Update assessment on section 118/119 of the FAA Tropical Forestry and Biodiversity Conservation in Peru

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Acronyms

ACCA	Asociación para la Conservación de la Cuenca Amazónica
ACOREMA	Área Costera y Recursos Marinos
ACM	Área de Conservación Municipal
ACP	Área de Conservación Privada
ACPC	Asociación de Conservación del Patrimonio del Cutivireni
ACR	Área de Conservación Regional
ADEFOR	Asociación Civil para la Investigación y el Desarrollo Forestal
AIDER	Asociación para la Investigación y Desarrollo Integral
AIDESEP	asociación Interétnica de Desarrollote la Selva Peruana
AMUCAU	Asociación de Mujeres Campesinas del Ucayali
APCI	Agencia Peruana de Cooperación Internacional
APECO	Asociación Peruana para la Conservación de la Naturaleza
ARPI	Asociación Regional de Pueblos Indígenas
ASPRAVEP	Asociación de Productores de Ranas Venenosas Progreso
BSD	Bosques, Sociedad y Desarrollo
CAM	Comisión Ambiental Municipal
CAN	Comunidad Andina de Naciones
CAR	Comisión Ambiental Regional
CDB	Convención de la Diversidad Biológica
CDC	Centro de Datos para la Conservación
CEDEFOR	Proyecto de Certificación y Desarrollo del Sector Forestal
CEDIA	Centro para el Desarrollo del Indígena Amazónico
CERFOR	Proyecto de Certificación Forestal
CG	Comité de Gestión
CI	Conservation International
CIMA	Centro de Conservación, Investigación y Manejo de Áreas Naturales
CIP	Centro Internacional de la Papa
CNMA	Comisión Nacional para el Medio Ambiente
CMF	Comité de Manejo Forestal
COICAP	Coordinadora Indígena Agroforestales del Perú
COLBIOP	Colegio de Biólogos del Perú
CONACAMI	Confederación Nacional de Comunidades del Perú Afectadas por la Minería
CONACS	Consejo Nacional de Camélidos Sudamericanos
CONADIB	Comisión Nacional de Biodiversidad
CONAM	Consejo Nacional del Medioambiente
CONAP	Confederación de Nacionalidades Amazónicas del Perú
CONAPA	Comisión Nacional de Pueblos Andinos, Amazónicos y Afroperuanos
CONCYTEC	Consejo Nacional de Ciencia y Tecnología
CORPI	Coordinadora Regional de Pueblos Indígenas
DAR	Derecho, Ambiente y Recursos
DESCO	Centro de Estudios y Promoción del Desarrollo
DEVIDA	Comisión Nacional para el Desarrollo y Vida sin Drogas
DIA	Declaración de Impacto Ambiental
EIA	Estudio de Impacto Ambiental
EMS	Environmental Management System
FENAMAD	Federación Nativa del Rió Madre de Dios y Afluyentes
FMC	Forest Management Committees
FONAM	Fondo Nacional para el Ambiente
FONCODES	Fondo de Cooperación para el Desarrollo Social
FONDEBOSQUE	Fondo de Promoción del Desarrollo Forestal
GR	Gobiernos Regionales
GTZ	Gesellschaft Für Technische Zusammenarbeit
IANP	Intendencia de Areas Naturales Protegidas por el Estado
IBC	Instituto del Bien Común
IDMA	Instituto de Desarrollo y Medioambiente
IIAP	Instituto de Investigaciones de la Amazonia Peruana
IM	Instituto de Montaña

