X											
Case study information collection and assessment	X	X	X	X	X	X	X	X				
Case study area site visits				X	X							
Presentation of case study results (to date) at ISPW					X							
Initial activities with relevant government agencies				X	X	X						
Develop case study site research program							X	X	X	X	X	X
Training/capacity building activities								X	X	X	X	X
Develop paper on case study											X	X

Progress to-Date:

As described in the last Semi Annual report, CI IP decided to postpone the Spatial Planning Case Study exercise until further discussion.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 2, Activities A1-4

1. Institutional Mapping Exercise designed and implemented **(Completed).**
2. Information collected and analyzed updated and circulated internally **(Completed).**
3. Key Strategic Partner Workshop held **(Completed).**
4. CI Internal Strategic Planning Session held **(Completed).**
5. Revised Irian Jaya strategy articulated **(Partially completed).**
6. Socialization activities for revised strategy **(Partially completed).**
7. Case study site(s) identified and assessed **(Partially completed).**

Objective 3:
Increase scientific understanding of Irian Jaya's biodiversity and raise awareness of its importance in order to help facilitate effective management of natural resources.

A) Conduct training in "information generation" methodologies.

FY00 Obj3 A	KO	N	D	J	F	M	A	M	J	J	A	S
RAP training assessment, development and preparation					X	X	X	X	X	X		
RAP training activities												X
Wrap –up/Reporting												X

Progress to-Date:

During early July to mid September 2000, CI Irian Jaya program held series of field trainings in Jayapura, Yongshu and Mamberamo. Those trainings were partially funded by Mac Arthur Foundation, and USAID under BiRD. Co funding was also received from Smart Foundation through CI-DC RAP program. The first training was on Experimental Design and Proposal/Research Grant Making in Jayapura and Yongshu during 3-16 July 2000. The purpose of this training was to provide local field researchers/practitioners with better understanding on the principles of designing an field experiment, and preparing a sound research proposal/grant making. There were 20 participants from 15 institutions (several logal NGOs, local government units, Conservation Units at Regional Forestry Department, University, National Park authority), came to this 2 weeks training. The trainers were from CI and Cenderawasih University.

The second training was held in Yonshu, during 16-27 August 2000. The training was on Rapid Assessment Program (RAP) Methodologies. The Objective was to build capacity of Irian Jaya biologists, to train young scientists in methods for biological RAP, in data analysis and in report preparation, to catalyze conservation efforts in Irian Jaya, and to create a local RAP team which will continue to conduct assessment of biodiversity in Irian Jaya, thereby enabling sound conservation actions and decisions. There were 23 participants from University Cenderawasih, R&D Forestry Department, BKSDA (Forestry Conservation Bureau), Wasur National Park, and local NGOs. Trainers came from Bandung Institute of Technology, Indonesia Institute of Sciences, University of PNG, James Cook University, Counterpart International, Birdlife International, and CI (Attachment Indonesia-2).

Following the RAP Methodologies Training, a Mini RAP was organized in Mamberamo for 2-15 September 2000. Almost the same trainers involved in the Yongshu RAP Methodologies training with the six best participants from the previous RAP training participated in the Mini RAP in Mamberamo. The purpose of this Mini RAP was to provide participants in the RAP Methodology Training with practical experience, to contribute biologically data in Mamberamo, and to create framework for further conservation recommendations about Mamberamo to decision makers (Attachment Indonesia-3). During these RAP activities, at least 24 new species were discovered, including 6 frog species and possibly several new plant species. This new record of species found never before found in in Mamberamo --together with several endemic species -- indicated the importance and sensitivity of Mamberamo.

A press briefing was held on 18 September in Jayapura and attended by almost 30 people from press, Rector University Cenderawasih, high-ranking officials, and local NGOs. The RAP activity was also covered in local news paper (Cepos= Cenderawasih Post) and national magazine (Tempo) as well as in web. The RAP team will be producing a preliminary report that should be finished by end of FY01. Match funds for RAP included: the Mac Arthur Foundation (for Experimental Design/Research Grant Making) and the Smart Foundation (for publication of RAP booklet).

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 3, Activity A

1. JE1 and JE2 complete internship in PNG (also covered in Objective 1, B2) **(Completed).**
2. Local capacity assessment for RAP training activities **(Completed).**
3. Development RAP training program **(Completed).**
4. RAP training activities **(Completed).**

B) *Raise biodiversity awareness through a series of lectures and workshops. Some of these will be targeted at senior decision-makers, and others - particularly through the lectures - will be targeted at mid-level technical professionals. The goal is to increase understanding of and appreciation for biodiversity, and to facilitate greater recognition of the potential negative costs of certain types of development options.*

FY00 Ob3.B	O	N	D	J	F	M	A	M	J	J	A	S
Design of lecture program		X	X	X								
Lectures and seminars held					X		X			X	X	X
Travel Jakarta-Jayapura for lecture/seminars					X					X	X	
Irian Jaya Information Center material & display development and preparation	X	X	X									

Progress to-Date:

During FY00, CI in Jakarta and Jayapura has been doing a series of lectures, workshops and seminars for decision-makers and the general public to raise awareness on the importance of biodiversity. CI has strategically invested resources in several important stakeholders in Jakarta and Jayapura so that better decisions will be made. Moreover, through our activities, CI was able to create an embryo for a 'demand' for a more transparent and well-informed decision making process and framework necessary for improved resources decision-making in the era of decentralization. This becomes the basis of our future activities in Irian Jaya. We will be following up on this process through funding from EAPEI and other donors.

- During this time period, the CI Irian Jaya team also managed to get involved in the discussion and preparation of Irian Jaya Biodiversity Action Plan with Bapedalda (Regional Environmental Impact Assessment Agency). Suer Suryadi, IJPM was very involved in trying to include CI Priority Setting Workshop result in the Irian Jaya Biodiversity Action Plan. The Irian Jaya Biodiversity Action Plan organized by Bapedalda will be the basis of the development plan and conservation strategy in Irian Jaya. Hence our strong involvement is based on the CI PSW and current research was very important.

- In July, IJPM attended the launching of new biology department at Uncen (Iuniversity Cenderawasih) and developed some collaboration effort to increase capacity building for Papuan biologist. Both CI and the new biology department agreed to support each other in conducting research and trainings, such as the Rap training in August and the Marine RAP training in Raja Ampat scheduled in March 2001. IJPM met Irian Jaya Navy Commander to seek possible collaboration between CI and Navy since they have facilities to distribute information we had. They are willing to support CI's activities in marine sectors and we agreed to help them to with conservation awareness for their field staff.

- Several meetings with Dewan Adat (traditional councils) of Mamberamo and Cyclops were held to absorb their needs on conserving their tenurial land. On the other hand, we provided them with the conservation information and some related issues.

- In Jakarta, Jatna Supriatna, the CD, led a series of meetings and discussions with high level officials concerning Irian Jaya development. In June CI was involved in discussions about the development and fundraising for Irian Jaya Conservation Trust Fund with assistance from Marianne Guerin-McMannus, CI Director of Conservation Finance based in Washington, DC. In August, Jatna had a meeting with Ministry of Public Works and was able to discuss road development plan in Irian Jaya who knows of our extensive Conservation Priority Setting Workshop results in Irian Jaya last 2 years. The Ministry seeks advice from conservation groups on the issue of development and conservation in Irian Jaya. In late August Jatna was invited by WWF Bioregion Sahul to discuss the follow up of CI Conservation Priority Setting Workshop results. CD and IJPM also met the Minister of Development for Eastern Indonesia to socialize Priority Setting Workshop Results and both sides agreed to make certain follow up in the near future.

- In late September CI sponsored a one-day workshop in Shangri-La Hotel Jakarta to discuss Management and Conservation of Natural Resources in Papua in the autonomy era. Almost 90 participants from various institutions in Jakarta, and Jayapura, NGOs in Jakarta and Irian Jaya, press, and private sectors who have business in Irian Jaya attended this workshop. Result from the one-day discussion showed that we know very little about decentralization law and special autonomy to be given to Irian Jaya and how it will impact governance in Irian Jaya given the special circumstances in Irian Jaya. Participants shared common issues and concerns regarding the implementation of the law in Irian Jaya.

- In late September, Iwan Wijayanto, who was deeply involved in the 1994 Conservation Priority Setting Workshop (CPW) was able to assist CI Philippines in the almost same process of CPW in Irian Jaya. Lessons learned were shared among practitioners to gain a better understanding not only of the preparation of the workshop but also the follow up of the workshop.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 3, Activity B

1. Series of lectures, presentations and workshops designed and held **(On-going program).**

4) CI-Papua New Guinea

Objective 1:
Increase the link between community-based resource management and biodiversity conservation on Kamea-owned lands in the Lakekamu Basin through expanded use of the Ivimka Research Station (IRS).

Activities:

A) Work in partnership with the Kamea landowners to maintain and promote the IRS in the Lakekamu Basin as a world-class, lowland rainforest research facility.

A1) CI-PNG will help facilitate increased consultation with the IRS Kamea landowners and nearby Kamea community of Tekadu to enhance the information flow between IRS field staff and the Research Station's local stakeholders. FY99-01.

FY00 Obj 1 A A1	O	N	D	J	F	M	A	M	J	J	A	S
Regular meetings and Community Consultation	x	x	x		x		x		x		x	

Progress to-Date:

Community meetings and consultations are an integral part of the project activities and as such take place on most field visits by the project officers.

The following field trips and activities took place between April 1 and September 30, 2000:

1. March 13 - April 12: field trip by Banak Gamui, the Lakekamu Basin Science Officer, to Tekadu and Nukeva villages.
    - The first drafts of land/resource use maps, produced by the Nukeva and Tekadu villagers during the September 1999 trip, were revised during this field trip.
    - During the same field trip, four landowners from Tekadu and one from Nukeva indicated interest in doing conservation work on their lands. They met at different times with Banak and indicated on their village maps the lands they owned. The four Tekadu landowners also wrote to CI-PNG, asking the organization to extend its work into their lands in the hills near Tekadu. When asked about wildlife of interest, they mentioned animals such as tree kangaroos, bower-birds, mountain dwarf cassowaries, etc. It was also interesting to learn that wild dogs (the New Guinea Singing Dog?) live in the forests at higher altitudes. Banak plans to visit these new sites during the next fiscal year (FY01).
2. May 8 – 31: field trip by Banak and Eka, the new Lakekamu Basin Site Manager, to Tekadu and Kakoro villages.
    - Eka's field orientation included visits to Kakoro and Tekadu villages. CI-PNG confirmed with the community that a bank account to hold the IRS income would be established.
    - Attended a WMA meeting organized by FPCD in Kakoro. Only one person from Tekadu (Colla Tiamipo) represented the Kamea/Watuts at the meeting, but he did not contribute to the demarcation of the WMA boundary, as he was unsure of what his people were thinking at that time.
    - A meeting was held with the people Tekadu on the percentage break-up of IRS takings. People agreed on the following distribution: 20% to the community, 20% to the landowners, and 60% to the Research Station.

3. July 16 - August 23: field trip by Eka to Ivimka Research Station and Tekadu village
   - Eka supervised the expansion of the lookout along one of the new trail extensions. Four local men worked on this for two weeks during his visit.
   - Four additional Tekadu men were engaged in the upgrading of the Tekadu-IRS trail. They spent two weeks clearing fallen logs and bushes along the ten kilometer trail.
   - On his initial orientation trip, Eka did not visit Nukeva village. During this trip, he visited the village with two local guides to complete his orientation of the project site.
   - General maintenance of the IRS facility is an ongoing activity. Eka supervised and worked with the locals to keep the IRS facility in order during this field trip.

4. August 10 - September 5: field trip by Banak to Ivimka Research Station and Tekadu village.
   - A two day (August 30 – 31) workshop was held with the Kamea/Watuts to build consensus on their land-use maps. The workshop was attended by 69 people (see Attachment PNG-1), and the process and outcome is described below.
   - *Results of the Meeting:*
     1. A consensus land-use map was produced for the Nukeva and Tekadu areas.
     2. Research boundaries for the Ivimka Research Station were drawn for the first time by the landowners and presented to the other Kamea/Watut people who attended the meeting.
   - *Other Matters Discussed:*
     1. Discussions on establishing a WMA started; initial indications of WMA boundaries made.
     2. A meeting to build awareness of the WMA will be held during Banak's next field visit in December.
     3. Signatories were nominated by the Kamea/Watut people, and specimen signatures were collected.
     4. Clement and Alex were confirmed as field assistants, while a third person, Mathew Yawi, was nominated to work with them. Their main role is to monitor, record and report all events pertaining to the WMA or the Lakekamu Project in general. They were shown how to write simple narrative reports and keep diaries. They will be reporting to Banak monthly and will be given a small stipend upon submission of their monthly reports. They will also be assisting CI project officers in coordinating field activities, collecting field data and performing specific tasks as required by the project.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A2) CI-PNG, in consultation with Kamea landowners, also proposes to update the current monitoring and evaluation program. FY99-00.

FY00 Obj1 A A2	O	N	D	J	F	M	A	M	J	J	A	S
Consultation with Experts	x	x	x	x	x	x	x	x	x	x	x	x
Reevaluation of M & E plan	x											
Consultation with Community about measurable results	x	x	x		x		x		x		x	
Revised draft prepared							x					
Trial (Dry) runs of draft M&E Plan								x	x	x	x	x
Final draft of M & E plan prepared												x

Progress to-Date:

Very little progress was made on this activity in FY00 because the project staff did not have the capacity to draw up the monitoring and evaluation program. Conservation International, in its attempt to build the capacity of its field project managers, has conducted two recent training workshops. The most recent was held in Montana from September 24 to October 1, 2000. This training was focused on designing monitoring plans for project implementation and evaluation. Banak attended the training, so he is now in a better position to design and implement a monitoring and evaluation program for the project.

Banak will be working with the CI-PNG management team and the Monitoring and Evaluation Department in Washington to put together a monitoring plan for each of the projects. Although this is the final year of the BiRD agreement, a monitoring program is needed for Lakekamu, and the activity will be carried out beyond the USAID funding period. A project strategy document and LogFrame drafts have already been prepared, and the monitoring plan will be derived from the project LogFrame.

Banak has already started communicating with other CI-PNG project managers and staff regarding the M&E training he received in Montana. In FY01, he hopes to facilitate each of CI-PNG's projects in the development of a project LogFrame, the articulation of their indicators from the LogFrames, and the eventual assembly of a monitoring plan.

Problems, delays, shortfalls and proposed solutions:

Shortfalls with the M&E plan are explained above. They have already been addressed with the training of Banak in the M&E course.

A3) CI-PNG, in consultation with Kamea landowners, will oversee expansion and maintenance of the current trail network, construct observation blinds and make improvements as needed to the IRS. FY99-01.

FY00: Obj 1 A A3	O	N	D	J	F	M	A	M	J	J	A	S
Maintenance of current trail network	x	x	x	x	x	x	x	x	x	x	x	x
As needed improvements to IRS infrastructure	x	x	x	x	x	x	x	x	x	x	x	x
Trail network map- draft	x	x	x	x								
New trail network planned with communities	x	x								x		
Sites for observation blinds selected							x					
Implementation of trail network planned- construction		x	x	x	x	x	x	x	x	x	x	x

Progress to-Date:

Maintenance of the trails is an ongoing activity. During this reporting period, the Tekadu-IRS trail was upgraded, with four local individuals working for two weeks to clear fallen logs and bushes along the approximately 10 kilometer trail. Construction of other trails according to the established trail network plan continued, and two sights for the observation of birds have already been identified. In FY01 work will continue on the identification of observation sites, and at least one observation blind will be built. The marking and mapping of trails will be the main activity in FY01.

Additional improvements to the IRS facility include the construction of a new building to accommodate local research assistants and field workers. By March, the field workers had already cleared a new site close to the research station. They had also started cutting and gathering timber/wood for the construction of the building. There is sufficient roofing iron, nails, and posts to begin the construction;

however, additional lumber will be needed for the floor and walls, and work has slowed down as this activity was not included in the FY00 project budget. To date, there has been no direct cost associated specifically with the construction. The locals collected timber and cleared the construction site in conjunction with other USAID funded activities (i.e., trail maintenance). As we do not have any more matching funding, the activity will continue in FY01 depending on the availability of funds to acquire additional timber.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A4) CI will also promote the 1998 RAP Working Paper Number 9 on the 1996 Lakekamu Basis RAP as a promotional tool to expand use of the IRS by visiting researchers and will explore potential partnerships with research institutions in PNG, Australia and elsewhere in the Pacific. FY99-01.

FY00 Obj1 A A4	O	N	D	J	F	M	A	M	J	J	A	S
Continued distribution of RAP Working Paper No. 9	x	x	x	x	x	x	x	x	x	x	x	x
Partnerships search	x	x	x	x	x	x	x	x	x	x	x	x
Update PNG Program pages and link CI website to PNG Embassy's website			x									

Progress to-Date:

The distribution of RAP reports is already completed. Regarding the search for institutional partnerships for the IRS, discussions with Dr. Terry Sears of the Sylvaard Institute continue. During his trip to the United States to attend the M&E workshop, Banak met with Terry to discuss the establishment of partnership activities designed to develop both a research presence and research enterprises at the IRS. During Banak's discussions with Terry Sears, he agreed to present his ideas in writing to CI. He will be visiting PNG this December, so Banak will be following up on this with him.

Updating of the PNG Program web page to include information on the Lakekamu Basin and linking of the CI website to the PNG Embassy's website are underway in Washington and are expected to be completed early next year. The PNG Program will contribute to this effort by providing information to CI-Washington and reviewing all products before they are distributed on the web.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A5) CI-PNG will empower the local community to participate fully and meaningfully in the Science and Research Tourism Enterprise. In doing so, CI-PNG will facilitate community training and the establishment of an IRS Management Committee comprising members of the local Tekadu Community.

FY00 Obj1 A A5	O	N	D	J	F	M	A	M	J	J	A	S
Research Assistant Training	x	x	x	x	x	x	x	x	x	x	x	x
Tour/Field Guides Training						x						
IRS Management (Book-Keeping) Training								x				
Establish IRS Management Committee						x						
Participatory Rural Appraisal (PRA) & Community Mapping Training Workshop									x			
Butterfly Farming Training											x	

Progress to-Date:

Training of local research assistants has been carried out through on-the-job work with visiting researchers. Training will continue whenever researchers visit. Tour and field guide training was delayed due to a lack of the financial means to hire a trainer and pay for his or her travel expenses. IRS management and book-keeping training involved teaching Clement and Alex (the two IRS field assistants) to keep the IRS ledger and to monitor and report on activities within the facility. Training in PRA and community mapping was not conducted through specific workshops but as an activity involving initially separate land and resource-use mapping by the Kamea/Watuts of Tekadu and Nukeva villages and subsequent collaborative work that brought them to a consensus on land and resource uses. CI project officers will use PRA and community mapping as tools to further involve the community in project activities; however, the assistance of experts will be needed to strengthen and improve the approaches taken so far and to further train CI-PNG Lakekamu Staff on the use of the PRA tools in the Basin.

Problems, delays, shortfalls and proposed solutions:

The butterfly farming training was not conducted due to scheduling conflicts with the Wau Ecology Insect Ranch. This training will be conducted in FY01.

FY2000 Outputs/Benchmarks for Objective 1, Activities A1-A5

1. Hold continued informational meetings with the Kamea landowners of the IRS (**Completed**).
2. Reevaluation and Revision draft of M & E plan (**Not Completed; Delayed**)
3. Expansion and maintenance of current trail network; as-needed infrastructure improvements; plan new trail network; select sites for observation blinds (**Partially Completed).**
4. Continued distribution of RAP Working Paper Number 9 on the 1996 Lakekamu Basin RAP; partnership search **(Partially Completed).**
5. Training for local research assistants and tour guides; establishing an IRS management committee and training in book-keeping, PRA training and land/resource-use mapping; butterfly farming training (**Partially Completed ; with changes as reported above)**

B) *CI-PNG will continue its efforts to inform the Kamea on the importance the Lakekamu Basin's biodiversity, the importance of sustainable resource use and the various conservation options open to them. This would be accomplished through:*

- *a series of community meetings and workshops. CI-PNG Lakekamu Basin staff will conduct this activity. FY99-01.*
- *delivery of the results of the 1996 Lakekamu Basin RAP to Basin communities in a comic-book format that is widely used for education purposes in PNG, and that will be most useful and accessible to them. FY00 -01.*

FY00 Obj1.B	O	N	D	J	F	M	A	M	J	J	A	S
Meetings on biodiversity	x	x	x		x		x		x		x	
Comic book consultations	x	x	x	x	x	x	x	x	x	x	x	x
Draft of comic book											x	

Progress to-Date:

Meetings on biodiversity were conducted during field visits and as part of the consultation meetings. The meeting scheduled for April was carried over to the May-June visit, and a second meeting was held in August during the consensus meeting among the Kamea/Watuts. Awareness talks on biodiversity took place along with other activities during the meetings. In May, there was a meeting in Kakoro village on Wildlife Management Areas (WMA). This meeting was organized by CI's local NGO partner, the Foundation for People and Community Development (FPCD). Selected representatives from six Basin

villages (Okavai, Urulau, Kakoro, Mirimas, Nukeva and Tekadu) attended the meeting to discuss WMA issues. The discussion revolved mainly around the livelihood of the fresh water fish and how their populations are affected when silt and other pollutants are in the river.

Oil palm development was discussed during the August land use mapping meeting between Nukeva and Tekadu villages (the Kameas). Except some of the Kameas, all of the ethnic groups (Kovio, Biaru, Kunimaipa) oppose the proposed oil palm development in the Basin. Discussions on development usually took place when Banak visited the village camps in the evenings after the meetings. It became clear during this time that not all of the Kameas supported the oil palm development proposal. At this time, the Nukeva people were also presented the 1996 Biological (RAP) Survey results. The Tekadu people had already been presented with the results in a previous meeting.

The comic book consultations continue. The draft was supposed to be ready by August; however, due to the slow progress of the artwork, the draft has not been finalized. We intend to collect the artwork from the artist as soon as it is completed and work on the text and layout in consultation with CI-Washington.

Problems, delays, shortfalls and proposed solutions:

A draft of the comic book was not produced due to the slow progress of the artwork. The activity will be completed in FY01.

FY00 Outputs/Benchmarks for Objective 1, Activity B

1. Series of meetings on biodiversity with the Kamea (**Completed**).
2. Complete consultations on comic book content (**Partially completed).**
3. Complete draft of comic book (**Will be completed in FY01).**

Objective 2:
Foster biodiversity conservation in targeted communities in Wide Bay, East New Britain Province through exploration of conservation-based enterprise development and support of community-based resource management.

Activities:
CI and our local NGO partner, the East New Britain Sosel Eksen Komiti (ENBSEK), work with local communities in Wide Bay to increase their knowledge and understanding of conservation-related issues.

A) CI-PNG, in partnership with ENBSEK and local communities, and with technical support provided by CI-Washington, will conduct a targeted RAP survey and continue participatory rural appraisals in order to formulate community-based resource management plans.

A1) At the request of the communities of Taintop and Klampun, CI will conduct a small-scale RAP survey on their lands. Information obtained from the survey will be used in developing community-based resource management plans. Results of the RAP survey will be published and disseminated within Wide Bay communities. FY00-01.

FY00 Ob2 A A1	O	N	D	J	F	M	A	M	J	J	A	S
Small-scale RAP					x	x						
Write-up of RAP results												x
Community Based Resource Management – ongoing	x	x	x	x	x	x	x	x	x	x	x	x
CBRM – addition of RAP results												x

Progress to-Date:

The small-scale RAP conducted in March 2000 lacked the botanical component, which was later completed in two parts, ethnobotany (completed in April) and botany (completed in July). Those surveys completed the RAP in Wide Bay. The following are the results of the studies:

Ethnobotanical Survey. An Ethnobotanical Training of the Trainers Workshop was conducted in Klampun village from April 10 – 19, 2000. There were 34 participants from various communities around Wide Bay, including the villages of Klampun, Tiemtop, Setwe and Kilalum, as well as participants from Kokopo and New Ireland Province. The ethnobotanical workshop was intended to assist the participants in identifying useful forest plants in the Wide Bay area, while also generating interest in maintaining the traditional knowledge associated with the uses of forest plants.

Participants were trained in basic botanical skills, including:

- how to collect plant samples
- naming the plants in the local vernacular (later identified at the Herbarium with scientific names, including Genus, Family and Species)
- type of information to gather when collecting plants
- plant preservation techniques (plant pressing and drying; tagging of names on plants)
- recording plant information, including filling in plant voucher sheets

The workshop led to the identification of more than sixty useful plants according to their local names and uses (e.g., for food, medicine, construction, handicrafts or decorations). The uses were identified through participant presentations and completion of voucher sheets. Once the plant knowledge had been compiled, the participants sought permission from the sources of the knowledge before disclosing the information.

The workshop also addressed the issue of waning interest in traditional ethnobotanical knowledge. Though their livelihoods depend heavily on the surrounding environment, some members of the community tend to ignore the fact that these resources need to be managed to sustain their cultures in the long term. As a result, much of the traditional knowledge is slowly vanishing; therefore, immediate strategies are required to address this issue.

It should also be noted that the human understanding of plants is a very sensitive issue in Papua New Guinea, and some of the traditional knowledge is treated secretively, with specific (and sometimes strict) taboos placed on disclosing certain information. This sensitivity may necessitate setting-up agreements, such as a Memorandum of Understanding (MOU), with the communities concerned. As a result, the plant data collected and future plant projects in Wide Bay would strictly remain the property of the community.

Botanical Survey of the Tiemtop area. Pius Piskaut and Phille Daur of the University of Papua New Guinea (UPNG) carried out the preliminary investigation of the vegetation and plant types of the Tiemtop area in July 2000. Based on visual observations and quantitative samples of selected forest types, several vegetation communities were apparent. These included the mixed Castanopsis, Dillenia and lowland hill forests. Disturbed forests also form minor formations within the conservation area and are represented by early regrowth, secondary and advanced secondary forests. The frequently disturbed riverine forest forms a narrow strip along the deeply incised rivers. By and large, the distributions of the forest types appear to be influenced by the geology, topography, soil and climate of the area. The occurrence of montane elements below 500m above sea level is uncommon in Papua New Guinea and the proposed Tiemtop Conservation area is one of the interesting places that records this formation at around 200m above sea level. This forest type is sensitive to disturbance, and protection is considered a priority.

The species diversity in the proposed Tiemtop conservation area reflects the variety of forest types occurring in the area. Mixed Castanopsis forest is species poor compared to other forest types. Overall, a total of 112 species comprising 67 families were recorded in a 0.3ha sampled area. This is suggestive of a high diversity, although studies are needed to verify the exact diversity. No new species were sampled

or observed, but there is a good prospect of encountering new species with further study. Similarities of vegetation types in the proposed Klampun Conservation Area suggests the possibility of regeneration in species composition once logging destroys other areas.

It was evident that the local populations of Tiemtop and the surrounding villages depend heavily on forest products for their basic needs. Building materials, food, medicines, arts and crafts, and materials for traditional rituals are largely derived from forest products. Some plants and their uses were recorded during this survey, though this list needs to be updated. It is possible that further ethnobotanical studies may reveal plants with commercial values.

Developing Community-Based Resource Management Plans
There is an effort to form a Wide Bay community association as an organizational basis for community-based resource management. The association will be based on the Conservation Committee of Klampun and Tiemtop villages. In order for the association to be based on the existing committee, the committee composition was adjusted to involve women as equal participants. The draft constitution of Tiemtop and Klampun Community Association has been circulated for comments and will be submitted to the Investment Promotion Authority (IPA) for registration as an association.

The following are some of the objectives of the community association:
- to conserve and develop the natural resources for sustainable development;
- to stop all foreign companies from entering the area for any industrial development;
- to manage the Land Use (plan) within the Conservation Area;
- to promote and enhance traditional customs and beliefs of the Sulka and Mengen tribes;
- to assist in solving social issues within the community;
- to promote community education, religion, agricultural and health services within the community;
- to encourage and strengthen the rules of the conservation area;
- to do fund raising to assist in community development; and
- to promote eco-tourism enterprises.

In its capacity as a representative body for the Sulka and Mengen people, the Conservation Committee has had the task of creating, maintaining and enforcing the rules of the Wildlife Management Area (See Attachment PNG-2). The Committee is comprised of one representative from each land group in the area, as well as a chairperson. Committee members are appointed through discussions among all male and female adult members of each land group. The chairperson is appointed through a meeting of all committee members and will rotate annually through different land groups. In the event of misconduct by the chairperson, a special meeting will be called by the executive to discuss the fate of the chair. The entire committee must make decisions on changes in the rules and committee composition.

A Project Evaluation/Review Workshop was held from October 5-13, 2000 at Klampun village. The goal of the workshop was to review accomplishments and lessons learned over the life span of the project in order to assist the communities in developing activities to strengthen the implementation of CBRM plans. The workshop resulted in a review of project accomplishments and lessons learned, the identification of community stakeholders and alliances (as well as their roles and responsibilities), and the development of activities to be included in the project plan. A summary document of the workshop is attached (see Attachment PNG-3).

CBRM has been viewed as an objective of all activities carried out in the three years of the USAID BiRD Agreement, including the targeted small-scale RAP, targeted enterprise development study and Participatory Rural Appraisal (PRA). In fact, the CBRM Strategy is a product of these combined activities, with an emphasis on building the capacity of local communities to sustainably manage the project. The CBRM activities that are described in the CBRM strategy derive from the small-scale RAP results (See Attachment PNG-4). Recommendations from the different disciplinary components of the small-scale RAP survey, conducted near Tiemtop and Klampun villages between March 13 and July 27, 2000, will be incorporated into CBRM plans during FY01. RAP team leader, Dr. Andy Mack, and Wide Bay Project Manager, Maureen Ewai, will compile the final report on the RAP for dissemination in FY01.

The activities described in the CBRM Strategy, derived from the RAP results and recommendations, have been identified as necessary elements of a successful CBRM strategy. Since they could not have been identified prior to the RAP's findings, these are new activities. The community's current emphasis on establishing Wildlife Management Areas is a particularly welcome outcome of the past three years' work, especially since CI and ENBSEK did not feel that it was realistic to achieve this result in Wide Bay during the duration of the BiRD Cooperative Agreement.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

A2) CI-PNG with local partner, ENBSEK, will carry out additional participatory rural appraisals (PRAs) in targeted communities in Wide Bay. FY00-01.

FY00 Ob 2 A A2	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
PRAs in targeted communities (continue through YR2 & YR3)	x	x	x	x	x	x	x	x	x	x	x	x
PRA information added to CBRM plans												x

Progress to-Date:

Information gathering through Participatory Rural Appraisals is now successfully completed. Use of PRAs has led to community consensus on land boundaries. This in turn has led to the development of land-use plans and maps as components of the CBRM planning. The land-use maps indicate the locations of proposed WMA(s), cash crop plantations, gardening, sacred sites, scenic features and hunting sites. During FY01, CI and ENBSEK will focus on building the capacity of the communities to manage these resources by using the land-use plans they have developed for themselves.

The Klampun Conservation Project started on the lands of the Kair clan, though it was designed as a community project. The continued effort of Extension Volunteers, originally all from the Kair clan, continued awareness-raising within the entire Klampun village community. By the first week of April 2000, the other clans within the Klampun community had decided to give up some parts of their land for the same purpose, and representative clan members were sent into the bush to survey the boundaries again in order to extend the proposed conservation area boundary.

Through PRA, related social issues have been identified and prioritized by the communities. Responsible agencies that would be able to work best with the communities to address issues of concern have been identified and their services will be sought in FY01. For example, the communities of Tiemtop identified "access to clean drinking water" as a major problem in the village. This will be addressed through the establishment of Community Associations, which will be able to send grant proposals to local and bilateral donors to fund water tanks or water supply systems. ENBSEK, which will conduct all follow-up activities to the PRAs in FY01, will pursue community training in proposal writing, legal rights, conflict resolution, monitoring and evaluation, and other issues of concern to the community.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 2, Activities A1-A2

1. Conduct targeted small-scale RAP survey and begin initial write-up of results **(Completed).**
2. Continue community-based resource management discussions **(Partially Completed).**
3. Add RAP results to community-based resource management plan working document **(Partially Completed).**
4. Continue participatory rural appraisals in targeted communities **(Completed).**
   Add PRA information to community-based resource management plan working document **(Partially Completed).**

B) *CI-PNG proposes to continue its work with ENBSEK to help the communities of Wide Bay explore conservation-based enterprise development options that will promote the sustainable use of their forest and coastal ecosystems. This will be accomplished through:*

- *initial community consultations followed by targeted feasibility studies by CI's Asia Pacific Enterprise Manager, Darwin Flores, who is a specialist in small-scale enterprise development at the community level; and*
- *presentation of studies' findings and evaluation of various feasible conservation-based development alternatives by communities, who choose which ones, if any, they would like to pursue further. (FY00-01)*

FY00 Obj2 B	O	N	D	J	F	M	A	M	J	J	A	S
Targeted feasibility studies – months	x											
Findings in report form						x	x	x	x			

Progress to-Date:

The consultation and targeted feasibility study were conducted in FY00, and we are currently initiating community capacity building for potential enterprise projects. Implementation of the following recommended activities is fully funded by matching funds from the MacArthur Foundation.

Klampun Village Guesthouse and Training Center
The Klampun Village Guesthouse and Training Center is an initiative of the community and was established in July 1999 as an alternative way of earning cash income. It is managed by the conservation committee comprising representatives of the clans and sub-clans that live in the village. The land around the Guesthouse and Training Center, which is owned by the community of Klampun, has been designated for conservation, and the natural lowland rainforest is fairly undisturbed and healthy. Currently, the users of the facility include the project staff and participants in workshops related to the project.

Rice Farming Skills Training
12 people participated in training on the basic skills of growing and processing rice, which was carried out by OISCA in Rabaul on September 18-22, 2000.

Interest in growing rice among farmers in East New Britain is currently very strong for the following reasons:

- The price of main commodities in East New Britain, such as cocoa and copra, have been low for several months;
- There is an increasing demand for rice, even in village communities, and it is becoming more expensive to purchase rice from retail shops;
- Farmers have realized that rice grows well in Papua New Guinea.

The trained farmers have already planted the rice, and continued networking with OISCA and the LLG will ensure the effective application of the skills learned during the training.

Fund Management Training
Basic skills in fund management training were conducted for the Klampun community in August 2000. The purpose was to develop a community accounting system that allows the Conservation Committee to set up priority areas for using community funds. The accounting system utilizes a simple bookkeeping form, which the committee will use to record income and expenses. The Conservation Committee will present a financial report to the community at the end of every month.

During the fund management training, the community identified the following sources of income: the Guesthouse and Training Center, sale of copra, fundraising video shows, sale of garden produce, joinery workshop, site seeing, donations, T-shirt sales, cultural shows, and employment as cooks, field assistants and tour guides.

Update on Shipping Issue
The major impediment to achieving successful enterprise development in the community remains the irregular visitation of cargo ships to the Wide Bay area. This lack of dependable access to markets is an issue that will have a tremendous impact on enterprise development in Wide Bay. Therefore, CI and ENBSEK will address this issue with the maritime industry and government in order to find ways of increasing shipping frequency and dependability in the area.

On September 25, 2000, Maureen Ewai met with Matrus and Richard Peters of the Evangelical Lutheran Church regarding Lutheran Shipping, which has an interest in extension of it's operation along the south coast of New Britain, including both West and East New Britain.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time

FY00 Outputs/Benchmarks for Objective 2, Activity B
1. Complete targeted feasibility studies **(Completed).**
2. Begin presenting findings in report form **(Completed).**

Objective 3:
Increase the number of viable legal options for biodiversity conservation in Papua New Guinea through policy analyses of Conservation Area legislation and identification of suitable locations for its application.

Activities:
A) CI will conduct policy and economic analyses leading to the formulation of conditions precedent for likely successful sites for CA implementation. FY99-00.

FY00 Obj3 A	O	N	D	J	F	M	A	M	J	J	A	S
Policy and Economic Analyses completed – Month TBA							x					
Combined Trip Report			x									

Progress to-Date:

Analyses and data collection continue in the same vein as described in the previous semi-annual technical report, and the report is very close to completion. Draft conclusions have been circulated to PNG conservation policy experts and conservation practitioners, and we await their comments before submitting a final report early in calendar year 2001.

Problems, delays, shortfalls and proposed solutions:

Due to unforeseen demands on the time of the Senior Director for the Resource Economics Program, Jim Cannon, who was overseeing and pursuing most of this research himself, the combined trip report and completed analyses will not be completed until early in the new year. To help address these additional programmatic needs and demands on the Senior Director's time, a Manager for the Resource Economics Program, James Peters, has been hired, and he will be partially responsible for completing these analyses.

FY00 Outputs/Benchmarks for Objective 3, Activity A

1. Complete policy and economic analyses (**Will be completed in FY01—this will occur within the first two months of the calendar year 2001).**
2. Present findings in combined trip report format (**Will be completed in FY01—this will occur within the first two months of the calendar year 2001).**

B) Research potential sites using existing biological and sociological data, as well as submitted landowner conservation requests to the Office of Environment and Conservation.

FY00 Obj4 B	O	N	D	J	F	M	A	M	J	J	A	S
Research completed on potential CA sites												x

Progress to-Date:
Research to identify potential large-scale marine and terrestrial conservation sites is ongoing in Milne Bay Province and will continue throughout the next year at least. In addition, CI-PNG has begun collecting socio-economic, cultural and biological data on the Owen Stanley Range that covers high elevation portions of Central, Oro and Milne Bay Provinces. These data will be used to identify areas of low population density where forests are contiguous and exhibit clarity of land ownership. The area covered by this data collection is representative of most of peninsular PNG, a significant portion of the country and shows some promise for eventual Conservation Area implementation if that is determined to be a viable alternative to Wildlife Management Areas.

The work in the Owen Stanley Range has significant potential to bring a wide range of interested public and private stakeholders together for the good of large-scale conservation. The Sogeri Plateau above the capital of PNG, Port Moresby, supplies both water and hydroelectric power to the city. Consequently, both Eda Ranu, the water company, and Elcom, the electric company, have expressed interest to CI-PNG to pursue conservation efforts in the watershed area. This area includes Varirata National Park, one of only a handful of national parks in PNG, and the Office of Environment and Conservation has long wished to expand the borders of the park. If a way can be found to interest the local landowners in these efforts, as well, then the Sogeri Plateau can become a significant piece of a larger puzzle created along the central corridor by connecting CI and other NGO's project sites throughout the region.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 3, Activity B

1. Complete analysis of potential sites (**Partially Completed—This activity will be on-going).**

Objective 4:
Increase CI-PNG's ability to influence conservation policy-making and community-based development planning through building CI-PNG's institutional capacity.

Activities:
The goal of CI-PNG's long-term institutional capacity building is to empower the office to be more strategic, effective, efficient, and responsive in implementing its mission to conserve PNG's biodiversity by promoting community-based resource management. CI-PNG's strategy to address its capacity-building needs, with USAID support, is to augment existing staff expertise and capacity, as well as to recruit additional staff.

A) *Priority new positions include the following: a Program Manager, Finance Manager, and two additional field staff for the Lakekamu Basin. FY99.*

FY00 Obj4A	JU	AU	SE	OC	NO	DE	JA	FE	MA	AP	MA	JU	JU	AU
Recruitment and hire of remaining positions							x	x	x	x	x			
Orientation/Training/site visits for CI-PNG Program Manager												x	x	x
Project and office management training									x	x	x			

Progress to-Date:

The new project site managers, Eka Vitaharo for the Lakekamu Basin and Peter Bosip for Wide Bay, have undertaken field orientation and are now fully engaged in their respective projects' implementation. Recruitment has ended for all other positions as they were successfully filled before or during the previous reporting cycle. However, please refer to section 4B below for a discussion of the decision to hire additional financial management staff for CI-PNG.

Frank Agaru, Assistant Program Director, has yet to visit the Lakekamu Basin and Wide Bay project sites, which was previously seen as a part of his orientation program. Instead, he has focused on bringing greater clarity to CI-PNG's administrative and financial management protocols and systems and on fundraising with regional bilateral donors. The former has been particularly important as the CI-PNG Program has expanded into other areas of the country and launched a major marine conservation effort in Milne Bay Province. This latter activity necessitated the opening of a sub-office in Alotau, Milne Bay Province, which has added substantially to the main office's management workload. Additionally, Gai Kula, Director of the CI-PNG Program, felt that an initial effort by the new Assistant Program Director to shore up management systems in the main country office must take precedence over visits to field sites, given the growth of the program both in scope and in number of employees. Whether to send Frank Agaru to the field sites later this year will be reevaluated at a later date.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time

FY00 Outputs/Benchmarks for Objective 4, Activity A

1. Recruitment and hiring of Country Program Manager. Complete orientation, training, and site visits-

Partially Completed (**Partially Completed—Recruitment, hiring, orientation and training completed. Visits to project sites have been postponed).**

B) *CI-PNG will augment existing staff expertise and capacity with technical support from CI-Washington's Conservation Policy, Biology and Enterprise Development departments. FY99-01.*

Progress to-Date:

Irene Mugizi, CI's Asia Pacific Finance Officer, and Lisa Dean, Manager for Government Awards Compliance and Asia/Pacific Field Office Accounting, traveled to PNG in August and September for training of Michelle Laufa, CI-PNG Finance Officer, and also to orient themselves to the PNG Program's financial management needs. Their assessment led to a search for a more experienced Finance Manager for the CI-PNG office. This search was successful, and the lead candidate, Daniel Mirmirio, will begin work at CI-PNG in November. At that time, Lisa Dean will travel back to PNG for his orientation to CI financial management protocols.

In September, CI's Resource Economics Program hired James Peters as Manager for program activities in the Asia Pacific Region. He will be accompanying Jim Cannon, Senior Director of the Resource Economics Program to PNG in November and December 2000 for orientation and to help with the economic research that will inform our work on Conservation Areas implementation in PNG.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 4, Activity B

1. Activities under Objectives 1 through 4 will use technical assistance provided by CI-Washington in order to increase CI-PNG staff expertise and capacity (**Completed—this is an on-going activity).**

C) *CI-PNG's field site activities in Wide Bay, will be strongly supported by its local NGO partner ENBSEK. FY99-01.*

Progress to-Date:

ENBSEK's experience in community development and Participatory Rural Appraisal makes them a strong and equal partner in CI's work in Wide Bay, East New Britain. The project clearly benefits greatly from their long-term commitment and participation. ENBSEK's staff and extension volunteers play an integral role in program design and implementation and will continue to do so during FY01.

Problems, delays, shortfalls and proposed solutions:

Nothing to report at this time.

FY00 Outputs/Benchmarks for Objective 4, Activity C

1. Activities in Wide Bay will be carried out in partnership with ENBSEK, CI-PNG's local NGO partner (**Completed—activities and partnership in Wide Bay are on-going).**

Success Stories

2) CI-Brazil

As part of the Camamu Bay, Southern Bahia, Brazil (see map at end of section), the Maraú region is home to the Municipal Environmental Protected Area (APA) of Maraú Peninsula with a total area of 22,000. The region is very rich in estuary environments forming a mosaic of dense forests, mangroves, marshes, dunes, lakes and coral reefs. Access to the area is very difficult and only since the 90's has the area begun to receive attention from non-regional tourists. The area has an exceptional potential for ecotourism and the local beaches have a precarious, yet promising hotel services structure.

In 1999, the Millenium mining established a base in the APA and received permission from the State of Bahia Mining Department to explore Ilmenita in the area, a mineral with ample industry uses.

The Institute for Socio-Environmental Studies of South Bahia - IESB, in partnership with a local NGO "Instituto Pro-Mar" worked to ensure enforcement of the law that regulates Environmental Protected Areas (APA) which prohibits mining operations. IESB helped to collect economic data from the State of Bahia Culture and Tourism Secretary showing importance of the ecouturism in the area for jobs and income generation. The environmental impact that a mining operation would cause and the little economic benefits that the mining would bring to the local community was explained to the local population, the hotel owners, city council members and fisherman leaders. Three-hundred people participated in the City Council meeting. As a result of this and under pressure from the majority of the council members and local population, the Mayor and the City Council removed the proposed alteration of the law that would permit mining activities in the area. The preservation of the local ecosystems and low impact activities such as ecotourism were prioritized and ensured for the area.

IESB intends to continue working with "Instituto Pro-Mar" and the Maraú communities to consolidate ecotourism as the main activity generating income and jobs in the region.

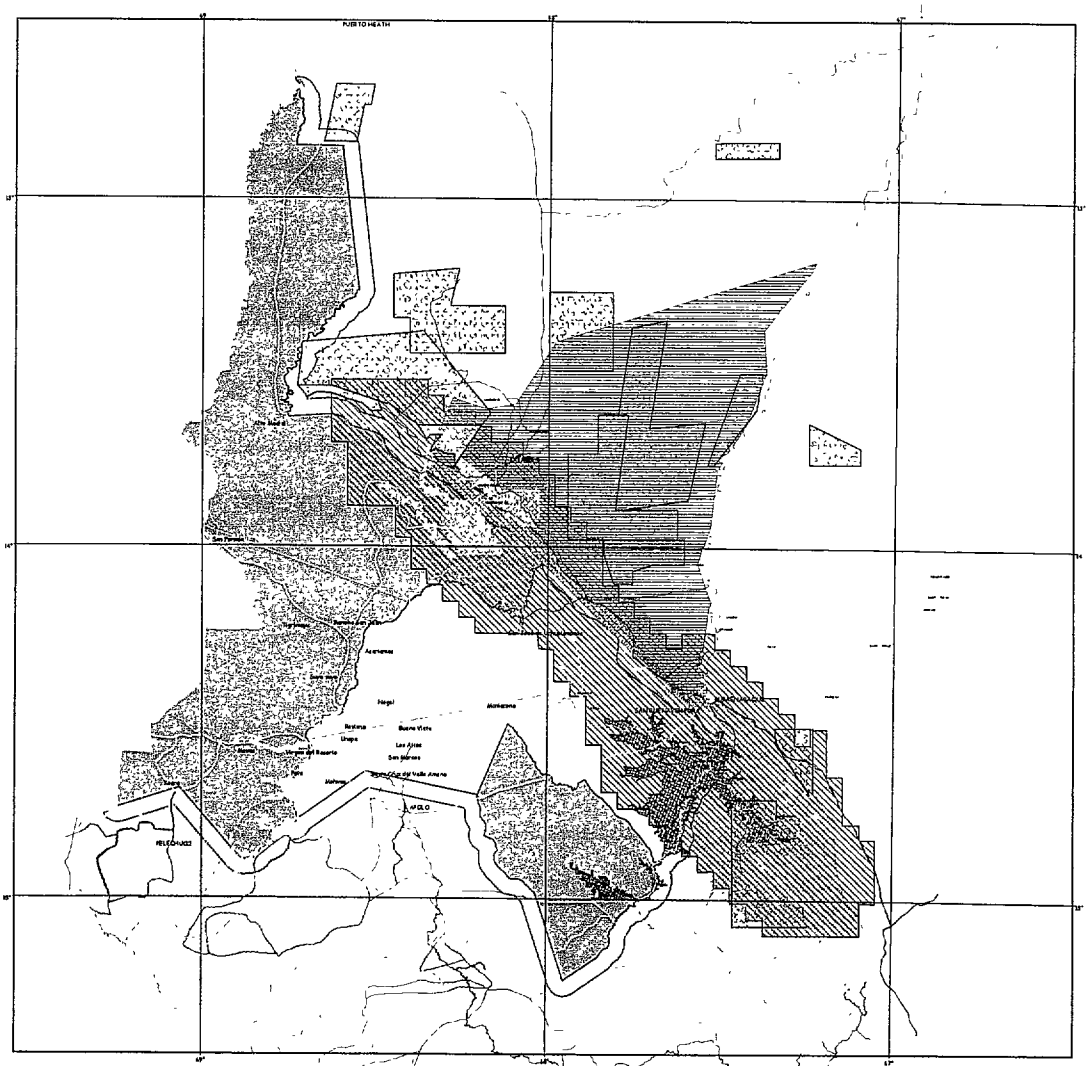
CONSERVACION INTERNACIONAL BOLIVIA

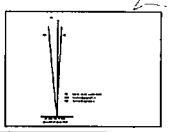
Mapas

Proyecto Biodiversidad y Desarrollo Regional BiRD

Parque Nacional y Área Natural de Manejo Integrado Madidi

Conservación Internacional - Bolivia





Basado en:

Servicio Nacional de Áreas Protegidas
SISNAP (1999)

Superintendencia Forestal
(2000)

Superintendencia de Hidrocarburos
(2000)

Servicio Nacional Tecnico de Minas
SETMIN (2000)

Instituto Nacional de Reforma Agraria
INRA (1999)

Dirección General de Ordenamiento Territorial
(1999)

Prefectura del Departamento de La Paz
(2000)

ESCALA 1:500000

Ejecutado por:
CONSERVACION INTERNACIONAL - BOLIVIA

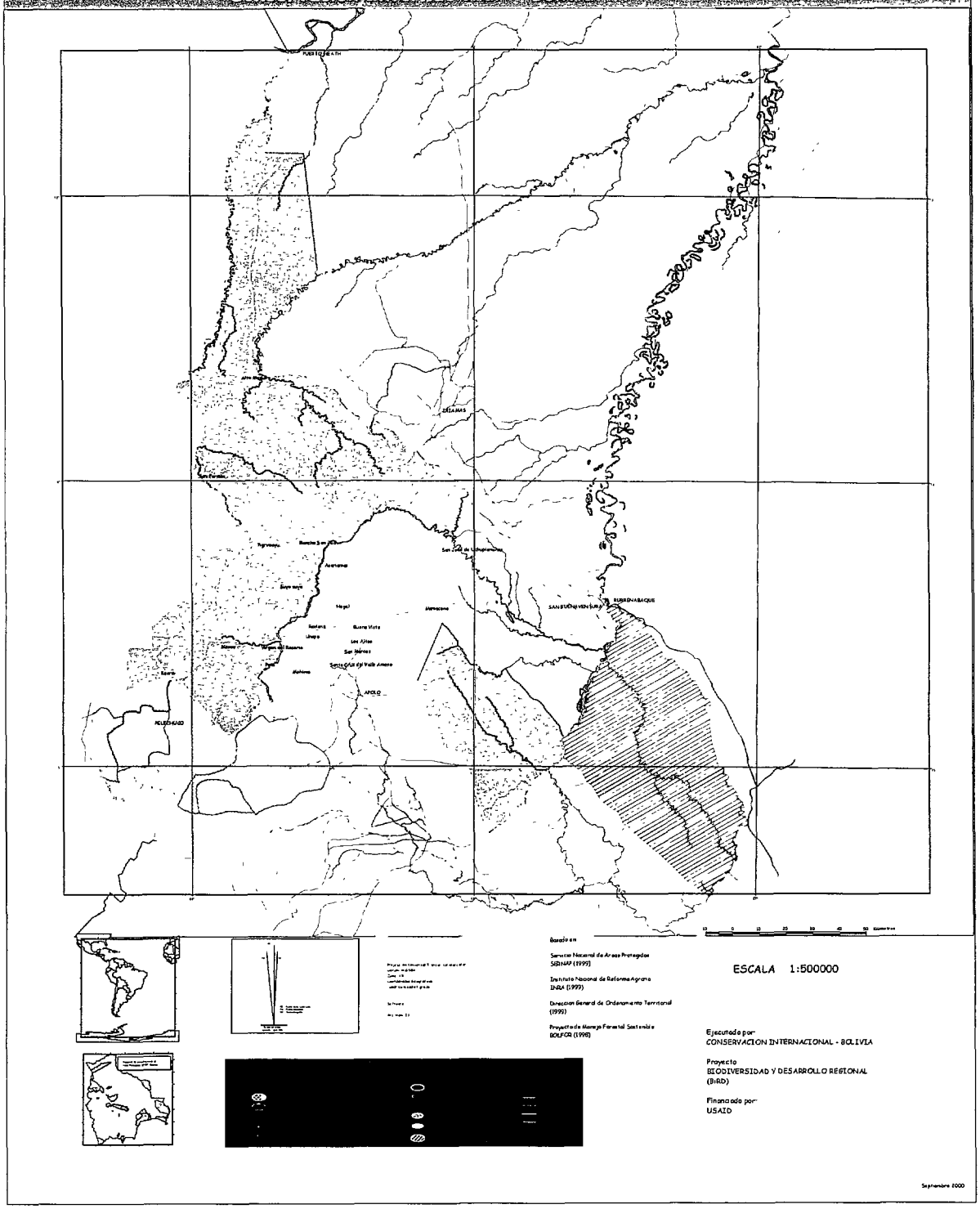
Proyecto:
BIODIVERSIDAD Y DESARROLLO REGIONAL
(BIRD)

Financiado por:
USAID

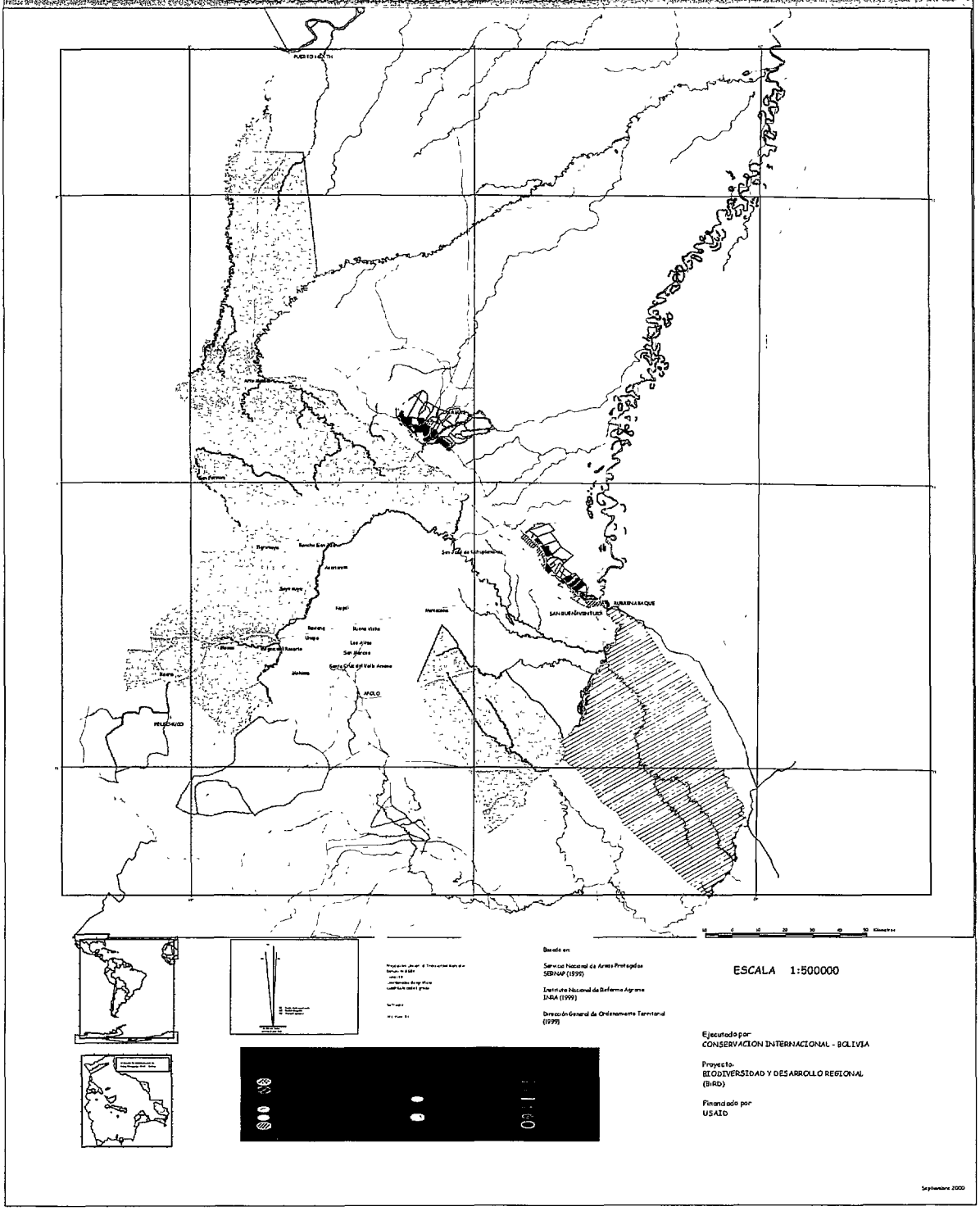
Septiembre 2000

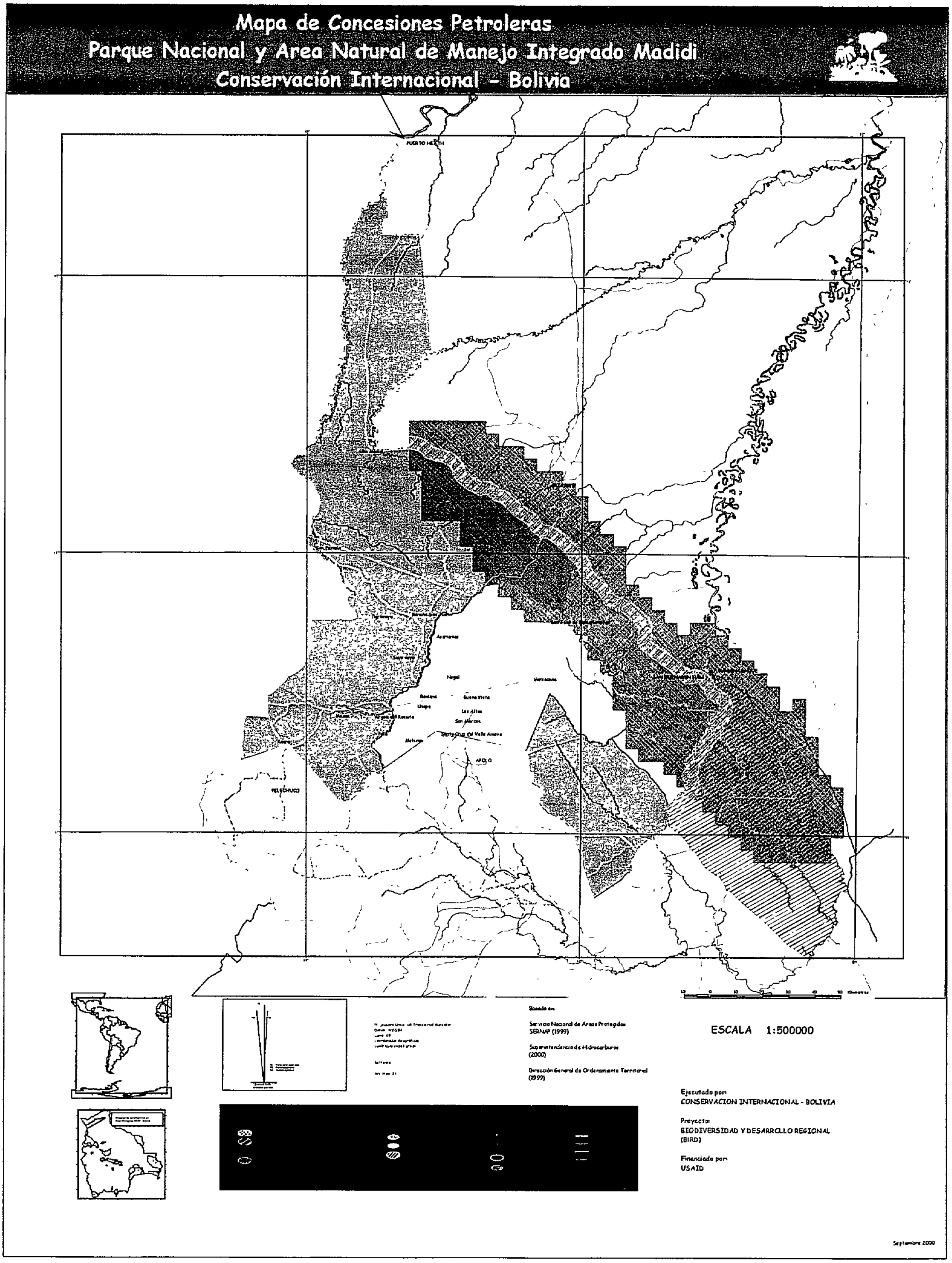
Parque Nacional y Area Natural de Manejo Integrado Madidi

Conservación Internacional - Bolivia

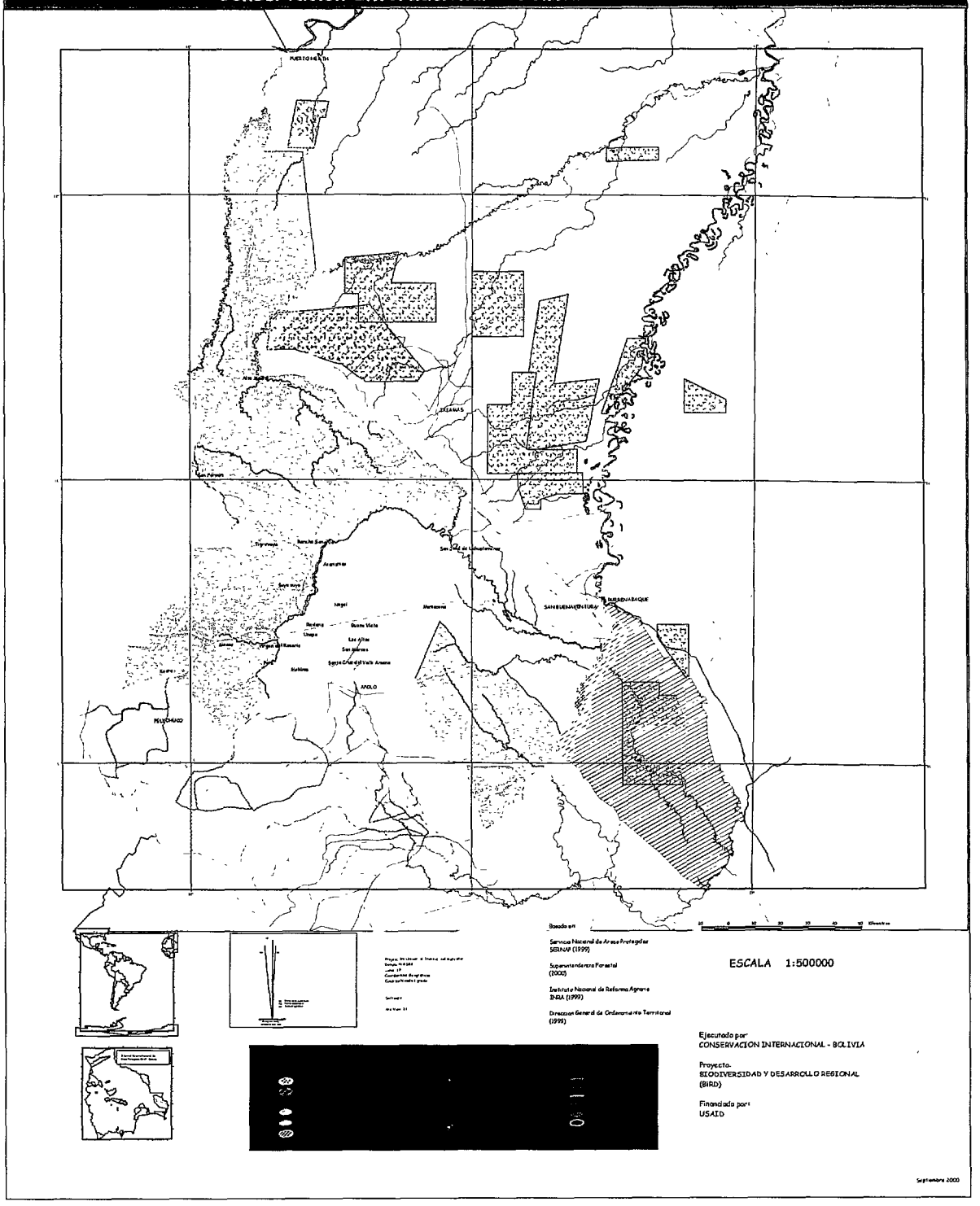


Mapa de Asentamientos Humanos Dirigidos
Parque Nacional y Área Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia

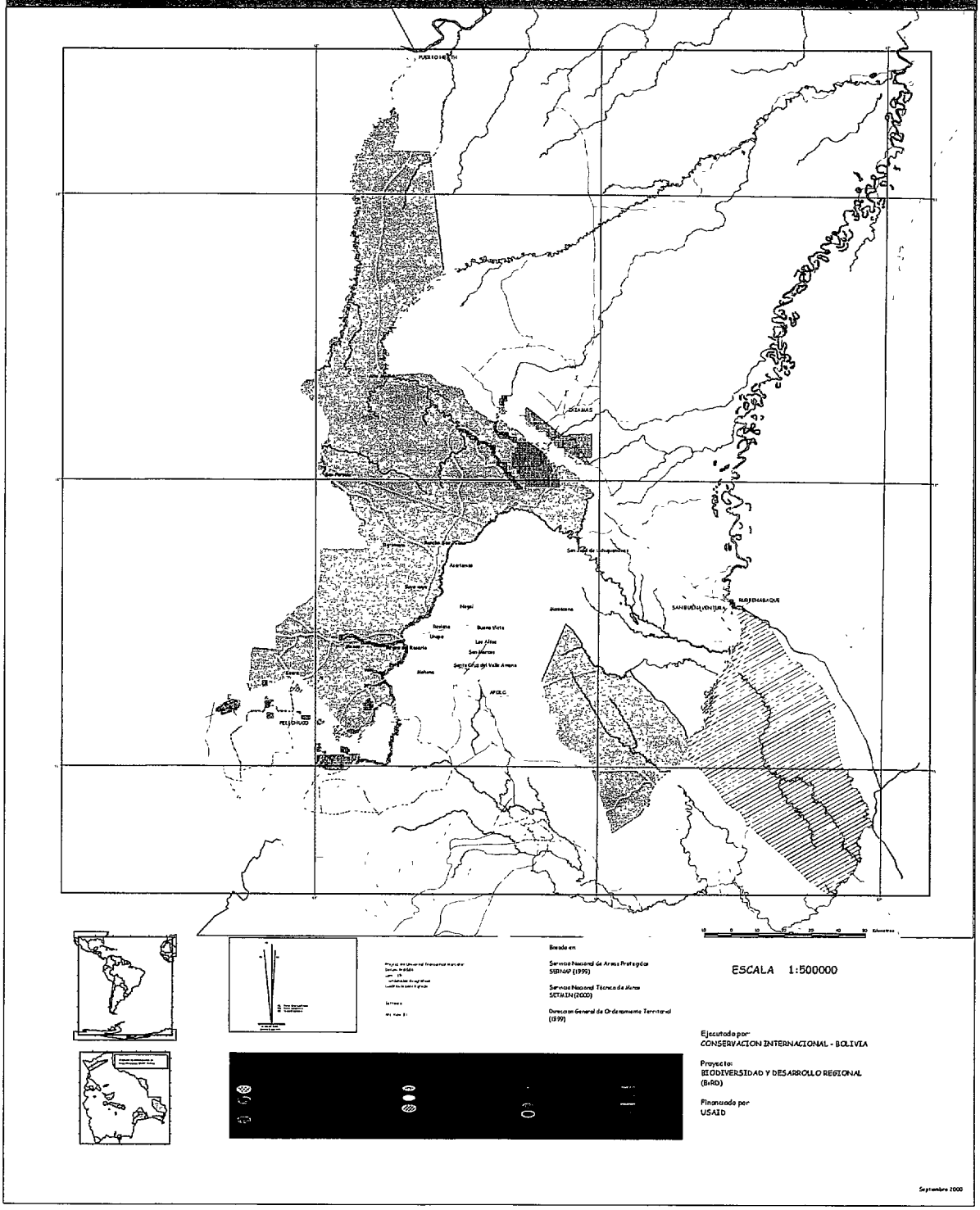



Mapa de Concesiones Petroleras
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia
PUERTO HEATH
ESCALA 1:500000
Basado en:
Servicio Nacional de Areas Protegidas
SERNAP (1999)
Superintendencia de Hidrocarburos
(2000)
Dirección General de Ordenamiento Territorial
(1999)
Ejecutado por:
CONSERVACION INTERNACIONAL - BOLIVIA
Proyecto:
BIODIVERSIDAD Y DESARROLLO REGIONAL
(BIRD)
Financiado por:
USAID
Septiembre 2000

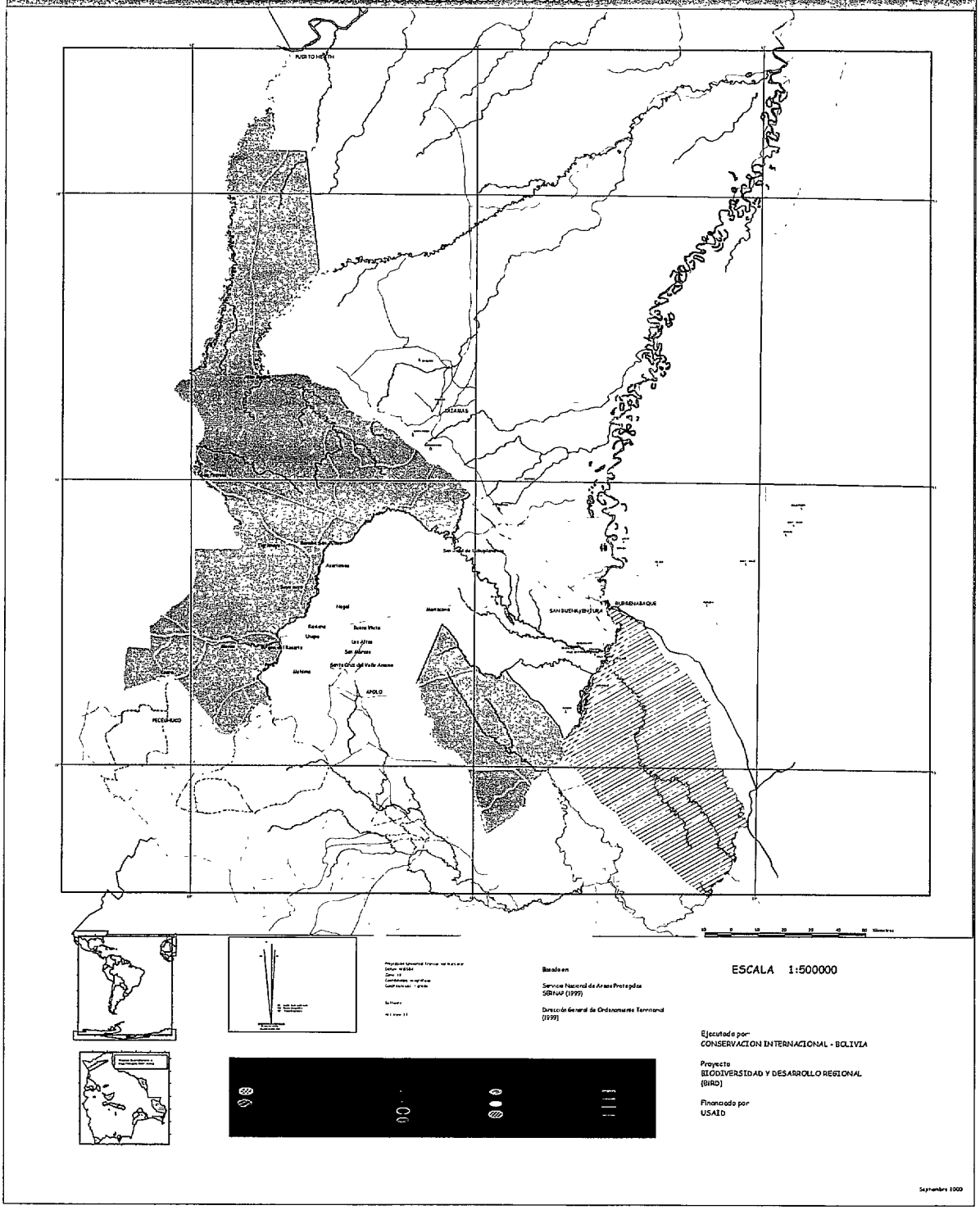
Mapa de Concesiones Forestales
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia



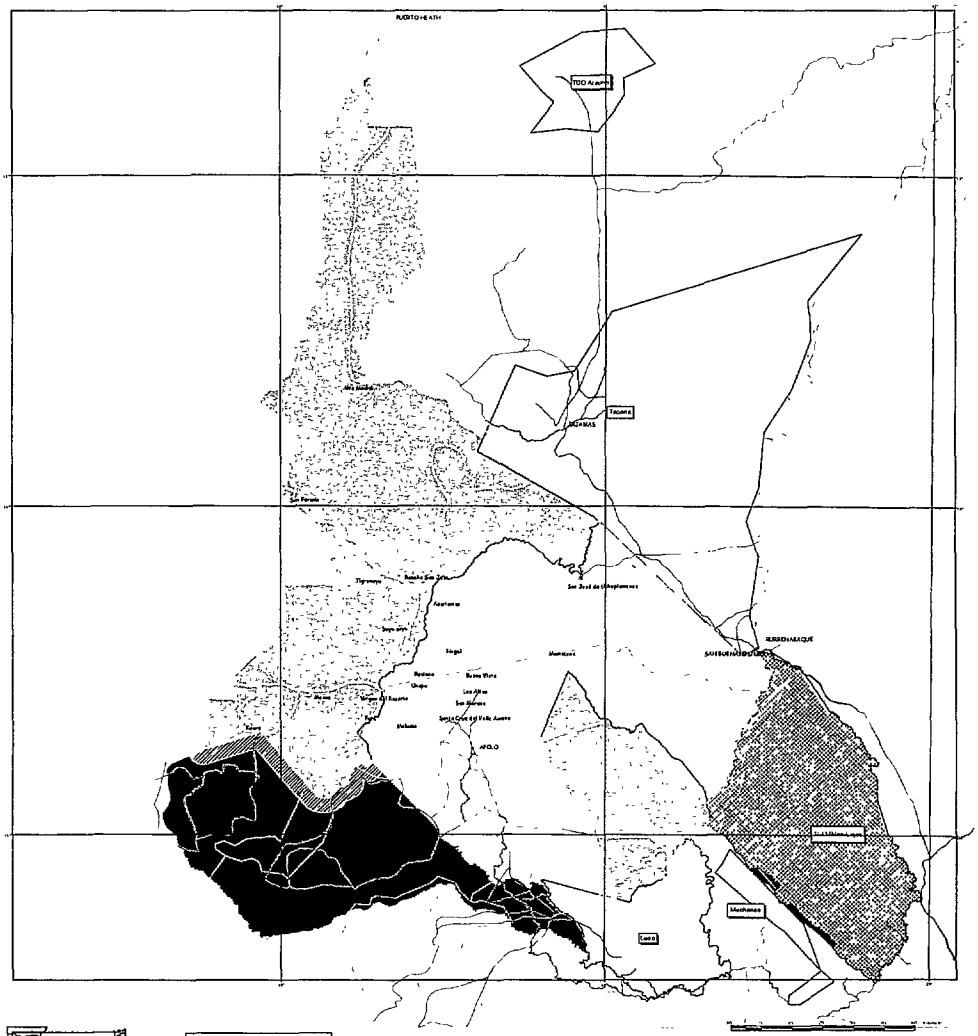
Mapa de Concesiones Mineras
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia

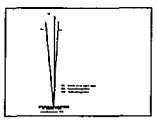


Mapa de Sitios Turisticos
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia



Mapa de Tierras Comunitarios de Origen
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia





Basado en:

Servicio Nacional de Areas Protegidas
SERNAP (1999)

Instituto Nacional de Reforma Agraria
INRA (1999)

Proyecto de Manejo Forestal Sostenible
BOLFOR (1998)

ESCALA 1:500000

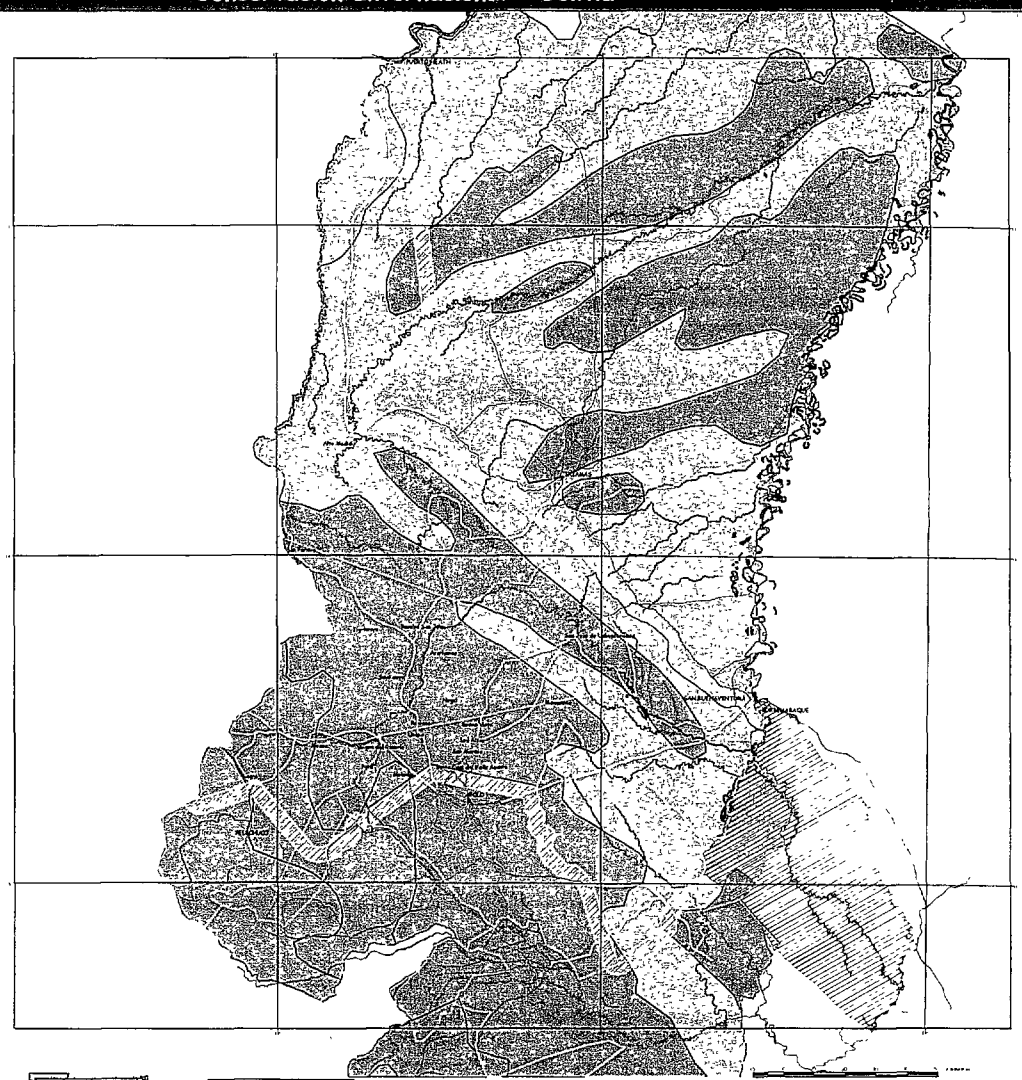
Ejecutado por:
CONSERVACION INTERNACIONAL

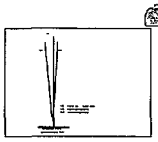
Proyectar
BIODIVERSIDAD Y DESARROLLO REGIONAL
(BIRD)

Financiado por:
USAID

Septiembre 2000

Mapa de Ecorregiones Generalizado
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia





Proyección Universal Transversal de Mercator
Datum WGS84
Unidad: M
Meridiano central: 0°
Unidad de medida y grado

Informe

Basado en:

Servicio Nacional de Areas Protegidas
SERNAP (1999)

Dirección General de Ordenamiento Territorial
(1999)

ESCALA 1:500000

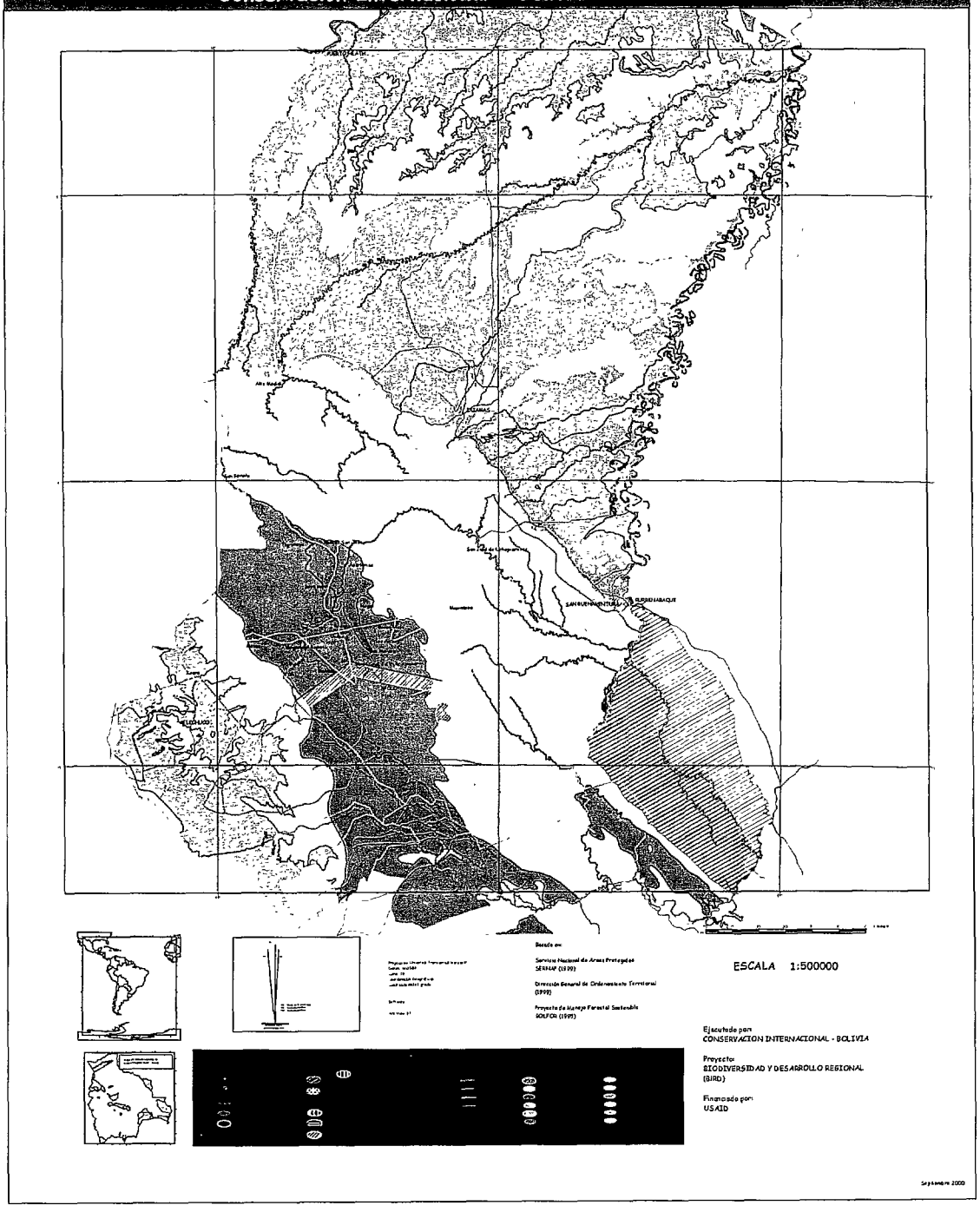
Ejecutado por
CONSERVACION INTERNACIONAL - BOLIVIA

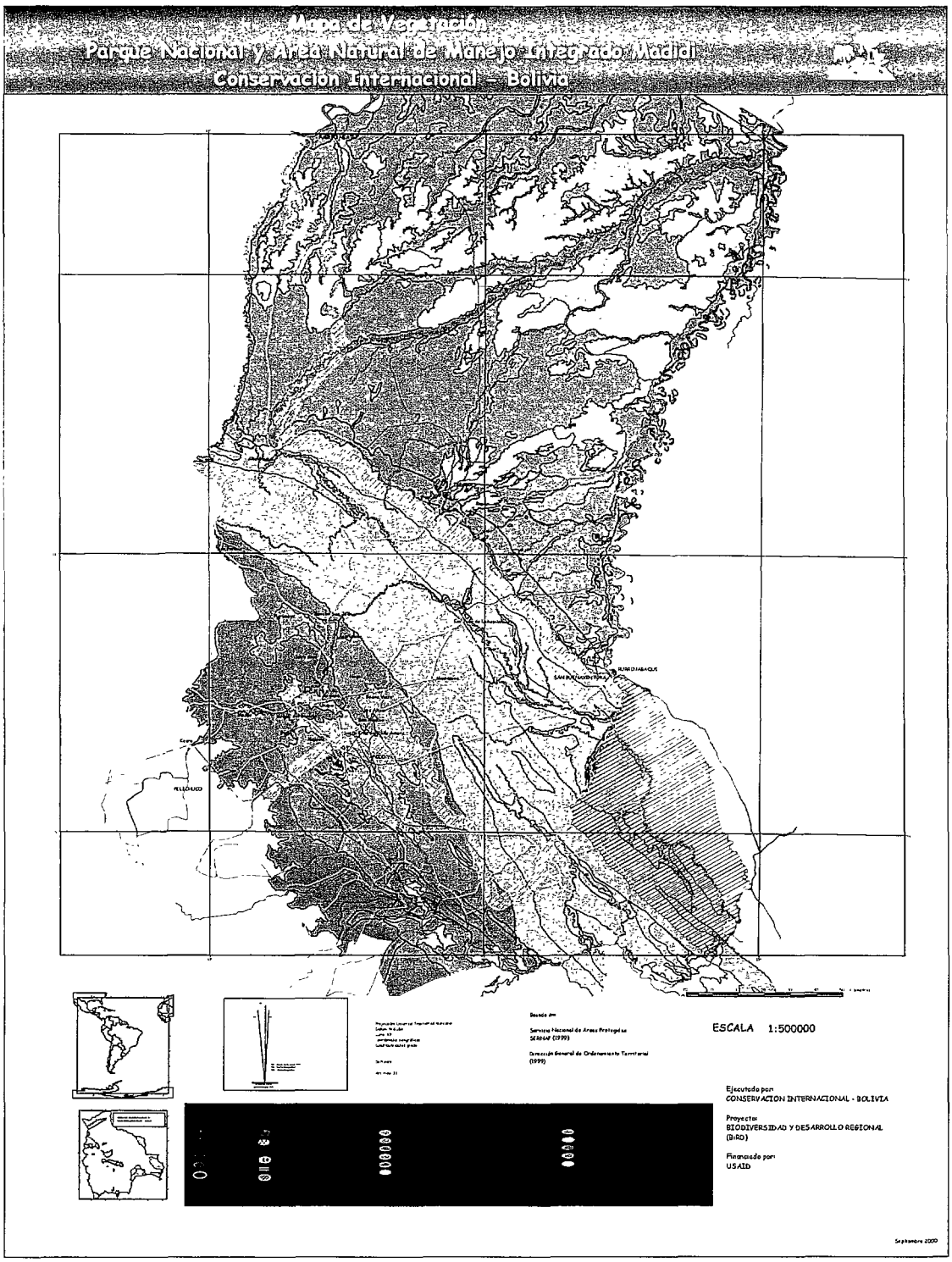
Proyecto
BIODIVERSIDAD Y DESARROLLO REGIONAL
(BIRD)

Financiado por
USAID

Septiembre 2000

Mapa Forestal por Unidades de Bosque
Parque Nacional y Area Natural de Manejo Integrado Madidi
Conservación Internacional - Bolivia





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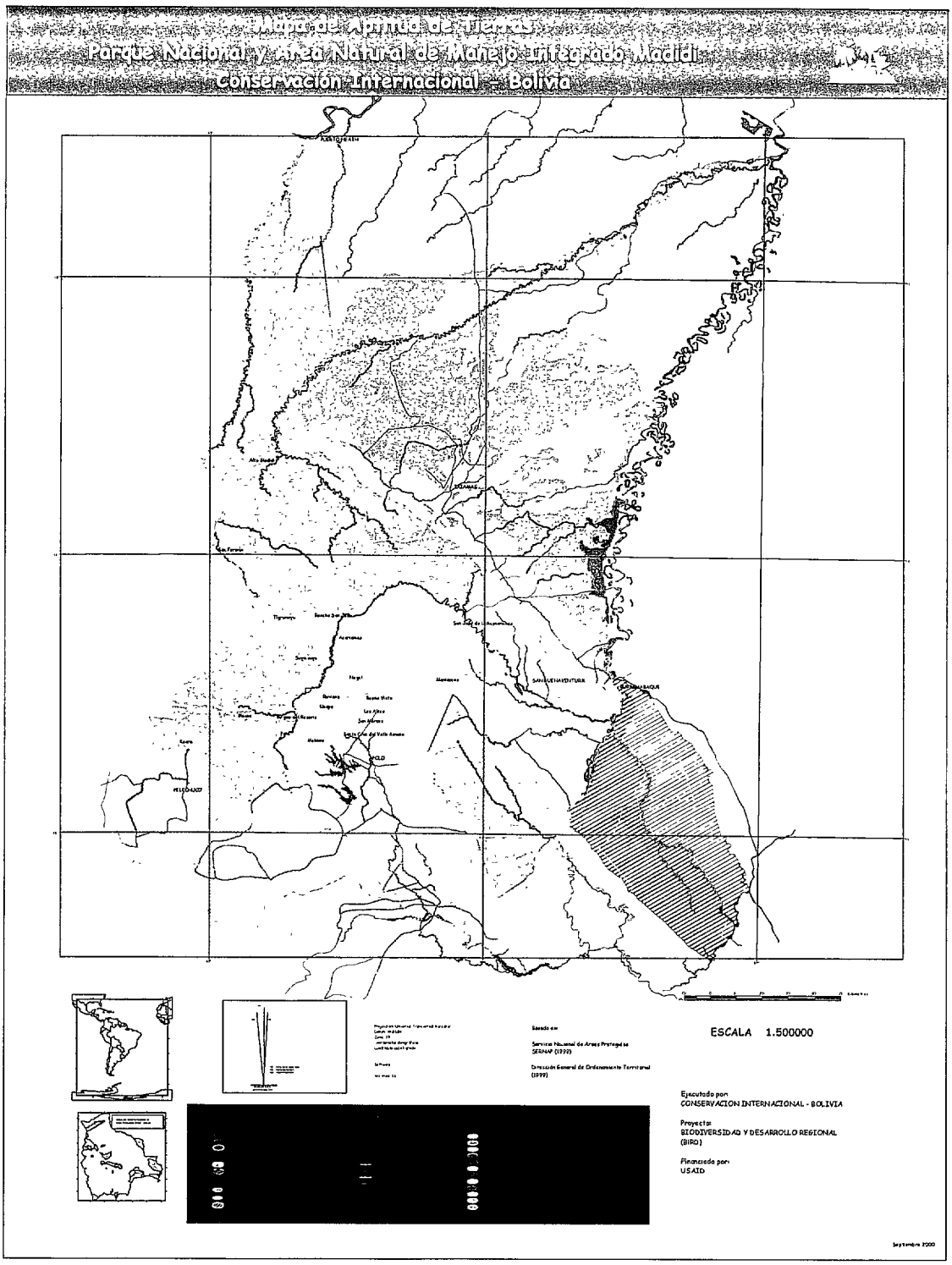

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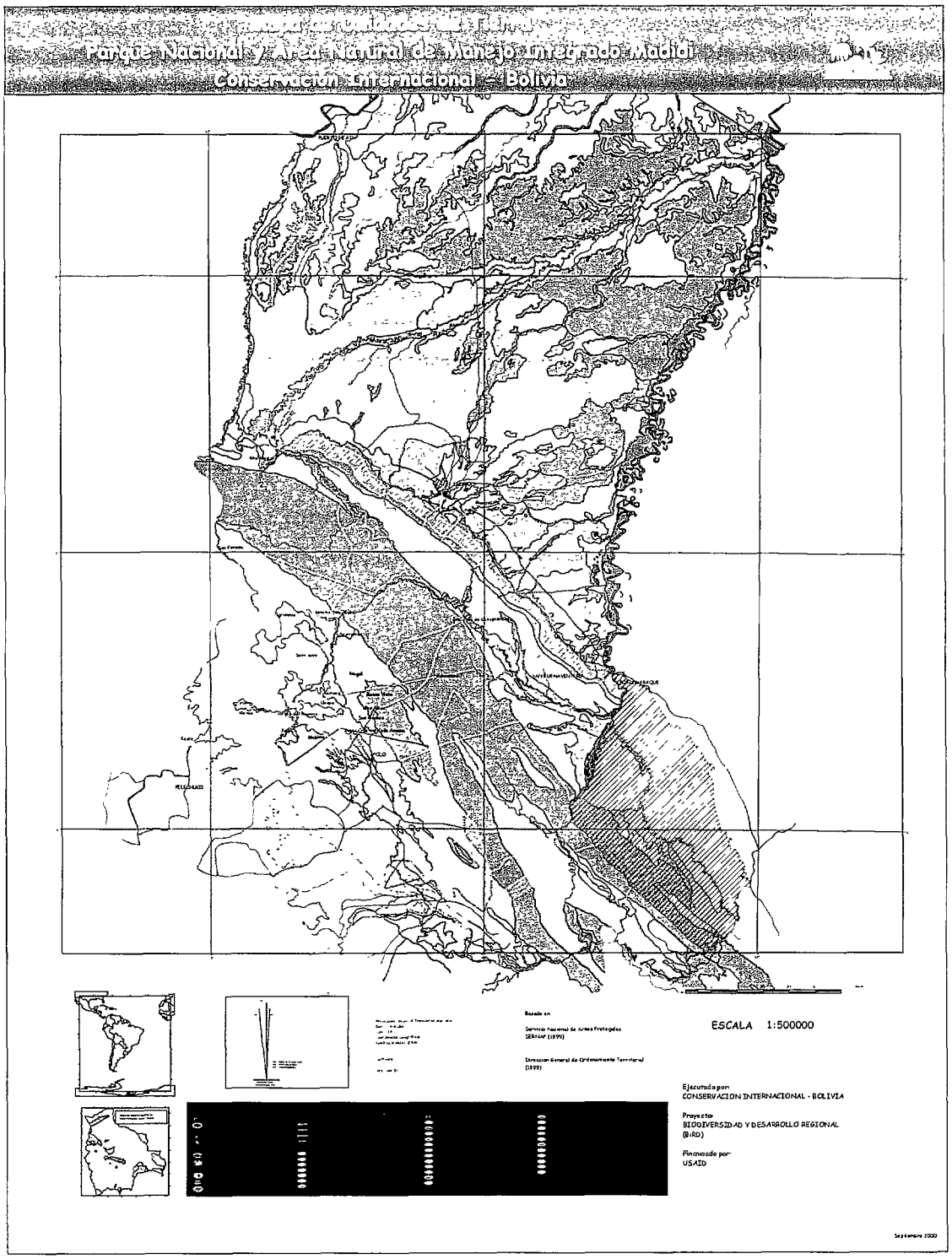

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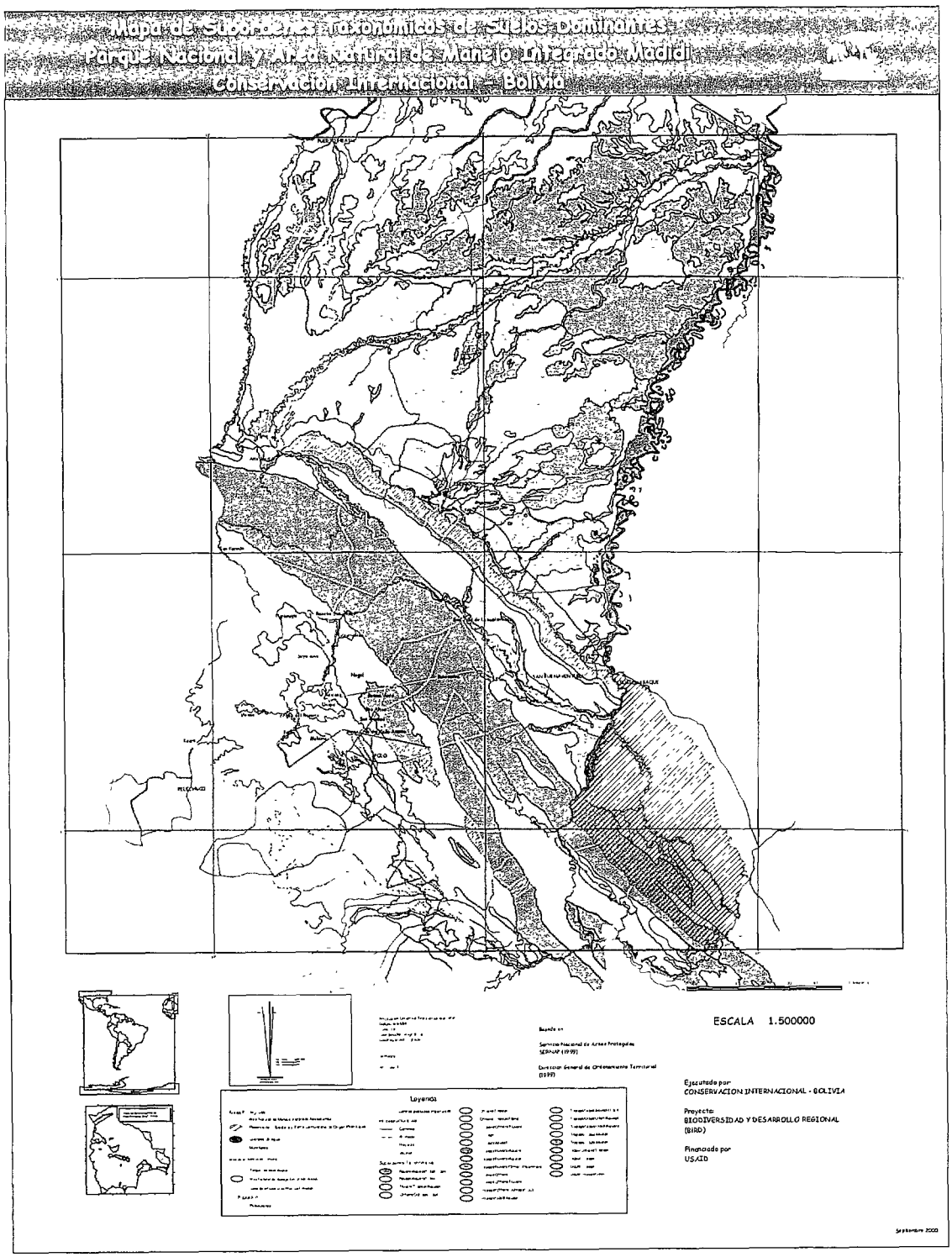

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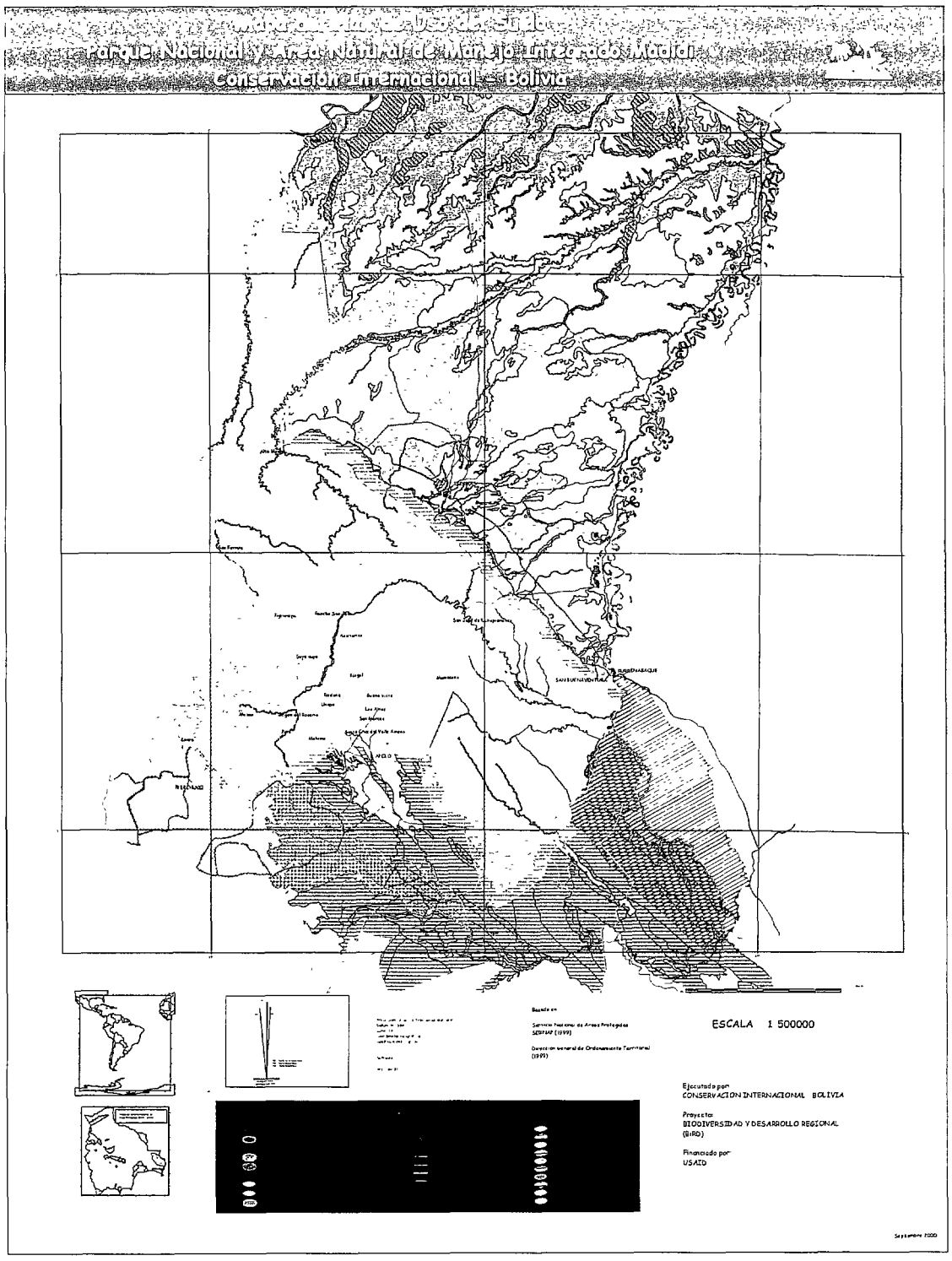

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Conservación Internacional
Bolivia

Análisis FODA del PN ANMI Madidi de Fortalezas, Oportunidades, Debilidades y Amenazas

Biodiversidad y Desarrollo Regional (BiRD)

USAID

CONSERVACION INTERNACIONAL BOLIVIA

CONTENIDO

1. INTRODUCCIÓN

2. FORTALEZAS

3. OPORTUNIDADES

4. DEBILIDADES

5. AMENAZAS

1. INTRODUCCIÓN

El propósito del análisis de Fortalezas, Oportunidades, Debilidades y Amenazas (FODA) del PN ANMI Madidi, fue establecer la situación actual de gestión, desde el punto de vista de la administración del Área Protegida.[i]

2. FORTALEZAS: ELEMENTOS POSITIVOS INTERNOS.

- Buena coordinación Interinstitucional con municipios (Apolo- San Buenaventura -Ixiamas) y con otras instituciones
- Protección natural por ser inaccesible el área en muchos sectores
- Apoyo del Comité de Gestión a las actividades del Área
- Alta Biodiversidad
- Personal con pleno conocimiento del Área

3. OPORTUNIDADES: ELEMENTOS POSITIVOS EXTERNOS.

- Creciente turismo para generar ingresos propios
- Apoyo de CARE para financiar la elaboración del Plan de Manejo
- Apoyo de ONG´s en la capacitación específica del personal
- Posibilidad de captar financiamiento externo, por tratarse de una Área Protegida con renombre internacional, por su alta biodiversidad
- Forma parte del corredor de biodiversidad binacional Perú – Bolivia
- Potencial de desarrollo de investigación científica
- Existencia de ruinas arqueológicas
- Posibilidad de implementar el Sistema de Cobros (SISCO)

4. DEBILIDADES: ELEMENTOS NEGATIVOS INTERNOS.

- Cuerpo de protección reducido para cubrir las necesidades del Área
- No existe apoyo legal local
- Recursos financieros limitados
- Deficiente infraestructura (campamentos, oficina central, refugios)
- Insuficiente equipamiento (radios, movilidades, embarcaciones, motores fuera de borda, equipo de campo, fotocopiadora, filmadora, proyectora audiovisual)
- Insuficiente capacitación del personal
- No existe Plan de Manejo
- Insuficiente promoción y difusión del PN ANMI Madidi, interna (gubernamental) y externa (turismo, financiadores)

5. AMENAZAS: ELEMENTOS NEGATIVOS EXTERNOS.

- Tala de árboles
- Caza y pesca comerciales: Tuichi, Madidi, Río Hondo
- Potencial peligro de quemas en el bosque seco de Azariamas
- Extracción de recursos no maderables como el Incienso y Copal dentro del Parque

- Asentamientos humanos (colonizadores, en áreas de influencia como Ixiamas, Guanay, Alto Madidi)
- Falta de alternativas económicas para la población local
- Incremento de la frontera agrícola
- Titulación de Propiedades por el INRA en curso
- Migración interna en el municipio de Apolo

- Apertura de caminos, tramos: Tumupasa - San José - Azariamas – Apolo. Proyecto: Ixiamas - Puerto Chivé - Puerto Heath
- Proyecto: Represa Hidroeléctrica el Bala
- Concesión Petrolera "Tuichi"
- Incremento del turismo desordenado
- Invasión extranjera en el límite de San Fermín y Puerto Heath

[1] Fuente: Plan Operativo Anual 2000. Servicio Nacional de Áreas Protegida, SERNAP. Ministerio de Desarrollo Sostenible y Planificación. Diciembre 1999

Attachment Bolivia-3

Conservación Internacional
Bolivia

Conocimientos Actitudes y Prácticas sobre el PN AMNÍ Madidi: Público local, Autoridades y Periodistas

Biodiversidad y Desarrollo Regional (BiRD)

USAID

CONSERVACION INTERNACIONAL BOLIVIA

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1. INTRODUCCIÓN

Uno de los propósitos del Estudio Línea de Base 2000, fue realizar un sondeo de Conocimientos, Actitudes y Prácticas (CAP), para establecer la perspectiva actual de la población local, de los periodistas y de las autoridades; con la finalidad de que los resultados sean la base del diseño e implementación de estrategias de comunicación adecuadas a las necesidades, intereses y medios disponibles, para estos diferentes públicos.

Población Local: se entrevistaron 398 jefes de familia en centros poblados, comunidades indígenas y campesinas dentro del PN ANMI Madidi y en su área de influencia.

Periodistas y Autoridades de Gobierno: Fueron entrevistados 50 personas, 23 funcionarios y ejecutivos de distintos Ministerios y 27 reporteros de medios masivos de prensa, radio y televisión.

Este informe resume los conocimientos, actitudes y prácticas (CAP), expresadas por los pobladores y líderes de opinión pública, en torno al tema de biodiversidad, áreas protegidas y PN ANMI Madidi.

2. EL PN ANMI MADIDI DESDE LA PERSPECTIVA DE LOS POBLADORES LOCALES

2.1 ACCESO Y USO DE MEDIOS DE COMUNICACIÓN

La televisión, es el medio masivo más utilizado en los centros poblados, en ambas zonas de estudio, Zona Noroeste: Rurrenabaque, San Buenaventura, Tumupasa e Ixiamas, y Zona Sur: Apolo y Pelechuco.

Estas localidades cuentan con acceso a canales de televisión, pero sobre todo dos canales del país vecino del Perú; sólo el Canal 7 entre los nacionales cuenta con repetidoras.

El acceso a televisión es limitado por varios factores: los centros poblados cuentan con energía eléctrica sólo entre 2 y 6 horas, durante la noche; las repetidoras pertenecen a propietarios privados que las hacen funcionar en horarios cortos y el número de equipos de televisión es escaso; tienen televisores las familias de las áreas centrales, negocios de hotelería y restaurantes.

Del total de 398 familias encuestadas, ven TV en 183 familias. "Mucho" en 83 hogares, "frecuentemente" en 80 y ocasionalmente en 20 familias.

En las comunidades originarias, campesinas y en los nuevos asentamientos, donde no cuentan con energía eléctrica; la radio es el medio más frecuentemente utilizado, oyen radio en 262 familias encuestadas; "mucho" en 161 hogares, "frecuentemente" en 63 y de vez en cuando en 38.

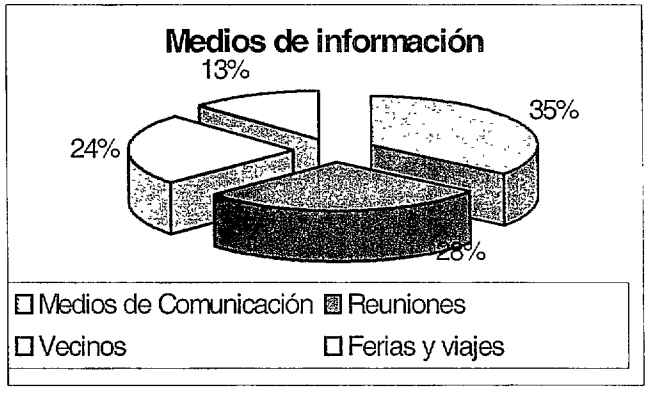
El periódico llega a 101 personas, pero la mayoría, (64 personas) lo lee ocasionalmente.

Otro medio, que usan mucho en ambas zonas, son las frecuencias de radiocomunicaciones, donde difunden mensajes comunitarios de todo tipo; se comunican por este medio 130 familias, encuestadas tanto en los centros poblados como en las comunidades.

Las comunicaciones por ENTEL , también fueron mencionadas por un gran número de personas en los centros poblados, 130 familias tienen acceso y utilizan mucho este medio.

2.2 MEDIOS DE INFORMACIÓN

Se consultó a los jefes de familia como se enteran de las noticias habitualmente, se pudo determinar que tanto en los centros poblados como en las comunidades, los medios masivos de comunicación se constituyen en los principales canales de información, a los que recurren 385 personas 97% de la población encuestada.



Paralelamente la población del área, usa mucho los medios informales y canales tradicionales como las reuniones (305), los vecinos (258), los viajes (92) y las ferias (48);. Estos medios son usados sobre todo cuando se trata de las noticias locales y el tratamiento de temas de interés de las comunidades.

2.3 PROGRAMAS FAVORITOS

Las "noticias", por radio, ocupan el primer lugar en audiencia en todo el área de estudio; se mencionan: La Hora del País de Radio FIDES y el programa informativo de Radio PANAMERICANA, ambos programas se difunden por las mañanas de 7:00 a 9:00. Su audiencia abarca 198 familias de comunidades rurales, originarias, campesinas y centros poblados en las dos zonas.

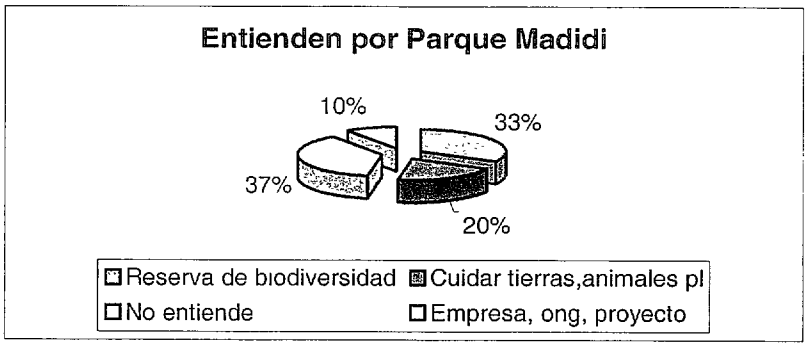
Las novelas en distintos horarios nocturnos, se establecen como los programas con mayor audiencia en los centros poblados, 163 familias, aunque su público es mayoritariamente femenino, también los jefes de familia varones los mencionan como sus programas favoritos.

Los programas deportivos figuran entre las preferencias de los hombres encuestados, principalmente en los centros poblados.

2.4 CONOCIMIENTO SOBRE EL PN ANMI MADIDI

La mayor parte de la población, de las comunidades indígenas y campesinas desconocen la existencia del Parque Madidi, inclusive la población que está dentro del Parque, o en sus límites.

El restante 41 % no entiende o tiene ideas erróneas acerca del "Parque", 37% admite que no entiende



y 10% cree que es desde una ong extranjera, una propiedad privada, un proyecto hasta una empresa. Pocos, (3%) tienen una idea negativa del Parque, porque lo asumen desde la perspectiva de las restricciones, control y prohibición de uso de los recursos naturales

Un total de 230 encuestados (58%) afirma que conoce donde queda el Parque, pero en realidad sólo 82 personas tienen una idea precisa (Iturralde Franz Tamayo); 18 personas se aproximan; y el restante 75% desconocen donde queda o tienen una idea equivocada.(Beni, Santa Cruz)

2.5 CONOCIMIENTO DEL CONCEPTO ÁREA PROTEGIDA

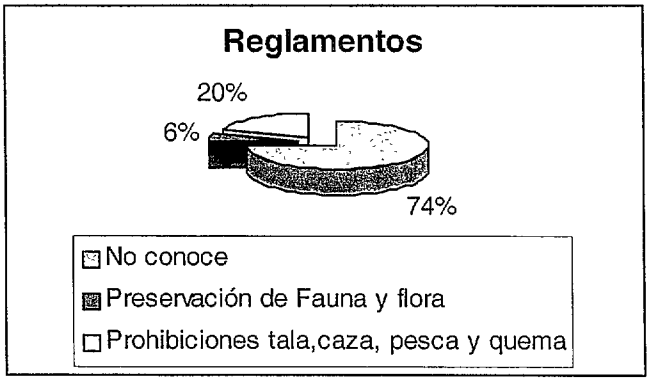
En las poblaciones del PN ANMI Madidi y Área de Influencia consideran que un área protegida es una reserva , un territorio con protección legal, o protección a la biodiversidad, 142 personas, 31% de la población entrevistada.

Asumen que un área protegida tiene restricciones, prohibiciones de caza, pesca y de quema, 52 personas, un 13% de los entrevistados. Mientras que tienen un conocimiento aproximado 34 personas; estas consideran que un área protegidas es un lugar lleno de animales o un sitio protegido por instituciones.

Más del 41 % de la población desconocen que es un Área Protegida y manifiestan el deseo de informarse al respecto.

2.6 CONOCIMIENTO DE LOS REGLAMENTOS

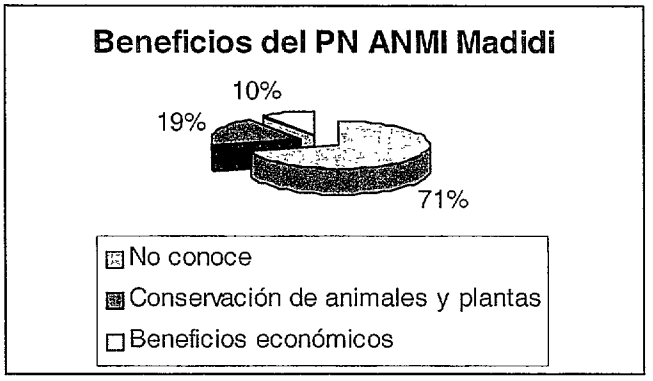
Un porcentaje mayoritario de los encuestados, 83% desconoce las normas; el 16% considera que conoce los reglamentos del "Parque Madidi" y los dividen en dos grupos: preservación del Parque como proteger la fauna, la flora (6,5%) y prohibiciones de caza, pesca, tala y quema que conocen 88 personas, 22% de la población encuestada.



Respecto al cumplimiento, sólo 39 personas (10%) respondieron que cumplen las reglas y mencionan las razones por las cuales cumplen con estas normas, 25 personas (6%) cumple porque no practican o no saben cazar, ni pescar, ni talar árboles, 11 personas (3%) siguen los reglamentos por proteger la naturaleza y porque es importante conservar el Parque, y 12 personas (3%) respondieron que cumplen las reglas porque existe control y es prohibido.

2.7 BENEFICIOS Y DESVENTAJAS DEL PN ANMI

La mayor parte de la población encuestada 71% no conoce que beneficios tiene para ellos el PN ANMI Madidi, un 19% considera que el beneficio que les brinda es la conservación de los animales, plantas, de la atmósfera y de la ecología; un 10% encuentra que existen beneficios económicos como el turismo y fuentes de trabajo.y un 1% menciona los beneficios para la nación y para el futuro.



Sólo un 21% de la población local encuentra desventajas, entre las más mencionadas figuran: las limitaciones en el uso de los recursos naturales,(10%), desventajas económicas como los obstáculos a carreteras, inversiones y desarrollo 3%.

2.8 COLABORACIÓN AL PN ANMI MADIDI

Están dispuestos a colaborar con el Parque 315 personas, casi un 80% de la población encuestada.

Señalan que ayudarían principalmente protegiendo y cuidando animales y plantas; 83 personas (20%). Vigilando y ayudando a guardaparques, 56 (14%); informando y enseñando a niños, comunarios y a la población 43 encuestados, 11%.

Están dispuestos a ayudar en iniciativas que apoyen el desarrollo o resulten beneficiosos para sus pueblos 35 personas, (9%) y mediante ideas, sugerencias y moralmente, 15 personas (4%).

2.9 CONOCIMIENTO DE LAS PERSONAS QUE MANEJAN EL PN ANMI

Sólo 60 personas (15%) conoce al director del PNANMI, tienen una opinión favorable de él 47 personas (12%) opinan que es responsable, cumple con su trabajo, se lleva bien con las comunidades, no negocia con madereros y hace cumplir las reglas aunque no tiene suficientes recursos. Creen que es malo 9 personas, porque les prohibe todo y decomisa sus presas.

Los técnicos, principalmente los que se encargan de capacitación y promoción, son conocidos por 29 personas, 18 de ellas tienen la idea de que son buenos técnicos, cumplen con su trabajo y les explican.que es el parque.

El jefe de seguridad y los guardaparques son conocidos por 53 personas (13%) de la población y debemos destacar que los conocen en las diversas comunidades también dentro del PN ANMI, 47 personas opinan que son buenos porque cuidan el bosque, pasan por su comunidad; porque son jóvenes y es bueno que tengan una oportunidad de trabajar; otros creen que son pocos para tanto monte, y que tienen que caminar mucho.

2.10 CONOCIMIENTO DE INSTITUCIONES QUE TRABAJAN CON EL PN ANMI

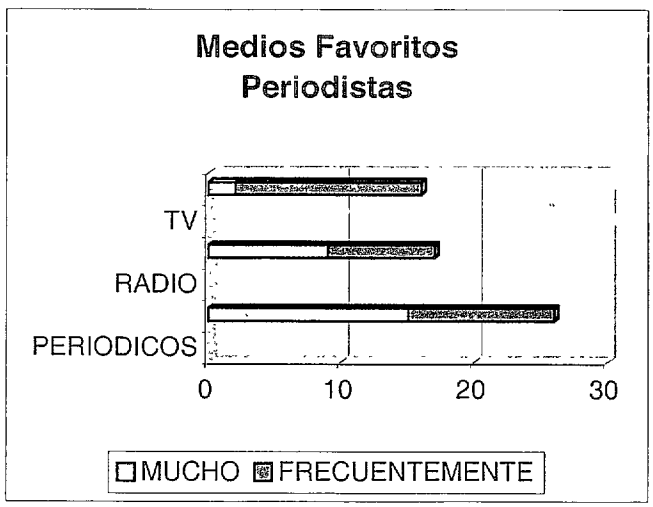
En 176 casos, los jefes de familia conocen alguna institución que trabaja en su zona. La ONG más conocida por la población en el área de Influencia del PN ANMI es CARE, 20%. También mencionaron al CIPTA, (7%), Pilón Lajas (7%) CI (6%) y CEDEC (3%).

Cabe destacar que la gente menciona a Chalalán como una institución que trabaja y apoya a las comunidades; CI es conocida en San José, Rurrenabaque y Tumupasa, CARE en Rurrenabaque, San Buenaventura, Apolo y en las cuatro comunidades donde trabaja y CIPTA es mencionada por la mayoría de las personas de Tumupasa.

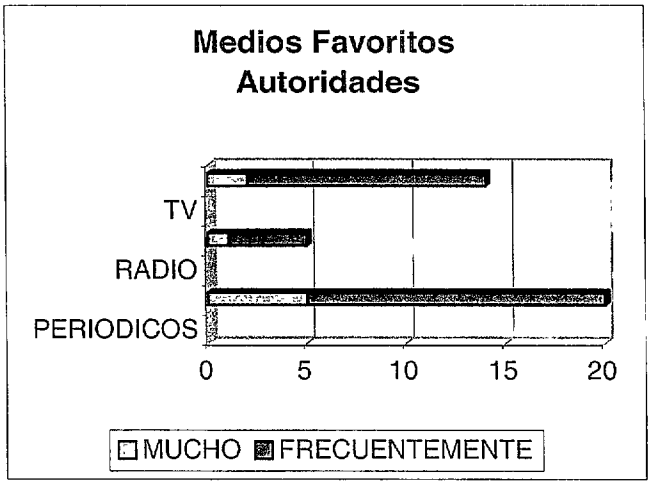
3. LA PERSPECTIVA DE PERIODISTAS Y AUTORIDADES RESPECTO AL PN ANMI MADIDI

3.1 MEDIOS DE COMUNICACIÓN FAVORITOS

Los periódicos son el medio masivo que utilizan "Mucho" y "Frecuentemente", 46 personas en ambos grupos encuestados.



Los periodistas, en segundo lugar escuchan la radio y en tercer lugar de preferencia tienen la Televisión. La Razón y La Prensa son los medios impresos más leídos por los periodistas; Radio FIDES y Radio Panamericana las emisoras que más escuchan. Entre los canales de TV destaca PAT , le sigue Canal 2 y son bastante vistas las cadenas internacionales como CNN y Discovery.



Las autoridades también prefieren los periódicos, pero en segundo lugar optan por la TV y la radio pasa a tercer término.

Como su periódico favorito se sitúa La Razón con mucha ventaja sobre los otros mencionados, La Prensa y El Deber.

PAT es el canal más visto y en este caso también recurren a los canales del exterior como CNN y Discovery. Las radios más escuchadas por las autoridades son FIDES y Panamericana, mencionadas por el mismo número de oyentes.

3.2 BIODIVERSIDAD

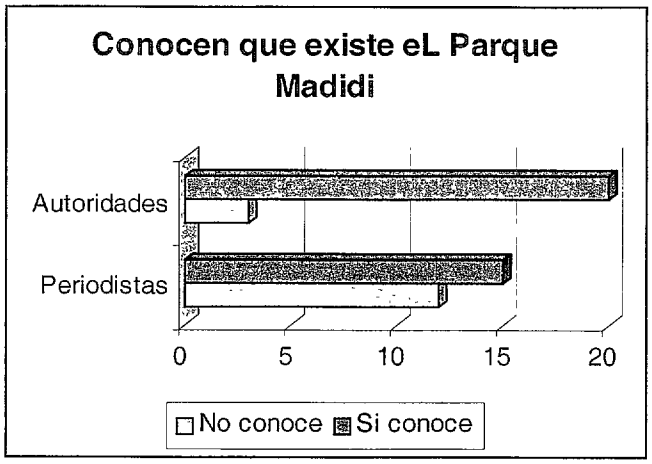
El 100% de los entrevistados afirma que escuchó el término "biodiversidad", aunque sólo 3 periodistas y 5 autoridades conocen su significado en forma precisa; 16 periodistas y 13 autoridades, la mayoría conoce que es algo relacionado con el medio ambiente; finalmente, tienen un concepto erróneo 7y 5 personas de cada grupo, respectivamente.

3.3 ÁREA PROTEGIDA

Todos los entrevistados, excepto 2 periodistas, consideran que conocen el concepto de Área protegida, 9 periodistas y 10 autoridades señalan los dos aspectos básicos: conservación de flora y fauna y protección legal; uno de los dos aspectos es indicado por 9 periodistas y 18 autoridades y únicamente 2 periodistas tienen una idea alejada de lo que es un Área Protegida.

3.4 EL PN ANMI MADIDI

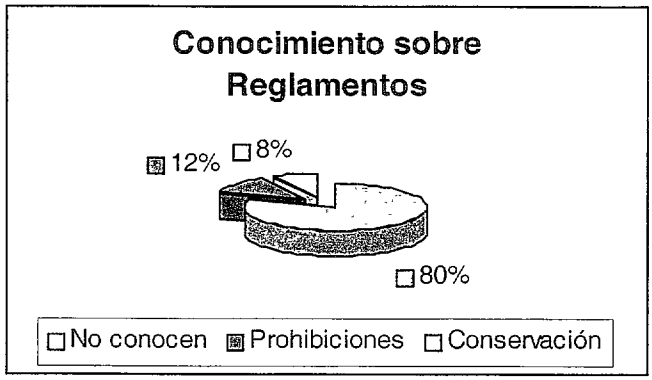
Sólo 3 de 23 autoridades entrevistadas desconocen la existencia del "parque madidi", mientras que entre los periodistas el número sube considerablemente, y son 12 de 27 las personas que ignoran que existe el PN ANMI.



Sin embargo, encontramos que apenas 9 personas de las 50 entrevistadas conoce la ubicación del PN ANMI. Entre los periodistas, sólo tres conocen que se ubica al Norte de La Paz, 6 consideran que está entre los departamentos de La Paz y Beni y 4 creen que está en el Beni o en Santa Cruz.

Las autoridades ubican mejor el PN ANMI Madidi, 6 personas conocen que se encuentra en las Provincias Iturralde y Franz Tamayo, 4 saben que está dentro del departamento, pero 7 de ellos cree equivocadamente que se ubica en Santa Cruz o en el Beni.

3.5 REGLAMENTOS DEL PARQUE MADIDI O DE LAS ÁREAS PROTEGIDAS



Se pudo establecer que 40 personas, entre las consultadas, desconocen la normatividad de las áreas protegidas. Los 5 periodistas y 5 autoridades que indicaron que sí conocen, mencionan como normas la preservación de fauna y/o flora y las prohibiciones de explotación maderera, prohibiciones de caza y fiscalización medio ambiental.

3.6 IMPORTANCIA DEL PN ANMI MADIDI

La totalidad de las personas encuestadas considera que es importante el Parque Madidi. 19 periodistas y 14 autoridades perciben su importancia basada en la preservación de la flora y la fauna, únicos en el mundo, el resto divide su opinión, entre un potencial para el desarrollo futuro y/o fuente de investigación y conocimiento.

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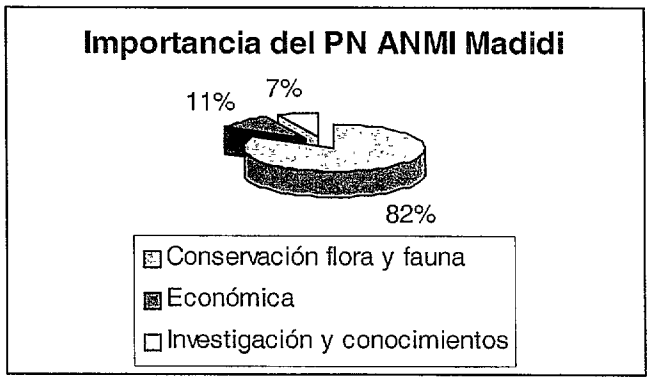
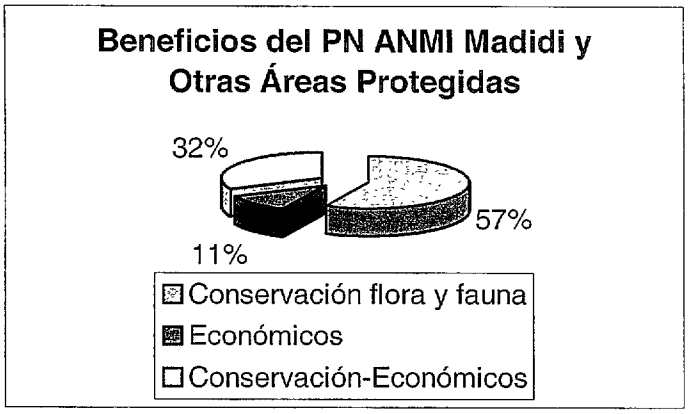


3.7 BENEFICIOS DEL PN ANMI

Los 50 entrevistados encuentran que el PN ANMI Madidi tiene beneficios, para ellos, para el país y también para la humanidad.

Entre los periodistas se percibe como los principales beneficios del PN ANMI Madidi la conservación de la flora y fauna que fue mencionada, en 15 casos.

Los beneficios económicos como nuevas actividades económicas (Turismo) y la explotación racional de los recursos, en 8 casos y encuentran ambos tipos de beneficios 4 periodistas.



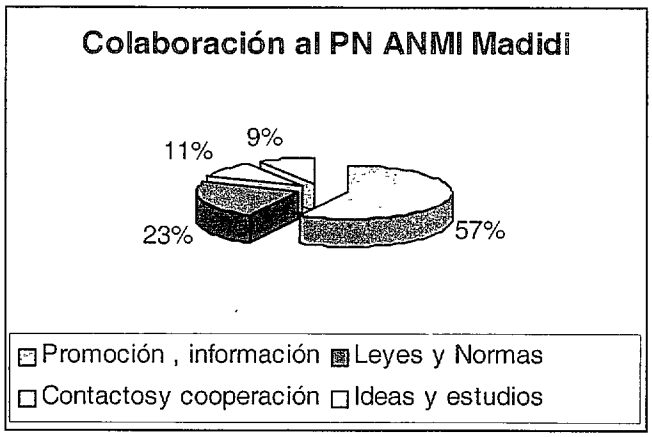
Las autoridades mencionan en 10 casos, ambos beneficios: económico y conservación de flora y fauna; y señalan sólo la conservación de la flora y la fauna, también en 10 casos.

3.8 DESVENTAJAS DEL PN ANMI

La mayoría de los periodistas y de las autoridades, 32 personas, opinan que el PN ANMI no tiene desventajas. Sólo 18 personas encuentran que el PN ANMI Madidi presenta alguna desventaja, entre las mencionadas tenemos las limitaciones en la explotación de los recursos naturales para las poblaciones del lugar, obstáculos al desarrollo y a ciertas actividades económicas, mencionadas por 5 periodistas y 9 autoridades.

3.9 COLABORACIÓN AL PN ANMI MADIDI

Se consultó si existía disposición para cooperar con la protección del PN ANMI y otras áreas protegidas, el 100 % de los entrevistados respondió positivamente.



Entre las formas de colaboración figuran principalmente la difusión de información, concientización, promoción sobre el tema, mencionados por 27 periodistas (100%) y 6 autoridades de gobierno.

En 18 casos las autoridades destacan elaboración y apoyo a normas y leyes, influencia con su opinión; 6 autoridades mencionaron contactos con la cooperación internacional, ideas, proyectos y estudios que apoyen a la conservación.

4. CONCLUSIONES

- La mayor parte de la población local en las comunidades indígenas y campesinas desconocen el PN ANMI Madidi. En los centros poblados, los que han oído del "Parque Madidi" no tienen una idea precisa de su significado.

- La actitud hacia el PN ANMI Madidi es favorable en quienes captan el significado, la importancia o los beneficios de esta Área Protegida; y están dispuestos a cooperar con el Parque, Informando, Vigilando y Cumpliendo las reglas.

- La población que desconoce el Parque o no capta su significado, importancia y/o beneficios asume una percepción mayor de las limitaciones y prohibiciones que implica.

- Respecto a las prácticas de caza, pesca y tala, los que cumplen estas reglas son mayoritariamente los pobladores de los centros poblados que no saben cazar, ni pescar; sin embargo, muchos de ellos adquieren la pesca, la caza o la madera proveniente de comunarios, para sus actividades de comercio o servicios.

- En las comunidades indígenas y campesinas aducen que no realizan estas actividades en forma comercial, por proteger la naturaleza; pero, muchas personas sólo las cumplen porque está prohibido y existe control, sobre prácticas de caza, pesca, tala y quema.

- La prensa escrita es el mejor medio para llegar tanto a periodistas y autoridades nacionales.

- La radio presenta la ventaja de que es el medio común para públicos locales (Autoridades municipales, centros poblados, comunidades indígenas y campesinas) y para públicos urbanos (periodistas, autoridades nacionales,).

- La TV ofrece un panorama interesante para la difusión internacional y como fuente de información para medios urbanos y locales.

- El conocimiento de conceptos como biodiversidad y áreas protegidas es general en los dos grupos entrevistados, pero, aún es impreciso.

- El PN ANMI Madidi es más conocido por autoridades de gobierno que por los periodistas. Sin embargo, en ambos grupos desconocen su ubicación geográfica precisa, sólo el 18% sabe que está en el departamento de La Paz.

- No tienen conocimiento sobre la normatividad de las áreas protegidas un 80% de las personas consultadas.

- El 100% afirma la importancia del PN ANMI Madidi, la mayoría considera que es importante por la preservación de la flora y fauna. También considera que ese es el principal beneficio que brinda.

- Pocas personas, 19%, encuentran como desventajas la limitación en l uso de recursos naturales y obstáculos al desarrollo, para los pobladores locales.

- La totalidad de los entrevistados tiene una actitud positiva hacia el PN ANMI y está dispuesto a colaborar, con información y promoción en el caso de los periodistas; con normas, leyes, contactos internacionales y estudios de parte de las autoridades.

5. RECOMENDACIONES

- Diseñar e implementar campañas de Información sobre el significado, la importancia, los reglamentos y beneficios del PN ANMI Madidi, para los diferentes segmentos de la población local (centros poblados - comunidades campesinas e indígenas; jóvenes – niños, autoridades municipales) para generar actitudes favorables hacia la conservación.

- Enfatizar el conocimiento de los potenciales beneficios y alternativas económicas que brinda el PN ANMI Madidi, a la población local.

- Promover la participación de la población local en la gestión y preservación del PN ANMI; para evitar el crecimiento de las actividades de explotación de recursos naturales.

- Sensibilizar sobre la importancia de cumplir las reglas por conveniencia propia y no por control o sanciones.

- Los medios de comunicación más adecuados para llegar a la población de las comunidades son las radios (FIDES y Panamericana) . Para llegar a la población en los centros poblados las repetidoras locales de Televisión.

- Los canales tradicionales son muy utilizados, cuando se trata de temas de interés de las comunidades, se recomienda usar las reuniones comunales para difundir información específica para cada zona.

- Diseñar e implementar una estrategia de comunicación para públicos urbanos a través de prensa escrita, TV y radio.

- La radio tendría que ser el medio más utilizado porque llega a todos los públicos de interés, locales y urbanos.

- El tratamiento de los temas de información debe tender a proveer nuevos conocimientos y profundizar los que existen; para generar una opinión pública favorable y confiable en temas de medio ambiente.

- La TV, constituye un medio de difusión internacional que debe ser tomado en cuenta en dos sentidos: medio de difusión hacia el exterior y fuente de información para los públicos nacionales.

- Es necesario difundir información sobre objetivos, ubicación, importancia y beneficios del PN ANMI Madidi; para respaldar los conocimientos aún imprecisos y fomentar el desarrollo de actitudes y prácticas favorables en autoridades y periodistas, y, a través de estos dos públicos fundamentales, propiciar su multiplicación en la población civil.

- Las normas y leyes relacionadas con el PN ANMI Madidi y Áreas Protegidas debe ser difundida, para los diferentes públicos, locales y urbanos, con la finalidad de obtener respaldo y crear un ambiente propicio a la conservación y al desarrollo sostenible a nivel nacional.

6. CONSIDERACIONES FINALES

6. 1 CONOCIMIENTOS

El grado de conocimiento del PN ANMI Madidi es superficial; tanto en la población local como en periodistas y autoridades.

La mayor parte de la población local y autoridades y periodistas sólo han oído hablar del PN ANMI Madidi, desconocen su significado, su ubicación o límites y la importancia que tiene.

Se encontró que la mayoría de la población local sólo conoce el PN ANMI Madidi , en función de las prohibiciones y/o limitaciones en el uso de recursos.

La importancia del PN ANMI sólo es conocida por algunas autoridades, tanto periodistas como pobladores locales no le asignan especial relevancia, porque desconocen sus características.

6.2 ACTITUDES

En ambos grupos, las personas más informadas, son las que asignan mayor importancia a la preservación del PN ANMI.

Los beneficios percibidos en ambos grupos son generales: Ej: preservación de la flora y la fauna para las futuras generaciones. Mientras que las desventajas son percibidas de forma personal por los pobladores locales, principalmente en las comunidades campesinas e indígenas Ej. No puedo talar árboles o está prohibido cazar.
En el mismo sentido, pocos periodistas y autoridades encuentran desventajas al PN ANMI; mientras que, en la población local se advierte una propensión mayor a encontrar desventajas en jefes de familia que no entienden que función cumple el PN ANMI y sólo perciben las prohibiciones.

La importancia del PN ANMI Madidi, en ambos grupos, tiene dos perspectivas fundamentales: la conservación de la flora - fauna y los beneficios económicos; aspectos que merecen ser difundidos en la población local y urbana.

Ambos Grupos: Población Local – Periodistas y autoridades; muestran muy buena predisposición a cooperar con el PN ANMI. Entre las iniciativas sobresale en ambos casos la necesidad de informar más a la población.

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6.3 PRÁCTICAS

La población local que cumple con los reglamentos (no cazar, no pescar,no talar) lo hace principalmente, porque existe control o teme a las sanciones.

Las personas que no han sido afectadas por estas limitaciones, son las que más beneficios encuentran en el PN ANMI y están más dispuestas a colaborar vigilando o denunciando; pero principalmente informando a otros sectores de la población local.

DEBT RELIEF AND CONSERVATION IN SOUTHERN BAHIA: OPPORTUNITIES AND IMPEDIMENTS

Anita Sundari Akella and James Cannon, Conservation International

I. Introduction

Recent work done by a partnership between IESB, CI and the World Bank in the Atlantic Rainforest of Southern Bahia has focused on identifying economic incentives that could encourage the protection of privately-held forest lands as part of a conservation strategy for the region. Among the economic incentives that have been discussed as potential conservation tools in Southern Bahia are outright purchase of forestland from indebted farmers, exchanging debt relief for conservation agreements, offering credit to farmers in exchange for conservation set-asides, and creating a system of tradable development rights to forested land.

The idea that relieving debt in exchange for agreements limiting land use or establishing RPPNs could be a viable conservation tool arises from the perception that many cacau farmers in Southern Bahia are highly indebted, and that much of the remaining Atlantic Forest lies in their lands. Working with banks to negotiate debt, while simultaneously negotiating conservation agreements with indebted farmers, seems like an excellent way to use indebtedness to leverage more conservation of remaining forest fragments. In the short-run, the debt relief option may also be preferable to other economic incentives like offering credit or creating a system of tradable development rights, because it carries little financial risk and can be implemented in the near-term.

Debt in Southern Bahia presents both a threat and an opportunity for conservation efforts in the region. The threats are multiple – on the one hand, indebtedness and the lack of new credit that accompany it increase producer incentives to illegally log or to expand agricultural cultivation into their forested land in hopes of making a buck. On the other hand, indebted farmers who are interested in selling or protecting a portion of their land in exchange for a conservation payment of some sort may be unable to do so because their land is held as collateral by creditor banks. Opportunity arises from the fact that indebtedness can be used to leverage conservation, since both the banks who hold debt and the farmers who owe it potentially have something to gain from negotiating with the conservation community.

This study investigates the question of Southern Bahia's cacau farmer debt and its conservation implications more closely, hoping to answer a series of questions that will shed light on the applicability of a debt relief strategy while also providing insights that can facilitate implementation of such a strategy. The origin, terms and status of loans taken out by cacau farmers since the 1970s are examined in an effort to characterize current debts and assess their current value. Data on debt levels by type and municipality are then analyzed to describe the distribution of debt and the viability of using debt as leverage in making conservation deals. The form of debt-for-conservation agreements and impediments to their success are also discussed.

The results of this inquiry show that while exchanging debt relief for conservation is a very promising tactic for some areas and with some farmers of Southern Bahia, it cannot be

viewed as a regional conservation strategy. The distribution of debt across municipalities varies greatly, as does the distribution of forest remnants across municipalities, making debt relief a more effective strategy in some places than in others. Furthermore, since the majority of debtholders are medium and large farmers, any conservation strategy that focuses on debt relief will necessarily apply to only a small segment of producers. In the end, it becomes clear that debt relief is an important conservation tool, but one which must be strengthened by institutional capacity building and complemented by other economic incentives if conservation on a large scale is to be achieved.

II. History of Cacau Debt in Southern Bahia

Between 1960 and 1993, Banco do Brasil was the primary creditor for cacau farmers in Southern Bahia, supplying close to 99% of the credit available to farmers of all sizes in the region (José Brandt Silva Filho, pers. comm.). Other banks that were involved to a lesser degree in offering cacau credit included the now-defunct institutions Banco Economico and BANEB. The sources of this financing were varied – some of it came from the banks' own coffers, some was passed to the banks from the Tesouro Nacional, some was passed to banks from specific government agricultural funds such as PROCACAU. While some involved in this work have highlighted BNDES as a key creditor to cacau cultivators, a number of sources reported that BNDES did not enter the cacau financing arena until 1995/96, and has only ever been a 'repassador' of funds from the Tesouro Nacional to those banks who are actually making loans (José Brandt Silva Filho, Elieser Barros Correia, Sergio Pedroso, pers. comm.).

The majority of loans given to cacau farmers fall into two categories – *investimento* loans and *custeio* loans. *Investimento* loans were given for activities that would generate returns in the medium- to long-run, including such items as infrastructure and new plantings. The property of the farmer in question was generally offered up as collateral for an *investimento* loan. *Custeio* loans were used to cover costs associated with one harvest – for example, costs of inputs and labor – and would generate returns in the short term. This type of loan enabled a producer to hold onto his cacau until the season in which prices had risen, rather than having to sell product in the time of year when prices were low to cover his costs for the next harvest. *Custeio* loans did not require the same type of collateral as *investimento* loans, rather, a guarantee in terms of *arrobas* of cacau was offered, and this determined the value for which the loan could be taken (*penhor de safra*). For example, a cacau producer would take out a loan in local currency, which would then be converted into *arrobas* of cacau owed using dollarized world cacau prices at the time the loan was taken, to estimate how many *arrobas* were owed. When the loan came up for repayment, the principal plus interest and other charges would again be converted into *arrobas* of cacau according to the dollarized world price of cacau at the time of repayment. *Custeio* loans represent the majority of loans that were made to cacau producers from the 1970s onward.

Between 1960 and 1983 – perhaps as part of the government initiative to incentivize the planting of cacau, whose world price in the 1970s approached US$4000/metric ton – heavily subsidized[1] credit was offered to cacau farmers. This subsidization resulted from nominal

[1] This 'subsidy' is defined by Nascimento et al. as being equivalent to 1 – (interest rate/inflation rate).

interest rates that were consistently and significantly lower than inflation rates – although inflation rates ranged from 18% to 225% during this time period (Nascimento et al. 1994), debtors were not required to pay any sort of 'monetary correction' to compensate for the decreased value of the money they were paying back. Subsidization was at its lowest in 1973, when it was 12.8% (Nascimento et al. 1994) (See Figure 1). Between 1973 and 1983, the rate of subsidization increased steadily with inflation rates, reaching 79.2% in 1981. From 1983 onward, monetary correction was introduced to agricultural credit, as debtors were charged either ORTN (a measure of monetary correction used until 1986) or some percentage of it in addition to interest – the rate of subsidization dropped to 15% in 1983 and to 5% in 1984. By 1985, interest rate plus monetary correction charged was equivalent to the rate of inflation, bringing this form of subsidized agricultural credit to an end.

Any cacau farmer will tell you that 1985 was a bad year for many reasons. In addition to the fact that it heralded the end of subsidized credit for cacau production, 1985 was also the year in which:

- the Banco do Brasil prohibited further financing of *investimento* loans and began decreasing the number of *custeio* loans offered (José Brandt Silva Filho, pers. comm.);
- a prolonged drought which lasted until 1989 began, significantly reducing Southern Bahia's cacau production;
- cacau prices fell to roughly $2000/ton, their lowest level in close to a decade;
- inflation rates of 225.5% significantly augmented the costs of farm inputs and labor;
- technical assistance to cacau farmers decreased.

The rapid decline in the availability of credit to cacau producers between the late 1970s and the early 1990s was marked, although the reasons for this decline are uncertain – particularly given the fact that the government had heavily encouraged expansion of cacau planted area throughout the 1970s. Government may have been attempting to end the country's inflationary crisis by decreasing the supplies of money and credit in the economy, or may have decided to invest elsewhere when cacau prices began to fall in the mid-1980s[2]. Between 1977/80 and 1989/92, the amount of credit given to cacau producers dropped from US$121 million to US$3.4 million. Between these dates, availability of *custeio* loans fell by 98% -- these loans decreased in number from 5,208 to 612, and decreased in value from US$72.8 million to US$3.4 million. As a result of Banco do Brasil's prohibition of *investimento* loans, the amount of financing offered for investment purposes declined from US$48.9 million in 1977/80 to US$60,000 in 1989/92 (Nascimento et al. 1994).

Given rising input and labor costs, depressed prices and the lack of access to new credit, many of the cacau farmers who had borrowed money to cover harvest costs or investments in the 1980s decided not to pay back their loans. A cacau farmer will tell you that there was no way to pay back loans, because prices were low, and costs and interest rates high. While there were certainly many variables acting against the interests of cacau producers, others will tell you that these same producers – addicted to highly subsidized credit and very high profitability – could have paid, but simply chose not to.

[2] A specific government statement on the reasons behind this credit decline was not found in available sources.

According to bank sources, a significant proportion of cacau farmers did not even take loans in the 1970s and 1980s, and were able to cover their costs using farm income – this undermines the claim of medium to large indebted cacau farmers that it was impossible to make a living off of cacau without taking on debt in this era. In fact, there is a widespread perception among many in Southern Bahia that highly subsidized loans were taken by cacau farmers not to pay for farm operations, but because they provided a cheap source of financing which could be used to buy pricey condos on the beaches of Salvador and other such luxury items. Furthermore, bank officials assert that some 50%-60% of the cacau farmers who incurred debt in these years actually did pay off their debt – again, undermining the claims of indebted cacau farmers that high interest rates and costs in an era of low cacau prices made it impossible to pay off debts.

A simple true example of the workings of a *custeio* loan[3] – the most significant contributor to cacau debt between the 1970s and the early 1990s – supports the hypothesis that many cacau farmers could have paid their debts had they chosen to do so.

- In 1988, a farmer offered 10,500 *arrobas* of cacau as a guarantee for a loan taken through the Banco do Brasil.
- A loan valuing Cr$764,000 was taken, and using dollarized cacau prices, the Banco do Brasil estimated that the value of this loan in *arrobas* of cacau was 865 *arrobas*.
- Given interest and other bank charges, the farmer would have expected to hand over more than 865 *arrobas* of cacau to the bank when the loan came due.
- When the loan came due, the monetary value of the total (principal+interest+bank charges+monetary correction) owed was Cr$70,652,428[4]. This value was then translated into *arrobas* of cacau using the dollarized world price of cacau at the time the loan came due. In the end, the farmer was asked to hand over 785 *arrobas* of cacau to the bank.

In the end, the farmer in the example above ended up paying less than the principal of his loan (865 *arrobas*, vs. 785 *arrobas* paid back) to the bank, in spite of monetary correction and high interest rates, because the price of cacau had risen in the time period before his loan came due. The example of this farmer is by no means an exception. A sample of 57 loan contracts given by the Banco do Brasil to mini, small, medium and large producers between 1987 and 1992 shows that 64% of debtors actually owed less than the value of their principal in *arroba* terms when their *custeio* loans came due. For 1987 contracts, farmers paid back an average of 30% less, and they also paid 27% less and 18% less on contracts taken out in 1988 and 1989, respectively. In 1990, when cacau prices dropped sharply, farmers paid roughly 23% more than principal on loans taken out in that year. In 1991 and 1992, they paid approximately 1% more. This evidence contradicts the allegation that interest rates were so unreasonably high that farmers could not have possibly paid their debts even if they had wanted to.

[3] This example is taken from a study of 57 loans done at Banco do Brasil. Since the study is confidential, further source information is not given.

[4] Inflation rates in this era were roughly 685% (Nascimento et al. 1994)

Surely, the notion that cacau farmers could have paid their debts if they wanted to does not alter the conservation community's desire to use debt relief as an instrument for achieving more protection and healthier ecosystems in Southern Bahia – although it certainly brings up some ethical questions, such as whether we should be rewarding those farmers who are indebted because they didn't want to pay while ignoring those farmers who actually paid or those who never had access to credit. However, the analysis above does give us an insight into the people that we will be trying to establish conservation agreements with, and should signal to us that we need to use the utmost caution and rely heavily on binding contracts, monitoring and enforcement if we hope to make conservation agreements that cacau farmers will adhere to.

III. Debt, Delinquency and Deferral

Indebtedness among Southern Bahia's cacau farmers is to some extent abetted by the very banks to whom they are indebted. Rather than enforcing payment or seizing properties when debts are not paid, Banco do Brasil (the largest creditor in the region) has accomodated debtors by continually rescheduling and delaying the repayment periods of outstanding loans. The reasons for this leniency are unclear – a lack of enforcement capacity, lack of political will, high costs of collection, unwillingness to have to deal with seizure and sale of properties, and lack of incentive given the fact that Banco do Brasil is a state-owned enterprise which will not be allowed to fail may all be factors. Interestingly, while debts from as far back as the mid-1980s have not been repaid, they have not yet been written off as losses either.

Instead, as stated, loan conditions and terms have been rescheduled a number of times since 1988 in hopes of facilitating repayment. Rescheduling has encompassed *custeio* and *investimento* loans to cacau producers, as well as other rural investment loans made in the cacau region (Sergio Pedroso, pers. comm.). The payment periods of these debts were rescheduled every two years between 1988 and 1998. The 1992 rescheduling – initiated when vassoura de bruxa began contaminating the region, causing productivity to fall by 40% (CEPLAC 1999) – involved the consolidation of all a farmer's previous debts into one unique debt, and made new *custeio* credit for combatting vassoura de bruxa (through pruning and use of defensive agents as recommended by CEPLAC) available to farmers.

The Programa de Recuperação de Lavoura Cacaueira Bahiana

As vassoura de bruxa became more problematic in the region, a new source of financing for cacau farmers – the *Programa de Recuperação de Lavoura Cacaueira Bahiana* (PRLCB), or Program for the Recuperation of Bahian Cacauiculture – was initiated in June 1995. Thus far, there have been three stages of financing through this program: the first stage covered June 1995 to June 1996, the second stage December 1996 to December 1997, and the third stage – which is currently in operation – began in March 1999. The goal of this line of credit is to combat vassoura de bruxa through cutting and destruction of the infected parts of the plant, use of biocontrol techniques, and replanting of infected cacau areas with 'tolerant' cacau. Under this program, financing is available to farms of all sizes, ranging from mini producers to large producers. The banks in Southern Bahia have established a sort of division of labor in terms of which clients they give credit to:

- Mini Producers – those who rely on agriculture for at least 80% of their income, and whose Gross Annual Agricultural Income is less than R$22,000 – were serviced in the first and second stages by the now-defunct BANEB (Bahia State Bank), and are now serviced by the Banco do Nordeste, using funds from the Fundo de Desenvolvimento do Nordeste (FNE – Fund for the Development of the Northeast);
- Small producers – those who rely on agriculture for at least 70% of their income, and whose Gross Annual Agricultural Income is between R$22,000 and R$48,000 – are serviced by Banco do Brasil, using funds from the National Treasury;
- Medium producers – those who rely on agriculture for at least 60% of their income and whose Gross Annual Agricultural Income is between R$48,000 and R$362,000 – are serviced by Banco do Brasil, using funds from BNDES;
- Large producers – those whose Gross Annual Agricultural Income is greater than R$362,00 – are also serviced by Banco do Brasil, also using funds from BNDES.

In the first and second stages of the PRLCB financing, interest rates for mini and small producers were 4% + TJLP (a monetary correction measure currently equivalent to roughly 18% per year). Interest rates for medium and large producers were 6% + TJLP annually.

Given the virulence of vassoura de bruxa's spread through the region, the control methods that loan money was spent on proved largely ineffectual, and these debts were incurred without yielding improvements in productivity. In June 1998, before the first and second stage debts had come due, and before the third stage of funding was disbursed, these loans were renegotiated. In the renogotiations:

- PRLCB debts from the first and second stages of funding were consolidated and rescheduled such that payments would begin in July 2002 and continue for 10 years;
- The interest rate on all PRLCB loans taken after July 1997 was reduced to 3% + TJLP for mini and small producers, and to 4% + TJLP annually for medium and large producers.

Approval of contracts for the third stage of PRLCB financing is ongoing, an estimated R$20 million have been liberated thus far, and some speculate that total funding liberated in this stage will fall far short of what was lent in the first and second stages (Elieser Barros Correia and others at CEPLAC, pers. comm.).

Securitization and PESA

The 1996 loan rescheduling was called *securitização*, securitization, and encompassed all previous rural debts – not only those of cacau farmers– up to a value of R$200,000[5]. The

[5] The newer PRLCB loans offered beginning in 1995 were not included in securitization.

bulk of the debt that was securitized had been accumulated between 1986 and 1994, but had never been paid off (José Brandt Silva Filho, pers. comm.). In this securitization process:

- The value of an individual's debt as of 11/30/95 was taken as a baseline figure, and the debt was divided into 10 equal parcels to be paid over a 10 year period beginning in 1997.
- In addition, debtors would pay annual interest of 3% corrected for inflation by using the percentage variation in the government-established prices floors for corn or soy (the producer would choose one of these commodities when his loan was securitized). For example, if the price of corn increased 4% in a year, the interest paid that year would be 7%.
- No collateral was refunded to the debtor upon entering into a securitization agreement.

In 1998, a new program called PESA – *Programa Especial de Saneamento de Ativos* – was created to extend rescheduling to the portion of rural debts that had not been included in securitization because they exceeded R$200,000. For example, if a farmer had R$300,000 of debt, only R$200,000 of it would have been eligible for restructuring through securitization. PESA offered this farmer an opportunity to reschedule the remaining R$100,000 of his debt, although according to slightly different terms:

- The debtor was asked to pay 10.336% of the current value of debt exceeding R$200,000. This 10.336% would be used to purchase Brasilian Treasury Bonds, which over a 20-year time horizon were expected to yield sufficient returns to cover the capital of the loan. The farmer with R$100,000 of non-securitized debt, for example, would pay R$10,336 for the purchase of Treasury Bonds to the bank, which was expected to grow to R$100,000 over 20 years.
- In addition to the initial 10.336%, the debtor would also have to make annual payments equivalent to 8% of the total debt corrected by the IGPM (*Índice Geral de Preços das Mercadorias*, a general price index, currently equivalent to roughly 4.5%) for 20 years. For example, the farmer with R$100,000 of debt in PESA would pay R$8,000 per year plus an additional R$4500 in a year when the IGPM was 4.5%.
- Upon payment of the initial 10.336%, 50% of the value of the PESA debt would be liberated as a guarantee. For example, the debtor with R$100,000 of PESA debt would have R$50,000 in guarantees made available to him upon paying R$10,336.

As of 1999, a large number of the debtors who had their loans renegotiated through securitization and PESA were still not paying off their loans. According to data from Banco do Brasil, 2,331 Bahian producers were delinquent in their payments by June 1999[6]. As a result, both the securitization debts and the PESA debts had their repayment periods deferred by the bank in late 1999, so that payments that should have begun in 1997 will now begin in 2001. Furthermore, the bank is offering bonuses to anyone who pays on time – payments made in 2001 on up to R$50,000 of credit will be discounted by 30%, payments on

[6] Unfortunately, data on the total number of indebted farmers who participated in securitization and PESA were unavailable. However, Banco do Brasil considered this 2,331 to be a significant enough proportion of participating producers that they rescheduled these loans.

loans in excess of R$50,000 will be discounted by 15%. Whether these bonuses will extend to each year of repayment is unclear[7].

One interesting result of these payment deferrals is the fact that the bank now cannot seize any debtor's property, because technically, nobody is delinquent on payments. Property can only be seized if the producer tells the bank that he refuses to ever pay back his loans. Therefore, the bank's ability to force people to pay by threatening to seize their land has been foregone, as has the possibility of the conservation community purchasing seized lands at a discounted rate from the bank (Sergio Pedroso, pers.comm.).

Firm numbers on how much securitized and PESA debt exists in Southern Bahia are hard to come by, although regional debt undoubtedly lies in the hundreds of millions of dollars. Banco do Brasil is currently reworking its numbers on how much debt was included in securitization and PESA, and these numbers should be available by February 2000.

What is clear is that cacau farmers are still not paying their debts, in spite of the constant renegotiations that have gone on. Annual payments on securitized debt are not being made, and very few producers have made the initial 10.336% payment on their PESA debt. At this point, Banco do Brasil sources assert that they believe repayment of these loans is highly unlikely, particularly since producers are aware that if enough of them do not pay, the bank will have to renegotiate and defer again, relieving them of responsibility to pay in the short- to medium-term.

From the perspective of the banks involved in Southern Bahia's cacau debt, working with conservation organizations to negotiate debt relief agreements could be worthwhile because it guarantees them some payment in the present, rather than the dubious promise of a payment in the future.

Indeed, there is some evidence that Banco do Brasil is quietly renegotiating individual loans at highly discounted rates. Sources at CEPLAC were told by an agent of Banco do Brasil that in October 1999, the owner of several ailing properties, a farmer with R$4 million in agricultural debt, had his debt forgiven by Banco do Brasil after paying only R$200,000 – or 5% of his debt. If these types of deals are already being made, it is extremely important that the conservation community enter this process as soon as possible to ensure that it yields environmental benefits.

IV. Currently Available Credit and Access Issues

Given the the fact that Bahian cacau farmers and the banks they are indebted to have fallen into a pattern of non-payment and rescheduling in which nobody seems to believe that these debts must or will be paid, the usefulness of debt relief as a technique for leveraging conservation agreements may seem minimal. However, while severe penalties are not being

[7] In November of 1999, PESA was expanded to include the first and second stages of PRLCB debts, extending the repayment period of those loans from 10 years to 20 years.

imposed on non-paying farmers, these farmers' ability to access new credit sources is being hampered by their old debts.

Most significant among the new credit sources currently being offered are the PRLCB loans, which have already been discussed. Aside from PRLCB loans, Banco do Nordeste offers loans to farmers for diversification and specific agricultural investments. While the interest rates of these loans vary according to the specific credit fund, they fall generally in the 2.5% to 3.5% + TJLP range. These loans are in demand because a number of cacau farmers, while still devoted to trying to recoup the lost productivity of their cacau, recognize that diversification may contribute significantly to the long-term economic viability of their farms.

Accessing PRLCB and other credit sources is complicated for cacau farmers with prior unpaid debt primarily because they cannot offer sufficient collateral or guarantees to potential lenders. The rules regarding guarantees differ slightly between the two primary banks involved:

- At Banco do Brasil, a farmer can get credit equivalent to 50% of the guarantee he is able to offer. The guarantee available is determined by subtracting any pre-existing debt from the value of the assets held by the farmer. Thus, for example, if a farmer has property valued at R$150,000 with previous debts totalling R$100,000 he has R$50,000 disposable to use as a guarantee, which will qualify him for R$25,000 of new credit.
- At Banco do Nordeste, the percentage of the guarantee value that is offered as credit varies according to how project risk is classified by the bank. In the case of a low-risk investment, the farmer is eligible for credit equivalent to 70% of the guarantee he is able to offer. Thus, a farmer in the situation illustrated above would have access to R$35,000 of new credit if his project were low-risk. In the case of a high-risk investment, the farmer is eligible for credit equivalent to 40% of the guarantee he is able to offer. Thus, a farmer in the situation illustrated above would have access to R$20,000 of new credit if his project were high-risk.
- Neither bank will accept as a guarantee land that is already held as collateral by another bank. This is a source of great frustration to cacau farmers, because in the era when cacau was highly profitable, the same farm could be offered as a guarantee to various creditors. Today however, a farmer who has put up his farm as a guarantee on loans taken from Banco do Brasil cannot use the same farm to, for example, guarantee a diversification loan from Banco do Nordeste.

Given these circumstances, many farmers complain either that 1) the guarantee they are able to offer does not make them eligible for enough credit to combat vassoura de bruxa effectively or invest in new production systems, or that 2) because their land is held as a guarantee by one bank, they are unable to access attractive credit options that may be available through other banks. While these farmers are uninterested in paying off old debts and convinced that no serious action will be taken against them if they fail to pay, they are certainly aware that their previous indebtedness is complicating access to new credit sources, which they want.

V. Current Distribution of Debt

While the debt relief option may be a promising conservation strategy for certain sites in Southern Bahia, it will not work equally well in all areas as the spatial distribution of debt varies across the landscape. A sample of 27 municipalities in Southern Bahia[8] (see Figure 2) offers some interesting insights into the relationships between debt, the cultivation of cacau, and forest cover:

- Total debt in Southern Bahia is significant, it ranges in the hundreds of millions of dollars. For this sample of 27 municipalities alone, total debt among only those farmers who had applied for or received PRLCB loans was R$201,436,169 – equivalent to roughly US$100,000,000 or more.
- In this sample, PRLCB debt makes up 66% of total debt currently held by farmers.
- Levels of indebtedness vary significantly between municipalities (see Figure 3).
- Municipalities with low percentages of land in cacau production tend to have lower total debt and lower non-PRLCB debt than municipalities with more land in cacau production. This implies that regions of Southern Bahia where cacau production is most expansive are likely to demonstrate the most severe indebtedness.
- In general terms, higher percentages of forested land remain in municipalities with less cacau than in municipalities with more cacau (see Figure 4).

These findings highlight important details about the debt relief option which must be considered before steps toward implementation are taken:

- In regions with high debt, the debt relief option is highly applicable, but not much forest remains to protect. For example, the municipality of Itajuipe has more debt than any other municipality in the sample (over R$17 million), 68% area under cabruca, but only 1% forestland remaining. In such areas, debt relief could be a very expensive conservation strategy, yielding relatively little protected forest area per dollar spent on debt relief. However, since these regions house large tracts of cabruca, developing a conservation strategy that incorporates cabruca rather than forest may be possible.
- In regions with low debt, more forest exists, but the debt relief option may not be as applicable since fewer farmers are indebted. The municipality of Una provides a good example of this situation – it has 32% forest cover, higher than any other municipality in the sample, and is of known ecological importance, but there is relatively little debt (just over R$2 million). Sources report that only some 20% of farmers in Una are indebted, because the agricultural economy of the municipality is highly diversified and does not rely primarily on cacau (Gabriel Santos, Elieser Barros Correia, pers. comm.) In the case of indebted farmers with low debts and large areas of forest cover, the debt relief strategy could be extremely attractive, yielding large returns in terms of hectares of forest protected per dollar spent on debt relief. But clearly other options must be developed to

[8] The sample represents only those farmers in each municipality who applied for PRLCB loans – these farmers, according to sources at CEPLAC, represent 20% of farmers but 90% of debt.

appeal to farmers who do not have debt, but who do have large or ecologically important tracts of forest on their properties.

Another important point that should be made regarding the distribution of debt is that the majority of debt in the region is held by larger farmers. The distribution pattern of the first and second stages of PRLCB lending provide a clear example of the credit bias in favor of medium and large farmers.

- In the first stage of PRLCB, a total of 4,256 loans valuing over R$68 million were given out. While loans given to medium and large farmers accounted for only 22% of the total number of loans given, they accounted for over 67% of the total funds lent (Banco do Brasil).
- In the second stage of PRLCB, a total of 3,056 loans valuing roughly R$58 million were given; again, 76% of these funds went to medium and large farmers (Banco do Brasil).

This pattern holds equally well for securitized and PESA debts. Many in Southern Bahia will tell you that roughly speaking, 90% of the region's debt is held by 20% of farmers, the vast majority of whom are medium and large cacau farmers (Elieser Barros Correia and others at CEPLAC, Joaquim Blanes, Gabriel Santos, pers. comm.) The upshot of this finding is that the debt relief option will incorporate primarily medium and large farmers in a regional conservation strategy, but will not be applicable to smaller producers. The importance of small farmers and means of involving them in a conservation strategy for Southern Bahia will be discussed further on.

VI. Concerns

The lack of effective enforcement and appropriate technical assistance in Southern Bahia are two issues that may compromise the success of any conservation deals that are brokered with farmers – indebted and otherwise – in the region.

The enforcement capacity of the state and federal institutions responsible for ensuring that environmental laws are complied with has time and again proven to be inefficient. This is evidenced by the continuing problems the region has with deforestation and illegal timber harvest, in spite of laws prohibiting further destruction of the remnants of the Atlantic Forest. While farmers in the region might voice their willingness to uphold conservation agreements in hopes of cutting beneficial deals with conservationists, it is unlikely that they will adhere to conservation conditionalities when the opportunity cost of conservation seems high – that is, when they believe that they can gain financially by venturing into forests they have promised to protect. As the previous discussion highlights, many farmers in this region have a sense of entitlement that leads them to believe that they can take money and agree to conditions on the one hand, while doing whatever they want as soon as the back of the person they made the agreement with is turned. Conservation agreements can only be truly 'binding' if there is a credible deterrent to breaking them – for example, if farmers believe that they will be caught and penalized for their transgressions.

Unfortunately, under the current system of monitoring and enforcement, there is no credible threat of penalization, and existing institutions cannot be trusted to do an adequate job of

ensuring compliance with conservation agreements. Before any debt-for-conservation agreements are made, more thought and action will have to be devoted to the question of how monitoring and enforcement can be improved. Perhaps the best strategy is for conservation organizations themselves to expand their capacity to provide third-party monitoring, and to penalize non-compliance by withholding disbursal of tranches of debt relief or credit, without ever involving or relying on government institutions. The viability of this and other enforcement options should be explored more thoroughly prior to implementation of a debt-relief strategy in Southern Bahia. Without enforcement, conservation agreements will exist only in name, and will yield little or no ecological benefit.

Technical assistance to Southern Bahia's farmers has traditionally been offered by agriculturally-minded institutions – CEPLAC, EBDA – whose primary concern is maximizing agricultural productivity. For those conservation agreements that involve not outright protection but conditions regarding use of already existing agricultural land, technical assistance professionals capable of designing and helping implement and monitor ecologically-minded land use plans are indispensable. CEPLAC and EBDA have little or no capacity to develop management plans involving, for example, agroforestry systems or organic cultivation. Therefore, relying on these institutions to help implement more ecologically sensitive land uses in and around priority conservation areas is bound to fail.

The necessity of developing a sufficiently large cadre of agronomy professionals capable of working with farmers to promote land uses that are ecologically minded must be considered a priority by conservationists. Since institutional inertia seems strong in the currently existing technical assistance groups in Southern Bahia, such an effort is more likely to be successful if it happens outside of these institutions – through, for example, the University Estadual de Santa Cruz, or through IESB. Once trained, this group of professionals could be charged not only with designing and implementing land-use plans, but also with aiding in the monitoring of agricultural projects on the properties of landholders with whom conservation agreements are made.

VII. Conservation Tools for Indebted Farmers

The complexity of sources, terms and distribution of debt in Southern Bahia make it clear that applying debt relief as a region-wide strategy for achieving conservation of remaining forestland may not be viable. The sheer magnitude of cacau debt also contributes to this notion – with total debt in the hundreds of millions of dollars, it is inconceivable that the conservation community will be able to fund widespread debt relief across the region if conservation money is the only source of financing for this endeavour. Negotiating debt-relief deals at a municipal level may also be a poor strategy, since the distribution of debt within municipalities undoubtedly demonstrates the same patterns seen across the region – relatively few producers hold debt, and those with the highest debt may not have forests worth conserving.

Nonetheless, debt relief is an attractive conservation tool, and may actually be critical to protecting land belonging to indebted farmers, since establishing RPPNs on land held as collateral by a bank could prove difficult or impossible. By the same token, the effectiveness of the RPPN mechanism in protecting forest throughout the region may be hampered by indebtedness. Given these conclusions, it seems clear that the debt relief option is an

important conservation tool – albeit one that should be applied on a case-by-case basis, and that is most likely to be worthwhile on properties that are of extreme ecological significance or that have a high ratio of forestland to dollars of debt. If other funding sources – such as agricultural development funds, for example – can be leveraged for debt relief and tied to conservation conditions, the application of this strategy region-wide may become more feasible.

Where debt relief is an effective conservation tool, it will be extremely important to develop agreements which yield strong positive incentives for both the bank and the farmer to participate, and that also carry strong deterrents to violating the terms of the agreement. Incentives for banks and farmers to participate in debt-for-conservation agreements clearly exist:

- For banks, selling cacau debt even at greatly discounted rates assures some repayment of loans made long ago, can lead to savings on transactions costs associated with future enforcement or further rescheduling, and creates a public image that these institutions 'care about the environment.' Sources at Banco do Brasil believed that the institution's decision-makers were likely to be interested in the benefits that conservation-linked debt relief deals could bring.
- For indebted farmers, the lack of access to new credit sources that arises from inability to provide a sufficient guarantee creates a need that can potentially be filled through debt relief agreements. If debt or some portion of it is relieved, farmers will have collateral which can be used to get financing for rejuvenation of cacau areas or diversification. Conceivably, farmers would be willing to exchange conservation for this access to new credit. Indeed, focus group interviews conducted by a World Bank consultant in Bahia have shown that farmers find the possibility of trading debt for conservation highly attractive (Heloisa Orlando, pers. comm.).

Given this confluence of needs, there is undoubtedly a way for conservation-minded institutions to become 'brokers' of debt relief predicated on conservation agreements. Outlined below are some options for the form that agreements between 1) the conservation community and the banks, and 2) the conservation community and indebted farmers might take.

1. *Debt relief deals made with banks*
   - When the notion of negotiating debt relief was discussed with mid-level bank officials at Banco do Brasil, it was suggested that the bank would likely be willing to offer debt relief for a percentage payment – 40% was suggested by bank staff – of farmer debt.
   - Analysis shows that when a 100% repayment rate and a 30% discount rate[9] are assumed, the stream of repayments associated with a securitization loan or a PESA loan have an expected present value equivalent to the 40% rate mentioned by bank

[9] 30% is a discount rate chosen by this researcher because it seems to capture the higher cost of capital and higher risk prevalent in most developing countries. However, the official discount rate used by Banco do Brasil is unknown. In Figure 5, sensitivity analysis of these present value calculations at 10% and 50% discount rates can also be found. Clearly, the percentage rates that debt can be negotiated at vary strongly depending on the chosen discount rate.

officials[10] (see Figure 5). However, if lower repayment rates are assumed, the present value of a debt to be paid over 10 or 20 years drops considerably. If we assume that 40% of existing debts will be paid – a generous assumption, given that by this time, only the most delinquent of the delinquent still have debts – the expected present value of loan repayments drops to roughly 15% of the original loan[11].

- As mentioned earlier, sources not directly linked to Banco do Brasil have reported that the bank recently made an agreement with a deeply indebted large farmer, relieving debt for a payment equivalent to 5% of the original value of the debt. If this negotiation can be taken as an indication of how the bank perceives probability of repayment (discount rate is still assumed to be 30%), it shows that the bank expects that a mere 13% of outstanding loans will be repaid.
- The present value analysis makes it clear that the bank's willingness to sell debt for 40% of its original value should be negotiable in future discussions with higher-level bank officials. Since repayment rates are undoubtedly lower and discount rates perhaps higher than the 40% figure suggests, it seems likely that debt relief could be purchased for much less.

2. *Conservation agreements made with indebted farmers*
   - In a general sense, deals made will require that a conservation agreement be made in exchange for debt relief; but there must be flexibility in what types of conservation agreements are accepted by the conservation community, since each farmer will have a different take on what form of conservation is feasible for him. The specifics of deals made with individual farmers will also have to be dependent on site-specific factors such as ecological importance, level of debt, current land uses, etc.
   - Some farmers may be willing to hand over title of their forestland (i.e. sell/trade it) in exchange for debt relief. This option is most likely to be attractive to farmers who are operating with difficulty and want to reduce the area of land that they are responsible for. However, this option may have problems associated with it – namely because it involves giving up land that might otherwise be used to earn farm income, and because reducing the size of a farmer's property reduces the value of the assets they are able to offer as collateral for getting new credit.
   - Some farmers may be willing to enter into legally binding agreements to create RPPNs on forestland in exchange for debt relief. This option leaves some land uses – i.e. tourism – available to the farmer, but will require substantial monitoring and enforcement.
   - Some farmers may be interested in trading the development rights to their forestland in exchange for debt relief – a conservation easement. However, it is currently unclear whether the conservation easement mechanism exists in Brasil,

[10] Specifically, the present value of a 10-year stream of payments on a R$100,000 securitization loan is R$40,190 (40%), while that of a one-time 10.336% payment and subsequent 20-year stream of payments on a R$100,000 PESA loan is R$36,862 (~37%).

[11] This means that a present-day payment of only 15% of the total loan amount should be sufficient to compensate the bank for what they would have received over 10 or 20 years (depending on loan type) at a 30% interest rate if 40% of debtors repaid.

and this option will have monitoring and enforcement requirements comparable to those of the RPPN option.

- As the analysis of distribution of debt shows, many farmers with the highest debt have little forest that can be protected through conservation agreements. However, since these farmers generally have large tracts of cabruca on their properties, it may be possible to develop agreements that put conditions on what is to be done with land currently under cabruca. For example, debt relief could be offered in exchange for allowing cabruca to regenerate or maintaining agroforestry systems in areas of cabruca, since cabruca plays an important role in providing connectivity between fragments of primary forest.

This list of options should again highlight the point that deals will have to be made on a site-specific basis in each case. No hard-and-fast rule linking dollars of debt relieved to hectares of land protected can be established and applied to all farms, and some modicum of flexibility in dealings with individual farmers will be essential.

Although strong possibilities for establishing deals with both banks and farmers clearly exist, some questions about the form that debt-for-conservation agreements should take remain:

- *How much debt and which kind of debt should be relieved?*
  Relieving only securitized debt will not free up any collateral for debtors. Relieving PESA debt will free up guarantee money, but the amount of PESA debt is enormous, particularly since the first two stages of PRLCB debt have been incorporated. Furthermore, PESA only applies to those farmers with more than R$200,000 initial debt, who will be primarily the largest farmers – therefore, if only PESA debts are relieved, only the largest farmers will be included in the conservation strategy. Conceivably, some maximum percentage of any single farmer's debt could be relieved, although it may be difficult to convince farmers to conserve land when they are still under pressure to pay off other debts.

- *How can we guarantee that new credit taken by farmers whose debt has been relieved will not be invested in destructive land uses?*
  It is unlikely or impossible that the Banco do Brasil itself could be convinced to impose conservation conditionalities on the debtors that debt relief is negotiated with. Ideally, in addition to agreeing to protect existing forestland and/or cabruca, farmers would also agree to use new credit for specific purposes. While writing conditions for uses of new credit into conservation agreements would be attractive from the conservationist standpoint, the additional limitations imposed by such conditions may dissuade some farmers from entering into agreements at all.

- *How can an effective deterrent to breaking the terms of conservation agreements be developed?*
  Enforcement capacity in Southern Bahia is frustratingly low. Banks have shown themselves to be ineffectual in monitoring farmers that they lend to – as evidenced by the substantial problems with repayment that regional banks have had. Furthermore, government-affiliated agencies charged with monitoring and enforcement – including CEPLAC, DDF and IBAMA – are notoriously poor at enforcing environmental laws, and will undoubtedly be equally poor at enforcing conservation conditionalities. In hard

financial times, farmers involved in debt-for-conservation deals may be incentivized to invade 'protected' forests for timber or agricultural expansion unless an effective deterrent exists.

Given the fact that a credible threat of enforcement does not exist in Southern Bahia, the following activities seem indispensible:

- Debt relief agreements should be based on some sort of performance-bond scheme – that is, debt relief should be incremental, and the liberation of each tranche of debt relief should be contingent on periodically-reviewed compliance with conservation conditionalities. One difficulty with this approach is that if debt relief is incremental, guarantees sufficient to acquire new credit may not become available to farmers – unless some agreement regarding the liberation of guarantees can be established with the banks that hold debt.
- Capacity for monitoring the activities of farmers involved in debt-for-conservation agreements must be bolstered. Whether capacity would be built within IESB, in currently existing enforcement agencies or in some as yet unestablished third-party agency will have to be determined.

VIII. Conservation Tools for Debt-free Farmers

Medium and Large Producers

The question of how to involve farmers who are not indebted in a conservation strategy for Southern Bahia is a critical issue. Many farmers in the region are debt-free for a variety of reasons. As mentioned, some farmers – primarily medium and large producers – never incurred debt because they relied on private resources or farm income to fund agricultural investments, while others paid off their past debts and are now debt-free. These farmers are as likely to have conservation-worthy forest and as likely to be in financial straits as an indebted farmer.

A good example of this situation is a 2050 ha farm containing roughly 800 ha of forest that is located in the municipality of Una. According to IESB, the forest contained on this land represents a significant forest fragment that could act as an additional node in the 'Discovery Corridor' if it were under some form of protection (Keith Alger, pers. comm.). This farm has traditionally relied heavily on cacau and rubber, but has been struck by vassoura de bruxa, causing a severe decline in cacau receipts. While the owner of this property has no debts, he has had difficulty covering the costs involved in maintaining his farm's productivity. In order to make ends meet, the owner has fired the majority of his employees, entered in sharecropping agreements for rubber and cacau with many of his remaining employees, and is cutting and processing timber from his forests. Of the total 800 ha of forestland on this property, the owner estimates that some 300 ha have been periodically logged in recent years, leaving roughly 500 ha of relatively pristine forest. This farmer does not need debt relief, does not want credit unless it is highly subsidized, and will continue to harvest timber until he can find another viable alternative.

For medium and large farms that are debt-free, as with indebted farmers, the dangers of timber extraction or conversion of forest or cabruca to land uses that do not maintain forest

cover are threats that conservationists must seek to offset. Since there is no leverage to negotiate the *quid pro quo* deals that we may establish with indebted farmers, we need to identify other economic incentives that can encourage these farmers to protect their forests and cabruca. Some possibilities include:

- Offering highly subsidized credit for designated land uses (i.e. agroforestry systems, organic cacau production), perhaps in exchange for conservation set-asides. This option is only feasible if the farmer is willing to take on debt, and if we can convince local financial institutions to offer highly subsidized credit to these farmers. Given these farmers' tendency to not pay off their debts, it seems unwise for the conservation community to consider directly offering subsidized credit.
- Buying conservation easements or offering annual conservation payments to these farmers in exchange for the establishment of RPPNs on their forestland. The price of the easement or the annual payment would have to be sufficiently large that it would discourage timber extraction. Payments should be divided into parcels, and the distribution of each parcel should be contingent on whether or not the farmer is complying with the terms of the agreement. The establishment of a system of monitoring to ensure compliance would also be necessary.

The attractiveness and costs of these options must be further explored in future research.

Mini and Small Producers

Other farmers, particularly mini and small producers, are debt-free because they have never had access to credit – either because credit was not offered to them; or because they lacked the information, documentation, land title, or technical assistance that would have facilitated access. While they do not have much forest on their lands, these mini (primarily land-reform) and small producers must also be part of a conservation strategy for Southern Bahia, as the potential threat their production system poses to the region's ecosystems is significant, and as agricultural development strategies for the region have traditionally overlooked their needs. This situation is highly evident along the boundary of the Una Biological Reserve, where communities of squatters and small producers clear small areas adjacent to the reserve for the cultivation of subsistence and other crops, occasionally entering the reserve itself. Although these farmers put significant pressure on forestland, they have also proven to be highly receptive – much moreso than their larger, wealthier counterparts – to adopting ecologically-minded production systems when they are provided the inputs, technical assistance and other resources necessary to implement them (Joaquim Blanes, pers. comm.).

While debt relief is not applicable to these farmers, a financing source currently offered by the Banco do Nordeste provides an instrument that could be used to incorporate mini and small producers into a regional conservation strategy.

- The '*Fundo de Desenvolvimento Municipal*' is a fund held at the Banco do Nordeste (BNB), which has been particularly set up to serve as a guarantee fund for mini and small

producers who otherwise would have no collateral with which to secure credit. A fund of this type exists in each of the municipalities served by BNB.

- BNB liberates credit equivalent to 14 times the amount in the guarantee fund, for mini and small producers. For example, if R$1000 are deposited into the fund, R$14,000 will be liberated as credit by the bank. Financing is available to farmers with specific agricultural projects in mind, and prospective borrowers must present a project document and budget explaining how much credit is needed and how it will be used before financing can be authorized.
- While loans made through this fund do not require a guarantee and do not charge interest, a commission (suggested 3% - 5%) is charged by the lender. This commission goes partly to fund maintenance and the rest is incorporated into the fund itself. In addition, the borrower pays another 2% to cover the costs of technical assistance and capacity building. The commission and other charges are deducted from the total financing that the producer receives. Loan payments are made over an eight-year time period.
- Credit is distributed to the borrower in parcels, contingent on the recommendation of enforcement agents (generally from the same agency that provided technical assistance at the outset) affirming that the borrower is using the credit in the manner described in the initial project document.

While BNB is currently marketing this instrument to municipal governments, hoping that they will make contributions to the fund, other organizations including NGOs may make contributions into the guarantee fund as well. The contributing agency has the right to determine: 1) how the money is to be used – for example, it can establish conditions stating that credit made available can only be used for projects involving agroforestry systems or to producers who agree to protect any forest remaining on their land; 2) how much commission will be charged – while 3% - 5% is recommended by BNB, the contributor can select a lower commission rate to make conservation conditionality credit more competitive with other sources of credit within the fund. Furthermore, should the contributor decide at the end of the contract to withdraw contributed resources from the fund, the initial contribution plus interest will be returned (although this return is contingent on repayment and may be affected by fluctuations in the Brasilian economy).

Whether or not there is a limit to contributions to the fund, and the extent to which BNB will be financially able to match fund deposits with credit are unclear. Nonetheless, this opportunity may be of interest to CI for the following reasons:

- Municipalities of extreme ecological importance, which demonstrate a high degree of threat from mini and small producers, could be specifically targeted with conservation-linked credit;
- The precise purposes for which this credit is to be used can be defined;
- With a relatively small investment, a substantial amount of credit uniquely directed to underserved mini and small producers becomes available. For example, a US$100,000 investment would liberate US$1,400,000 or roughly R$2,500,000 to small producers;

- Through this mechanism, the production behaviour of all mini and small producers borrowing from this credit source would be modified, and could potentially serve as a model for other producers;
- The political importance of offering benefits to small producers who are willing to enter into conservation agreements is significant where such benefits are being offered to large producers.

One concern that may influence the viability of this guarantee fund as a conservation tool is the lack of technical assistance professionals in Southern Bahia who are versed in developing ecologically sustainable projects or management plans. The agencies that currently offer most of the technical assistance in the region are CEPLAC and EBDA (Empresa Bahiana de Desenvolvimento Agrícola), and as stated, they are primarily focused on maximizing agricultural productivity, not ecosystem services. While IESB's extension arm has the credentials to write agroforestry projects, they lack the personnel necessary to serve large numbers of small producers spread over the entire region. The broader importance of better trained personnel to provide technical assistance has been addressed in Section VI.

Another concern is the enforcement of conservation/production agreements made in exchange for this credit. Again, the incapacity of currently available technical assistance organizations to design ecologically sustainable projects will undoubtedly also affect their ability to monitor such projects. To some extent, the costs of monitoring and enforcement could be reduced if credit were offered to communities or cooperatives of small producers – credit could be offered on the condition that if any member of the cooperative did not comply with conservation conditions, the cooperative as a whole would lose access to credit. In this way, some self-policing within the cooperative would take place, reducing the time and money costs involved in having one or two agents responsible for monitoring a large number of producers.

IX. Recommendations for Future Research

A few key pieces of future research could improve the level of understanding among interested parties and contribute to the effective design and implementation of regional conservation strategies for Southern Bahia. These include:

1. *Site-specific research on properties that are candidates for debt-for-conservation deals.* A few key indebted properties should be identified, and full information on these farms obtained: magnitude of debt, what type of debt is held, terms of the debt, hectares of pristine forest and other land uses on the property, cost of debt relief at different discount rates and risk percentages and conservation returns on debt relief investment. This research would help identify which proprieters deals should be made with, and would serve as a basis for any deals made. Furthermore, more specific conclusions about situations in which debt relief is a cost-effective conservation strategy could be reached.

2. *Research in preparation for debt relief negotiations with banks.* As the present value discussion in Section VII brings up, the ultimate rate at which debt is purchased from banks is highly negotiable, and the percentage payment that is considered 'reasonable' will vary according to the probability of repayment and discount rate assumed. Further research

to determine 1) the bank's discount rate and it's applicability and 2) repayment rates should be conducted so that the conservation community is better informed when negotiating debt relief with banks.

3. *Research on promising conservation strategies for debt-free farmers.* As discussed, the debt relief option can only work with a percentage of ecologically-important properties in Southern Bahia. A thorough investigation of other proposed strategies – such as outright land purchase and offering subsidized credit in exchange for conservation – should be conducted to broaden the suite of economic tools that can be used to achieve conservation objectives in the region.

4. *Comprehensive land survey.* The process of conservation deal-making would be greatly facilitated if a registry of properties in Southern Bahia were to be compiled. Such a registry would include data on: hectares of land under forest and other land uses, precise location and mapping of each property, information on land tenure situation, information on debt (if any) and its structure. A registry of this sort would not only be useful in helping identify and design specific conservation agreements, it would also serve as a baseline for monitoring and enforcement. Since the output of a survey of this type would surely be useful to government agencies as well as to the conservation community, it is possible that the Bahia state or federal governments might contribute funding and manpower to this endeavour.

X. Conclusions

In sum, the following conclusions regarding the use of debt relief as a conservation tool in Southern Bahia seem clear:

- Debt relief can be a key element in promoting conservation in Southern Bahia, particularly since the lands of indebted farmers may not be accessible for conservation if they are held as collateral but left unseized by banks.

- Given the size of debts and the distributional aspects of how debt levels relate to forest area, debt relief should be applied on a case-by-case basis to specific farms that demonstrate high ecological importance or high forest-to-debt ratios.

- Conservationists, banks and farmers all stand to gain from debt relief agreements, but the conservation community must be careful to ensure that 1) debt is bought from banks at a rate that is low enough to accurately reflect high discount rates and low repayment rates, and that 2) conservation agreements made with farmers are established, monitored and enforced in such a way that some conservation actually comes out of them.

- Other conservation tools that are applicable to farmers who are not indebted, including mini and small farmers, must also be designed and implemented if regional conservation is to be achieved.

- Without more investment in enforcement and technical assistance, the implementation, monitoring and enforcement of any conservation strategy in Southern Bahia will be

weak, compromising effectiveness. NGOs should work with the state to ensure that adequate and appropriate institutional capacity to design and ensure compliance with conservation agreements exists.

The best manner of implementing debt-for-nature agreements is undoubtedly to develop and execute a handful of well-researched deals in the first stages of implementation, and to gradually expand the number of deals that are made as financial means, baseline data, and monitoring and enforcement capacity improve over time. Ultimately, a sort of 'green brokerage' capable of providing a portfolio of conservation options to interested landowners – debt relief, subsidized credit, outright buyouts of forestland – could be established to coordinate the use of economic incentives in the region (Keith Alger, pers. comm.). Such a 'brokerage' could not only be responsible for researching and designing agreements, but could also house an internal third-party monitoring team and a team of conservation professionals capable of providing ecologically-minded technical assistance to farmers who make conservation deals.

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FIGURE 1
RELATIONSHIP BETWEEN AGRICULTURAL CREDIT INTEREST RATES AND INFLATION RATES
1970-1993

Year	Inflation Rate	Relationship Interest/Inflation	Subsidy	Year	Inflation Rate	Relationship Interest/Inflation	Subsidy
1970	18.7%	69.5%	30.5%	1982	95.40%	*	
1971	21.2%	61.3%	38.7%	1983	154.50%	85%	15%
1972	17.3%	75.1%	24.9%	1984	220.60%	95%	5%
1973	14.9%	87.2%	12.8%	1985	225.50%	0	0
1974	28.7%	45.3%	54.7%	1986	143.20%	0	0
1975	27.9%	46.6%	53.4%	1987	124.80%	0	0
1976	41.2%	31.5%	68.5%	1988	684.50%	0	0
1977	42.7%	30.4%	69.6%	1989	1320.00%	0	0
1978	37.8%	34.4%	65.6%	1990	2739.70%	0	0
1979	53.9%	24.1%	75.9%	1991	480.20%	0	0
1980	100.2%	23.9%	76.1%	1992	1158.00%	0	0
1981	109.9%	21.8%	78.2%	1993	*	*	*

FIGURE 2
MUNICIPAL-LEVEL DATA ON DEBT, FOREST AND CACAU

SITE	DEBT (R$) Includes Securitization, PESA, Diversification, Personal/Excludes PRLCB						AREA				
Municipio	BB	BNB	BANEB	Subtotal	PRLCB Debt	Total Debt	Total	Cacau	Mata	% Cacau	% Mata
Arataca	1,975,179	731,728	73,114	2,780,021	6,819,830	9,599,851	39700	23459	5944	59%	15%
Belmonte	1,800,957	8,325	0	1,809,282	1,521,251	3,330,533	194700	13476	43000	7%	22%
Buerarema	863,322	2,542,122	44,223	3,449,667	3,717,643	7,167,310	20400	10760	774	53%	4%
Camacan	3,774,156	519,664	29,883	4,323,703	11,919,210	16,242,913	66700	24408	2211	37%	3%
Canavieiras	1,883,852	140,956	151,400	2,176,208	1,092,572	3,268,780	138100	10914	25288	8%	18%
Coaraci	1,781,989	159,196	82,001	2,023,186	5,684,450	7,707,636	26100	10308	1113	39%	4%
Floresta Azul	991,446	429,334	93,890	1,514,670	1,571,915	3,086,585	41700	7165	3993	17%	10%
Gandu	796,870	1,489,051	222,448	2,508,369	6,080,526	8,588,895	26900	9091	2825	34%	11%
Ibicarai	901,931	840,199	3,470	1,745,600	12,453,290	14,198,890	28500	9447	1913	33%	7%
Ibirapitanga	3,903,477	643,085	205,060	4,751,622	7,288,868	12,040,490	60200	24356	12999	40%	22%
Ibirataia	2,685,440	108,426	33,951	2,827,817	3,458,418	6,286,235	20700	15033	857	73%	4%
Ilheus	2,488,282	303,025	50,388	2,841,695	8,605,704	11,447,399	171200	61117	15460	36%	9%
Ipiau	3,107,311	445,356	28,310	3,580,977	4,933,013	8,513,990	27600	10118	1351	37%	5%
Itabuna	1,427,700	943,757	66,644	2,438,101	3,234,323	5,672,424	58400	16136	1767	28%	3%
Itagiba	1,328,097	316,519	299,692	1,944,308	1,162,918	3,107,226	73100	10893	2698	15%	4%
Itajuipe	4,330,729	1,602,481	1,067,418	7,000,628	10,121,883	17,122,511	32400	22141	448	68%	1%
Itapebi	123,900	127,839	1,302	253,041	18,428	271,469	65900	6300	40	10%	0%
Itapitanga	407,298	38,738	2,660	448,696	206,993	655,689	52000	4254	1075	8%	2%
Jussari	625,125	22,372	23,603	671,100	5,718,294	6,389,394	35300	8162	125	23%	0%
Mascote	25,656	0	52,260	77,916	211,908	289,824	103800	15543	16370	15%	16%
Pau Brasil	365,537	73,405	0	438,942	1,211,915	1,650,857	50900	11651	5900	23%	12%
Santa Luzia	1,207,516	1,221,002	13,193	2,441,711	3,884,086	6,325,797	78300	16745	701	21%	1%
Teolandia	462,858	682,081	40,636	1,185,575	1,207,825	2,393,400	32800	5677	2903	17%	9%
Ubaitaba	5,433,170	810,505	289,596	6,533,271	15,099,268	21,632,539	9000	5228	413	58%	5%
Ubata	2,652,343	255,181	112,214	3,019,738	5,637,906	8,657,644	40000	5582	1918	14%	5%
Una	872,178	105,930	8,227	986,335	1,201,687	2,188,022	117900	26548	37884	23%	32%
Urucuca	4,016,952	215,853	176,874	4,409,679	9,190,187	13,599,866	44000	20369	4115	46%	9%
TOTALS	**50,233,271**	**14,776,130**	**3,172,457**	**68,181,858**	**133,254,311**	**201,436,169**					

Sample taken from CEPLAC data

FIGURE 3
SPATIAL DISTRIBUTION OF DEBT ACROSS MUNICIPALITIES

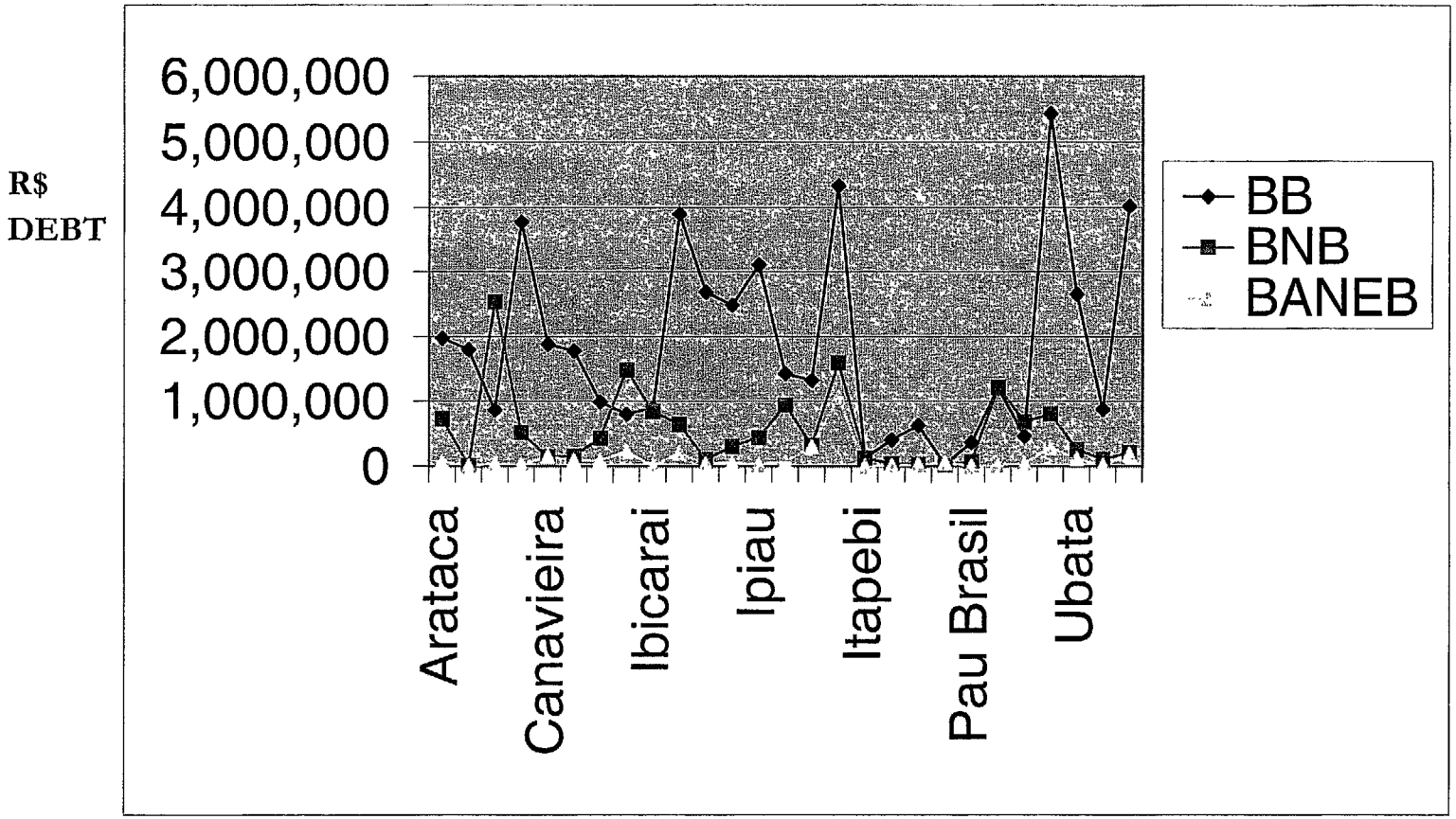

FIGURE 4
RELATIONSHIP BETWEEN TOTAL DEBT AND % AREA UNDER CACAU

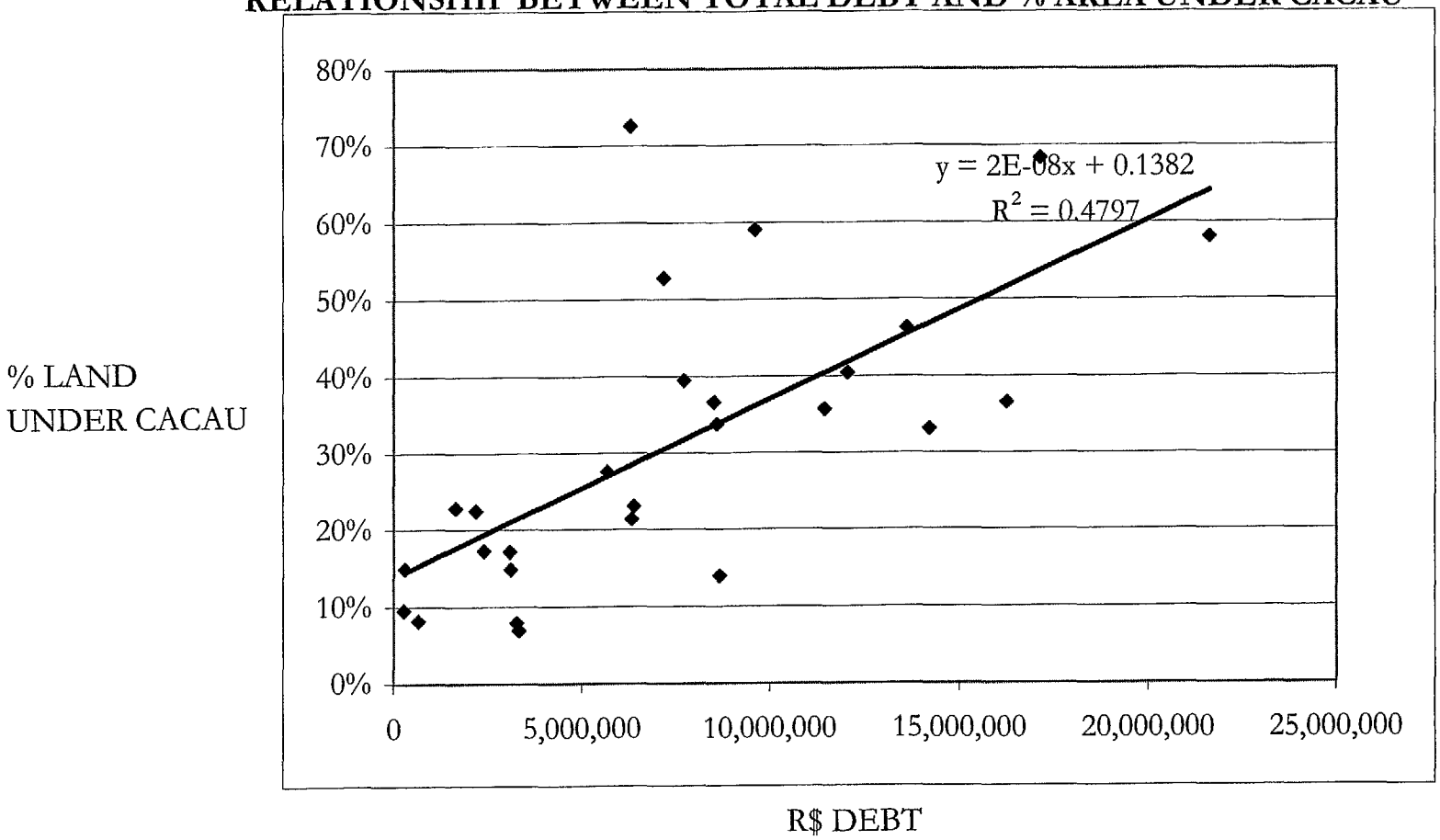

FIGURE 5
PRESENT VALUE OF SAMPLE SECURITIZATION AND PESA DEBT REPAYMENT STREAMS

Probability of Repayment	R$100,000 Securitization Debt			R$100,000 PESA Debt		
	DISCOUNT RATE					
	10%	30%	50%	10%	30%	50%
100%	$79,879.37	$40,190.01	$25,549.12	$78,444.51	$36,862.35	$26,331.19
40%	$31,951.75	$16,076.01	$10,219.65	$31,377.80	$14,744.94	$10,532.48
20%	$15,975.87	$8,038.00	$5,109.82	$15,688.90	$7,372.47	$5,266.24
13%	$9,984.92	$5,023.75	$3,193.64	$9,805.56	$4,607.79	$3,291.40

CII Strategic Planning Retreat
Lembah Hijau, Ciloto, Puncak
10-14 April 2000

The objectives for the upcoming retreat are to 1) know one another better, 2) listen to our stories about trying to "do" conservation at our project sites, 3) plan for the future, and 4) enjoy ourselves. We will have hard work to do, but it will be enjoyable if we decide to make it so.

The outputs we need from the retreat are: 1) a 10 year strategy for CII[1] that includes a general description of the larger projects we plan to implement, 2) more specific 3 year implementation plans with budgets, and 3) detailed 1 year project plans with detailed budgets that clearly support the overall strategy.

The retreat process we are going to use is called "strategic scoping". The facilitator will ask us:

- What are the threats to biodiversity at our sights?
- How are the threats changing in light of new political, economic, and social conditions? In other words, what are the trends you can see for the next 3 years, and how strong are those trends?
- Who are the "actors" causing the threats, and how strong are they? What activities or behaviors do the actors participate in that harm biodiversity, and how strong are they? Do the actors live near your project site, or far away? Where?
- Who are the actors that are helping to conserve biodiversity? Where do they live? What activities do they do that help conservation. How strong are these activities?
- What can CII do to stop the behavior of the actors who threaten biodiversity? Which actions are feasible if CII had more human and financial resources?
- What essential conservation activities someone at the site must do? Usually these are: monitoring, enforcement, managing incentives, conflict management; training, creating awareness, controlling KKN, protecting local people's interests, assisting with livelihood activities, analysis of information, and supporting conservation staff. Are there more?
- What organizations are responsible for implementing each of theses essential activities? How well are they doing it? What are the constraints that these face? What are their problems? What type of assistance would help them?
- Try to imagine that 5 years from now, conservation management is a success in Indonesia, and that we are meeting to celebrate this happy condition. At the meeting, we are discussing what CII and other organizations did to accomplish this. What did we all do? What organizations or entities did it?

This is a lot of thinking, but we can do it if we think together and learn quickly form each other's experience.

The reason for all this work is to try to develop a more strong strategy for CII's program. The time is "right". We have a new government interested in innovative approaches to sustainable development and to conservation of biodiversity. CI Washington is reorganizing itself to take on very strategic approaches to hotspot conservation. New donors are interested in investing in Indonesian conservation. For all these reasons, we have to think at the "hotspot" level.

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[1] CII is referred as CI Indonesia team, includes partners from Yabshi, Sekber Togean, Yayasan Alami, Konsorsium Gunung Gede, INDECON and YCCLI.

Please carefully consider the questions outlined above before you come to retreat. Discuss them with your associates and with village leaders if possible. Every opinion is welcome at the retreat. There are so many problems to address, but we have to think of solutions as well. What are they?

When you arrive at the retreat, please bring the following:

- A list of the major "good and bad" actors that influence the success of biodiversity conservation at your sites (oknum?).
- The actions and activities they lead or participate in that influence conservation initiatives.
- The kinds of responses needed to stop or help them.

We need several short documents from each site (Papua, Togeans, Gunung Gede, CII Jakarta, and Aceh) at least 3 days before the retreat. These are:

- A 3-page summary of conditions at the site that includes answers to the following questions from your point of view. These will be put into a briefing book for each retreat participant.

    1. What is the main objective of CII's work at the site?
    2. Whose behavior do we want to change?
    3. What behaviors are we trying to change for each group you mention.
    4. What is CII doing to accomplish this task of changing behaviors?
    5. Who are we working with to do it?
    6. How much progress have we made? How do we know?
    7. What are the constraints we face in making more progress?
    8. What are the main problems and threats at the site?
    9. What is the general plan for next few years?
    10. What type and level of resources are needed to implement your plan?

- About 10 best pictures the site you are working on that show CII activities, the local people, and the topography.

Thank you. An example of a summary from the Aceh program is attached for your review. All documents and presentation should be in Bahasa Indonesia.

FACILITATORS

The meeting will be facilitated by David Richards from Blue Marble and Wendy Tan, Manager South East Asia with CI DC. David Richards has been helping CI Indonesia in developing the IDF (Institutional Development Framework) 1 year ago and he helps the CI team with the Papua and Aceh strategies. Wendy Tan is helping the CI Indonesia team from CI Headquarter in Washington DC. She has been very involved in the Indonesia and Philippines programs.

PARTICIPANTS

CI Jakarta based :

1.	Jatna Supriatna	Country Director
2.	Purbasari Surjadi	Deputy Director
3.	Myrna K	Secretary
4.	Ary Suhandy	Conservation Enterprise Manager
5.	Ermayanti	Conservation Database & Information Manager
6.	Sundjaya	CCD/Togean Program Manager
7.	Iwan Wijayanto	Conservation Planning & Technical Cooperation Manager
8.	Ni Putu Sarilani	Conservation Education Assistant
9.	Edy Hendras	Gunung Gede Prog Man/Publication&Doc
10.	Bodhi A. Trisnadin	Finance Manager
11.	Yulia Nurhayati	Office Manager

CI Jayapura based:

1.	Suer Suryadi	Papua Program Manager
2.	Yance de Fretes	Senior Conservation Biology Manager
3.	Muhamad Farid	Junior Ecologist
4.	Hendrittee Ohee	Junior Ecologist/Administrative & Finance

INDECON

1.	Indriani Setiawati	Program Coordinator
2.	M Riza Syahrizal	Foundation Development Officer
3.	Sulfaiza SR (Nanang)	System Administrator
4.	Bambang Darmanto	Volunteer

SEKBER TOGEAN PROGRAM

1.	Yani Subekti Permana	Togean Program Coordinator
2	Jana Halida Uno	Togean Program Manager
3.	Rasyid Languha	Togean Field Program Coordinator
4.	Khaerul Anwar	Togean Field Officer for Kabalutan

KONSORSIUM GUNUNG GEDE

1.	M. Bonni Syafei	Field Coordinator
2.	M. Hasbi Hasbullah	Logistic Support

YABSHI

1.	Deddy Supriyadi	Executive Director
2.	Christo Hutabarat	Togean Program Policy Coordinator

YAYASAN ALAMI

1.	Tatang Mitra Setia	Executive Director
2.	Herda Hutabarat	Program Coordinator
3.	Anton Ario	Bodogol Project Coordinator

YCCLI (YAYASAN CIPTA CITRA LESTARI INDONESIA)

1.	Bambang Riyadi	Executive Director

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VENUE
The meeting is taking place in Lembah Hijau, Puncak, around 2 hours drive from the CI Indonesia office. You will be transported by bus to and from the venue on the first and last days of the retreat. There will be plenty of time for informal discussions among the teams. Please also bring all necessary documents, strategy papers, work plans, trip reports etc, so you can easily refer to them. Don't forget also to bring your swimsuit (there is indoor heated swimming pool!!) and your sports equipment (tennis shoes and rackets, jogging shoes, whatever).

AGENDA

Day 1, Monday, 10 April 2000

08:00	Travel to venue
10:00	Arrive at venue, rest, unpack
11:30-12:30	Lunch
12:30-14:00	Introduction Goals of the retreat, agenda, structure, intro to everybody
14:00-14:30	*The Vision of CI Indonesia: The Conservation Challenges and Opportunities Faced By Indonesia and CII During the Next 10 Years – Can We Do It?* Presented by Jatna Supriatna
14:30-15:00	Coffee break

Program Reviews and Updates (Please do not repeat all the information you have provided for the briefing book). Describe especially important experiences, stories, issues or challenges and how you plan to address them. Leave time in pour presentation for follow up questions. If you have a problem you want to solve, ask the group for their ideas.

15:00-15:30	Update: Papua Strategy, Suer Suryadi
15:30-16:00	Update Aceh Strategy, Ary Suhandi
16:00-16:30	Update CII Jakarta office project: Jatna Supriatna
16:30-17:30	CI M&E Process, Sari & Suer Surjadi (not related!)
17:30	Rest & Relax

Day 2, Tuesday, 11 April 2000
Continuation of Program Review and Update: Presentation From Program Managers And Related Cross Cutters And Partners

08:30-09:30	Togean Program update: Jaya, Yani, Jana, Christo
09:30-10:30	Gunung Gede Program update: Edy, Herda, Putu, Boni

Working Coffee break

11:00-12:30	General questions, comments, and conclusions "What is the impact of CII's work until now?" "What are CII's strengths?" "What are CII's Weaknesses?"

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Preparation for "Scoping" in the afternoon

12:30-14:00 Lunch and rest

14:00-18:00 Presentation: *10 Year Strategy Ideas: CI DC and CII* , David Richards

Working Groups (Each program manager, partners, and mixed cross cutters)

Objective: Develop 3-year strategy, with estimated budget, for each program. The 3-year strategy should clearly support CI DC and CII long-term strategies.

Papua
Togean Islands
Gunung Gede
CII – Jakarta
Aceh

17:30-18:00 Return to plenary for brief update

Evening: After dinner, continue work on 3-year strategic plans

Day 3, Wed, 13 April 2000
08:30-12:30 Working Plenary Session

Presentation of 3-year strategies from each program (25 minutes) Group comment on feasibility and strategic value.

Objective: Each program will have enough information to finalize their 1 year project proposals.

12:30-14:00 Lunch and Rest

14:00-6:30 Working Groups – 1 year detailed project plans
Papua
Togean Islands
Gunung Gede
CII – Jakarta
Aceh

Objective: To develop and/or rework project plans to make sure they objectives and activities support the 3-year strategy, and that the human and financial resources needed are clearly defined. The projects have to include an estimate of how much cross-cutter time will be needed from CI DC and/or CII Jakarta.

Working Coffee break

16:00-18:00 Presentation and discussion of selected 1-year project proposals (at least 2 from each working group) Conclusions and recommendations.

Evening: After dinner, sites teams complete revision of 1 year plans and give then to CII Retreat Coordinator

Day 4, Thursday, 14 April 2000

AM Free morning: Games, play, complaining, walking around, and informal discussion

11:00-12:30	Lunch
12:30-14:30	Working Plenary: "How will CII implement its 3 year-strategy and project portfolio?" Working Groups: Technology Training Needs Management Systems Monitoring and Evaluation
14:30-15:00	Coffee break
15:00-18:00	Group Reports, Discussion, Conclusions, and Recommendations

Day 5, Friday, 15 April 2000

08:30-10:30	Surprise
10:30-11:00	Coffee break
11:00-14:00	Surprise
14:00-15:30	Lunch, pack to Jakarta

Attachment Indonesia-2

TRAINERS
Yongshu and Mamberamo

No	Name	Institution	Speciality	Address	E-Mail
1	Gerald Allen	CI	Ichthyology	1 Dreyer Road Roleystone, WA 6111 Australia	tropical_reef@bigpond.com
2	Allen Allison	Bishop Museum	Herpetology	Bernice P. Bishop Museum 1525 Bishop Street Honolulu, HI 96817	allison@hawaii.edu
3	Boeadi	Museum Zoologicum Bogor	Mammalogy	Museum Zoologicum Bogor Jl. Raya Cibinong Km 46 Bogor 16162	
4	Djoko Iskandar	ITB	Herpetology	Institute Technology Bandung Jl. Ganesha 10, Bandung 40132	iskandar@bi.itb.ac.id
5	Andrew Mack	WCS PNG	Ornithology	WCS Papua New Guinea P.O. Box 277 Goroka, EHP PNG	amack@wcs.org
6	James Menzies	retired from UPNG	mammalogy, herpetology, ecology	5 Oatland Drive Paignton, TQ4 5JL UK	james@jmenzies.fsnet.co.uk
7	Johanis Mogea	LIPI	Botany	LIPI/Bogor Museum Jl. Juanda 18 Bogor 16004	
8	Rose Singadan	University of Papua New Guinea	mammalogy	University of Papua New Guinea Biology Department P.O Box 320 University Post Office, NCD, PNG	singadan@upng.ac.pg
9	Bruce Beehler	Counterpart International	Ornithology	Counterpart Foundation 1200 18th Street NW, Suite 1100 Washingon DC 20036 USA	bbeehler@counterpart.org
10	Scoot Miller	Natural History Museum	Entomology	Department of Entomology National Museum of Natural History 10th and Constitution Ave, NW Washington, DC 20560-D105 USA	miller.scott@nmnh.si.edu
11	Dan Polhemus	Smithsonian	Entomology	Department of Entomology, MRC 15 National Museum of Natural History Smithsonian Institute Washington DC 20560	
12	Stephen Richards	James Cook University	Herpetology	Vertebrate Department South Australian Museum	Richards.Steve@saugov.sa

Attachment Indonesia-2

				North Terrace, Adelaide S.A. 5000 Australia	.gov.au
13	Colins Ridsdale		Botany	Scoomerlustplein 23 A 2275 XM Voorburg The Nederland	
14	Roy Snelling	Los Angeles County Museum of Natural History	Entomology	Department of Entomology 900 Exposition Boulevard Los Angeles, CA 90007 USA	rsnellin@nhm.org
15	Sylvester Tenege	PT Freeport	Ichthyology	PT Freeport Environmental Department Box 4009 Tembagapura 98100 Irian Jaya	
16	Wahyu Widodo	Museum Zoollogicum Bogoriense	Mammalogy, ornithology	Jl. Raya Cibinong Km 46 Bogor 16162, INDONESIA	
17	Ismail	LIPI	Botany	LIPI/Bogor Museum Jl. Juanda 18 Bogor 16004	
18	Bas van Ballen	BirdLife	Ornithology		
19	Adam Felton	James Cook University	Herpetology		
20	Henk van Maastright	Amateur	Entomology	Keuskupan Jayapura Jl. APO Jayapura	
21	Wahyu Raharjiningrat	YPAL	Ornithology		
22	Darmawan	TITIAN	Herpetology		
23	Sri Wilujen	Cenderawasih University	Research, statistician, lecturer	Fakultas MIPA Jl. Kampus Baru Uncen Waena, Jayapura	
24	Gatot A. Murwanto	Cenderawasih University	Research, statistician, lecturer	Fakultas Pertanian Jl. Amban Manokwari Manokwari	
25	Samuel Renyaan	Cenderawasih University	Icthyology	Fakultas MIPA Jl. Kampus Baru Uncen Waena, Jayapura	
26	Suer Suryadi	Conservation International	Researcher, Conservation biology		suerdipapua@yahoo.com
27	Yance de Fretes	Conservation International	Researcher, Conservation biology	Jl. Taman Margasatwa 61, Jakarta 12540	yance@conservation.or.id

		PARTICIPANTS TRAINING						
No	Participant	Institution	Training Activities					
			Basic	Research	RAP	RAP Mamberamo	BioSoc	Notes
			Yongshu			Mamberamo		
1	Abraham L. Wanggai	Balai KDSA Irian Jaya II, Jayapura	yes					
2	Easu Renmaur	Balai KDSA Irian Jaya II, Jayapura	yes					
3	Wirsa Djulsafri	Balai KDSA Irian Jaya II, Jayapura	yes	yes				
4	David Kalo	Balai KSDA Irian Jaya II, Jayapura	yes	yes	yes	yes		
5	I Ketut Gede Suartana	Balai KSDA Irian Jaya I, Sorong	yes	yes	yes			
6	Nelson Kainama	Balai KSDA Irian Jaya I, Sorong	yes	yes				
7	Wem Rudolf Wanma	Balai KSDA Irian Jaya I, Sorong	yes					
8	Henry Sika Innah	Balai Litbang Kehutanan			yes			
9	Herman Remetwa	Balai Litbang Kehutanan			yes			
10	Pujo Setio	Balai Litbang Kehutanan			yes			
11	Enos Nauw	Bapedalda Irian Jaya	yes					
12	Hendrik J. Kamawa	Bapedalda Irian Jaya	yes					
13	Welly Ayomi	Bapedalda Irian Jaya	yes					
14	Joni Parulian Waimuri	Bapedalda Irian Jaya		yes				no completed
15	Henni Ohee	CI-Irian Program	yes		yes			
16	M. Farid	CI-Irian Program	yes		yes	yes	yes	
17	Freddy Pattiselanno	FAPERTA-Uncen		yes	yes	yes	yes	
18	Ellysa Wally	FAPERTA-Uncen			yes	yes		
19	Irba U Warsono	FAPERTA-Uncen			yes			
20	Julius Nugroho	FAPERTA-Uncen			yes			
21	Paulus Boli	FAPERTA-Uncen			yes	yes	yes	
22	Roni Bawole	FAPERTA-Uncen			yes			
23	Basa T Rumahorbo	FMIPA - Uncen			yes			
24	Maklon Warpur	FMIPA - Uncen			yes			
25	Aditya Krishar	FMIPA-Uncen			yes			
26	Chandra Nursanto	Kanwil Kehutanan Irian Jaya		yes				
27	Daud Wonsiwor	Kanwil Kehutanan Irian Jaya			yes			
28	Hardiyono	Kanwil Kehutanan Irian Jaya	yes					
29	Konstantina Kameubun	Prog. Studi Biologi Uncen	yes		yes		yes	
30	Amin Suprajitno	Taman Nasional Wasur	yes					
31	Zeth Parinding	Taman Nasional Wasur	yes	yes	yes			
32	Rini Ulim	Volunter CI Papua		yes				
33	Andarias Wamafma	WALHI Papua		yes				
34	Burhan Tjaturudin	WWF Bioregion Sahul			yes	yes		
35	Edy M. Rosariyanto	WWF Bioregion Sahul	yes		yes	yes	yes	with CI
36	Herbert Rumbiak	WWF Bioregion Sahul	yes					no longer with WWF
37	Jabz Amarumollo	WWF Bioregion Sahul	yes					no longer with WWF
38	Marthen Helios Kabiay	YALI		yes	yes		yes	
39	Michael Korwa	YALI		yes				
40	Lusius Apayman	YASAMER		yes				
41	Simon Petrus Untung Erwawang	Yayasan Almamater		yes				
42	Paulus A. Samori	Yayasan Paradisea		yes				
43	Timei Y.K. Wompere	YPLHC		yes				
44	Patricia Dimara	YPMD		yes				
45	Hugo Yuteni	Prog. Studi Biologi Uncen		yes				

Attachment PNG-1

Table1.0: Participant List for the Tekadu-Nukeva Land-use Consensus Meeting held at the IRS on August 30-31,2000

No.	Name	M/F	Clan	Village	Status
1	Peter Uyepango	M	Angamdia	Tekadu	IRS landowner
2	Clement Peter	M	Angamdia	Tekadu	Local Field Assistant
3	Brandon Peter	M	Angamdia	Tekadu	Subsistence farmer
4	Jonathon Peter	M	Angamdia	Tekadu	Subsistence farmer
5	Gedion	M	Ekuta	Tekadu	Subsistence farmer
6	Francis Peter	M	Nautia	Tekadu	Secretary- Wau LLG
7	Keven	M	Nautia	Tekadu	Subsistence farmer
8	David Maiyu	M	Nautia	Tekadu	Landowner
9	Joseph Peter	M	Nautia	Tekadu	Subsistence farmer
10	Jeffery Tami	M	Angamdia	Tekadu	Subsistence farmer
11	Catherine Prombis	F	Nautia	Tekadu	Womens Group Head
12	Lazarus Tami	M	Nautia	Tekadu	IRS Committee Member
13	Moses Ingasuo	M	Titama	Tekadu	Lutheran Elder
14	Paul Akomdato	M	Titama	Tekadu	Subsistence farmer
15	Yampi Pendrus	M	Titama	Tekadu	Subsistence farmer
16	Colla Tiamipo	M	Angamdia	Tekadu	IRS Committee Member
17	Alex Moses	M	Angamdia	Tekadu	Local Field Assistant
18	Martin Parap	M	Nautia	Tekadu	Subsistence farmer
19	Nasingom Kitu	M	Apeah	Tekadu	Subsistence farmer
20	Ben Opa	M	Ekuta	Anandea	Magistrate- Wau LLG and landowner
21	Manase	M	Angamdia	Anandea	Subsistence farmer
22	Dengano Tani	M	Apeah	Anandea	Subsistence farmer
23	Paul Tani	M	Apeah	Anandea	Subsistence farmer
24	Eremas Giasa	M	Nautia	Yenina	Lutheran Elder
25	Ruben Namda	M	Nautia	Yenina	Subsistence farmer
26	Yakias Kamnabu	M	Nautia	Tekadu	Subsistence farmer
27	Anis Kiare	M	----	Garaina	
28	Sam Sali	M	Ekuta	Tekadu	Subsistence farmer
29	Emmias	M	Nautia	Tekadu	Baptist Church Pastor
30	Moses John	M	Apeah	Iruki/Kakoro	Subsistence farmer
31	Emotam Pepango	M	Apeah	Nukeva	Lutheran Elder & landowner
32	Paul Ungauio	M	Ekuta	Nukeva	WMA Committee Member
33	Mathew Yawi	M	Nautia	Nukeva	Local Field Assistant
34	Tobias Jedi	M	Titama	Nukeva	Subsistence farmer
35	Issac Kevas	M	Angamdia	Nukeva	Subsistence farmer
36	Moss Jonah	M	Apeah	Nukeva	Subsistence farmer
37	Thomas Iwagango	M	Ekuta	Nukeva	Subsistence farmer
38	Porongo Kanamweko	M	Nautia	Nukeva	Landowner
39	Alusi Emotam	F	Apeah	Nukeva	Subsistence farmer
40	Regina Peter	F	Angamdia	Tekadu	Subsistence farmer
41	Manias Andrew	M	Nautia	Tekadu	Subsistence farmer
42	Prombis Kopako	M	Angamdia	Tekadu	Subsistence farmer
43	Yalex Andrew	M	Nautia	Tekadu	Subsistence farmer
44	Okam	M	Nautia	Tekadu	Subsistence farmer
45	Yonam	M	Ekuta	Tekadu	Subsistence farmer
46	Ruthy Prombis	F	Angamdia	Tekadu	Subsistence farmer
47	George Wati	M	Nautia	Tekadu	Subsistence farmer
48	Ngawingamo	F	Nautia	Tekadu	Subsistence farmer

Attachment PNG-1

No.	Name	M/F	Clan	Village	Status
49	Pina Nenaweto	M	Angamdia	Nukeva	Subsistence farmer
50	Awatem Yakwaino	M	Angamdia	Nukeva	Subsistence farmer
51	Atarus Binas	M	Nautia	Nukeva	Subsistence farmer
52	Joseph	M	Nautia	Tekadu	Subsistence farmer
53	Willie Yatepango	M	Nautia	Tekadu	Subsistence farmer
54	John	M	-----	Tekadu	Subsistence farmer
55	Philip	M	Ekuta	Tekadu	Subsistence farmer
56	Kenny Henry	M	Nautia	Iruki/Kakoro	Subsistence farmer
57	Nom Hakiyo	M	Nautia	Iruki/Kakoro	Subsistence farmer
58	Paul Nom	M	Nautia	Iruki/Kakoro	Subsistence farmer
59	Andrew Nom	M	Nautia	Iruki/Kakoro	Subsistence farmer
60	Ema	F	Nautia	Iruki/Kakoro	Subsistence farmer
61	John	M	Apeah	Iruki/Kakoro	Subsistence farmer
62	Awanas	M	Nautia	Akabenga	Subsistence farmer
63	Patrick	M	-----	Akabenga	Subsistence farmer
64	James Inos	M	Nautia	Tekadu	Subsistence farmer
65	Henry	M	Nautia	Akabenga	Subsistence farmer
66	Yawing Bitanato	M	Apeah	Tekadu	Subsistence farmer
67	Edias	M	Angamdia	Tekadu	Subsistence farmer
68	Janam	M	Angamdia	Tekadu	Subsistence farmer
69	Alano	M	Titama	Tekadu	Subsistence farmer

WILDLIFE MANAGEMENT AREA (WMA) RULES

A WMA is proposed to protect the wildlife and environment of the Sulka and Mengen ethnic groups in the Wide Bay area from disturbance and destruction. It will be managed according to rules established by the community, which apply to all Sulka and Mengen people within the area and to all others who enter the area.

The rules were written by the Conservation Committee in consultation with the community members and are based on customary knowledge as well as concerns about the sustainable management of resources. These laws are made under the Fauna Protection and Control Act, Chapter 154 of the Papua New Guinea Revised Laws. The rules are a requirement by the Papua New Guinea Office of Environment and Conservation (OEC) for gazettal of a WMA. The rules are also guidelines for the Conservation Committee and the community at large to sustainably manage the biodiversity, cultural sites, customs and traditions of the Sulka and Mengen peoples.

The community also set up penalties for the breach of rules. Included in the rules of the WMA are development plans outlining some of the identified small-scale businesses viable for the area, such as eco-tourism and butterfly farming, to be set up on the identified areas according to the landuse plan of each village.

Attachment PNG-3

Further dispute on the consensus agreement
Extension of logging road into Tiemtop village and further east to Guma
Confirmation of genealogy study
Constitution for incorporation of the Klampun Community Association

Social and other impediments to the progress of the project were identified in order to help the community devise ways to address these issues and improve the project. Positive changes in the community during the progress of the project and steps already taken to address impediments to the project were also outlined in order to provide encouragement and strength to the community.

Some of the social issues identified were: lack of management skills, home-made brews, decline in copra price, loss of respect in the community, population increases, unwanted pregnancies, abortion, domestic violence, over-harvesting of marine resources, and land disputes.

Positive changes within the community during the time of the project include: construction and implementation of a Sulka language school in Klampun, respect and corporation among the community members, conservation initiative as a community project, speed boat transport available in Klampun, an increase in the number of churches in the community, recognizing the importance of conservation, improvements in personal and community hygiene, individuals identifying their family trees through a genealogy study, community cash income from the guest house and training center in Klampun village, sale of garden produce to the guesthouse by the Klampun community, and extension of conservation land boundaries.

Some of the initiatives taken by the community to address social issues:
The land dispute in March 2000 between the Vgar and Sule clans of Tiemtop and Sampun, which forced the RAP team out of Tiemtop, was a major issue in the community. The community arranged for land mediators from Pamalmal to sort out the issue, which resulted in the two clans signing a consensus agreement in April 2000. Since this agreement has since been disputed, the community has agreed to a strategy.
Since Vgar is the disputing clan, and only a few individuals are dissatisfied, the clan members will try to reach a consensus among them. If a consensus is not reached, then
The land mediators will be invited to the community again to meet with the two clans to try to sort out the issue.

The Tiemtop community disputed the logging road into Tiemtop, so construction of the road was on hold from February to April 2000. This very much affected the relationship of Tiemtop with the neighboring community. In April 2000, there was an agreement signed between the Tiemtop community, the logging company and provincial forestry representatives to compensate for the properties destroyed during road construction.
*
In it's continued effort to sustainably manage the conservation project, the Wide Bay community is encouraged to work in alliance with existing stakeholders in the community, including: church groups, small business groups, youth groups, women's groups, the Ward Committee, the Conservation Committee, clans and families, schools, sports groups, the Health Board, the School Board, Agriculture and Livestock (DPI), land mediators, the Provincial Government, the Local Level Government, the National Government, the Village Court, the District Budgetary Committee, the carpentry group, politicians, OISCA, ENBSEK, the Pacific Heritage Foundation (PHF), Conservation International, logging companies and land owner companies. All of the identified groups play very vital roles for the development of the area, as was determined during this workshop.
Furthermore, there are skills and knowledge within the community that needs to be further explored and utilized. The community believes in the full involvement of community members who have skills that can benefit the project. For example, CI and ENSBEK have organized a training course for two women in catering, so that they may assist in management of the guesthouse.

Looking at the stakeholders and their responsibilities, as well as the skills and knowledge available within the community, led to the realization of other activities that could be carried out. These activities are recommended for inclusion in the community's activity plan.

Attachment PNG-3

PROJECT EVALUATION/REVIEW WORKSHOP: A BASIS OF THE CBRM STRATEGY

Elizabeth Kaupun, Peter Bosip and Vasita Bill conducted an evaluation workshop in Klampun village from October 5-13, 2000. This involved people from Tiemtop, Sampun and Klampun villages. Some of the objectives of the workshop included:
To collectively draw out information regarding accomplishments over the last six years of the project.
To identify issues and failures experienced by the community during the progress of the project.
To identify different community stakeholders and their roles and responsibilities within the project.
To facilitate the communities' participation in identifying local knowledge, skills and resources that can be used within the project
To identify activities that can be included in the activity plan for the project.

Summary of some of the activities carried out over the last six years (1995-2000):

1995:
Introduction of Conservation Project
Logging project started in Bain (Cape Orford)
Launched Community and Community Development awareness

1996:
PRA and conservation committee awareness at Tiemtop village
Community Development Workshop

1997:
PRA training at Klampun
Survey of clan land boundary at Klampun and Tiemtop
Klampun Conservation Committee awareness development
Human Rights Workshop at Sampun

1998:
Conservation committee development
Introduction to business workshop at Guma
Workshop on gender at Guma
Business Feasibility study at Guma
Training on scientific study at Tiemtop

1999:
Training on bookkeeping at Sampun,
Screen printing (T-shirt and other prints) training
Eco-enterprise projects awareness tour by community representatives to Lae and Madang
Klampun guesthouse and training center
Conservation Committee formation at Klampun
Targeted feasibility study for conservation enterprises

2000:
Copra buying by Klampun Conservation Committee
Trade store operation by Klampun Conservation committee
Clothes sewing and selling at Klampun
RAP survey at Tiemtop
Ethno botany training at Klampun
Formation of Conservation Committee at Tiemtop
Land boundary mapping at Tiemtop and Klampun
Fund management training
Formulation of conservation management rules
Rice training
Land boundary survey and confirmation of conservation area by the community
Changes to committee composition to involve women
Land dispute at Tiemtop
Signing of consensus agreement between the Vgar and Sule clans of Tiemtop and Sampun

Attachment PNG-4

The CBRM strategy includes the following four elements:

1. Community capacity building—Institutionalizing the Wide Bay project at the community level is an important objective for the long-term sustainability of the project. As a first step, CI's Wide Bay Project Officer, Peter Bosip, is working with the community to form Community Association(s), which will be registered with the Investment Promotion Authority (IPA). These association(s) will form the basis for training that will strengthen community capacity to carry out conservation related activities for the long-term span of the project, beyond the BiRD agreement. The constitution of the association(s) will be circulated for comments before submission to the IPA for incorporation. In addition, training workshops and related activities will be conducted for the local community organizations, including the Extension Volunteers, the Conservation Management Committee and the East Pomio Local Level Government (EP LLG).

2. Networking and building alliances: In Pomio District, major stakeholders include the EP LLG, local NGOs, and the East New Britain Tourism Office. We have already negotiated with the Pomio District and the EP LLG authorities on the possibility of working in alliance with them, and their response has been very positive. With the current push for reform in the provincial government, CI and ENBSEK are in an excellent position to influence policy at the local level (district level).

   The EP LLG has a working committee that was formed for developing plans for the three demarcated zones in the Local Level Government (LLG). The working committee is made up of individuals from different sectors involved in the development of the LLG. The administrator of the LLG, Mr. Louis, has invited CI and ENBSEK to be involved in the working committee, and Peter Bosip, our new field officer, will represent the project on this committee. CI and ENBSEK will use this opportunity to ensure our input into the development of the LLG, as well as recognition and support of our activities in the LLG by the district authorities.

3. Awareness raising: CI and ENBSEK plan continuous conservation awareness-raising activities in the Wide Bay area in order to reach a wider audience, including schools and the communities. These activities help create a wider constituency for CBRM. Activities for FY01 include: forums at the LLG and District levels; distribution of written materials produced from activities conducted in the area over the years of the project, including simplified RAP data for the local communities and written in local languages; and exploring the production of a Wide Bay Project bi-annual newsletter, tentatively titled "Tokaut Nius bilong Wide Bay Project" and produced in Tok Pisin. This was one of the many recommendations by members of the community, who especially wanted a forum for the extension volunteers and the project committees to contribute their views/opinions about the project.

4. Establishment of Wildlife Management Areas: The biological survey team recommended that the Wide Bay project take prompt action to conserve the area before species of plants and animals become endangered as a result of habitat destruction from excessive logging. Consequently, in FY01, establishment of two Wildlife Management Areas (WMAs) in Klampun and Tiemtop areas will be attempted as the best option available for successful conservation. The PNG Office of Environment and Conservation (OEC) has requirements for gazettal of WMAs, which include:

(a) Formation of a WMA committee and a list of members (completed)
(b) WMA rules (completed)
(c) Land boundary description (this is currently being undertaken with the use of Global Positioning System (GPS).

Once we have completed the land boundary description and interpreted the data, we will submit to OEC components (a), (b), and (c) for gazettal of the WMAs. The gazettal of WMAs depends on government approval.