IMARPE	Instituto del Mar del Perú
INABIF	Programa Integral Nacional para el Bienestar Familiar
INADE	Instituto Nacional de Desarrollo
INDEPA	Instituto Nacional de Desarrollo de Pueblos Andinos, Amazónicos y Afroperuanos
INEI	Instituto Nacional de Estadística e Informática
INIA	Instituto Nacional de Investigación y Tecnología Agraria
INIEA	Instituto Nacional de Investigación y Extensión Agraria
INRENA	Instituto Nacional de Recursos Naturales
IUCN	The World Conservation Union
KfW	ENTWICKLUNGSBANK
LGA	Ley General del Ambiente
LMS	Limites Máximos Permitidos
LOD	Ley Orgánica de Descentralización
MEC	Municipal Environmental Commissions
MEM	Ministerio de Energia y Minas
MIMDES	Ministerio de la Mujer y Desarrollo Social
MINAG	Ministerio de Agricultura
MINCETUR	Ministerio de Comercio Exterior y Turismo
MNDCF	Mesa Nacional de Dialogo y Concertación Forestal
ODA	Official Development Assistance
ONERN	Oficina Nacional de Evaluación de Recursos Naturales
ORAI	Organización Regional AIDESEP Iquitos
ORAU	Organización Regional AIDESEP Ucayali
ORPIAM	Organización Regional de Pueblos Indígenas de la Amazonia Norte
OSINERGMIN	Organismo Supervisor de la Inversión en Energia y Minería
OSINFOR	Oficina de Supervisión de Recursos Forestales Maderables
PAMA	Programa de Adecuación de Manejo Ambiental
PATPAL	Patronato Parque de las Leyendas
PCM	Presidencia del Consejo de Ministros
PENX	Plan Estratégico Nacional Exportador
PETT	Proyecto Especial de Titulacion de Tierras y Catastro Rural
PGMF	Plan General de Manejo Forestal
PNUD	Programa de las Naciones Unidas para el Desarrollo
POA	Plan Operativo Anual
PRODUCE	Ministerio de la Produccion
PROFONANPE	Fondo Nacional para las Areas Naturales Protegidas por el Estado
PROMUDEH	Ministerio de Promoción de la Mujer y del Desarrollo Humano
PRONAA	Programa Nacional de Apoyo Alimentario
PRONAMACHCS	Programa Nacional de Manejo de Cuencas Hidrográficas y Conservación de Suelos
PUCP	Pontificia Universidad Católica del Perú
SENASA	Servicio Nacional de Sanidad Agraria
SINANPE	Sistema Nacional de Areas Naturales Protegidas por el Estado
SNA	Sociedad Nacional del Ambiente
SNEIA	Sistema Nacional de Evaluación de Impacto Ambiental
SNGA	Sistema Nacional para la Gestión Ambiental
SPDA	Sociedad Peruana de Derecho Ambiental
SUNARP	Súper Intendencia Nacional de Registros Públicos
SUNAT	Superintendencia Nacional de Administración Tributaria
TNC	The Nature Conservancy
UAS	Unidades Sectoriales Medioambientales
UNALM	Universidad Nacional Agraria La Molina
UNMSM	Universidad Nacional Mayor de San Marcos
UPCH	Universidad Peruana Cayetano Heredia
UPRP	Universidad Privada Ricardo Palma
WCS	Wildlife Conservation Society
WWF	World Wildlife Fond
ZGF	Zoologische Gesellschaft Frankfurt

A. Executive summary

As part of the United States Agency for International Development (USAID) strategic planning process, USAID/Peru is required to prepare an assessment of the status of Tropical Forests and Biodiversity in accordance with Sections 118 and 119 of the Foreign Assistance Act. The Foreign Assistance Act (FAA) specifies the following requirements:

- Section 118.- Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of the (1) actions necessary in that country to achieve conservation and sustainable management of tropical forest, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified.
- Section 119.- Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of the (1) actions necessary in that country to conserve biological diversity, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified.

The previous assessment for USAID/Peru was prepared in 2002.[1] Therefore, this report is an Update Assessment that includes the latest developments in conservation and management of biodiversity and tropical forests since 2002. Thus, the purpose of this report is to comply with FAA requirements and to provide specific recommendations to USAID/Peru for its future strategies in a manner concordant with the latest trends in the conservation and management of the Peru's biological diversity and tropical forest resources.

The methodology used by the Team was based on the analysis of primary and secondary information gathered from a variety of stakeholders involved in conservation efforts in Peru. These included representatives from the government, non-governmental organizations, academic institutions, and local representatives of indigenous communities and logging associations. Information was obtained via individual interviews and through group discussions carried out during the workshop entitled "The Current State of Conservation and Management of Biodiversity and Tropical Forests in Peru" (held in May of 2007). In addition to interviews, the Team collected and analyzed the latest publications available from different conservation-oriented research programs and projects.

This report is organized as follows: Chapters C and D provide background information on Peru's natural resources, institutional and regulatory frameworks associated to biodiversity and tropical forests, and key stakeholders relevant to conservation. Chapters E and F describe the conservation and management status of biodiversity and tropical forests found inside natural protected areas, while Chapter G describes the situation outside natural protected areas. The following chapters provide the main findings of this Update Assessment according to four major themes: biological diversity conservation (Chapter H), tropical forests (Chapter I), indigenous people and conservation (Chapter J), and gender-based initiatives in conservation (Chapter K). Finally, Chapter L contains the Team's specific recommendations to USAID/Peru.

[1] Report on Sections 118 and 119 of the Foreign Assistance Act, 2002. Author: Fred Mann. URL: http://www.usaid.gov/locations/latin_america_caribbean/environment/docs/pe2002.pdf

Summary of Major Findings

This assessment found that in Peru biological and tropical forest conservation efforts have evolved positively in the past decade even if threats have increased. Peru now counts with conservation oriented government entities and non-governmental institutions that have developed complex strategies and appropriate legal frameworks designed to address the major environmental and social issues faced. These strategies are the result of stakeholder participation and input at the international, national, regional and local levels. However, although these strategies are in place and evident in laws and management plans, implementation and monitoring are the greatest challenges faced today. In addition, communication and collaboration with regional and local entities, albeit recognized in documents, continues to be weak but can be aided through support of the decentralization process.

Furthermore, this assessment found that current conservation strategies tend to be best designed for situations found within natural protected areas, but conservation efforts outside protected areas need more attention since conditions and opportunities are different. Regarding this last point, we recommend that an emphasis be placed in working and supporting market-based conservation projects spearheaded by the private sector, indigenous communities, or those with an explicit gender-based component. The reasons for this recommendation is that projects in the private sector show potential and innovation, while indigenous populations and gender-based initiatives represent marginalized populations whose participation in conservation efforts is still weak.

Given these observations we have organized recommendations along four major themes:

1. Support research and efforts aimed at reducing threats to biodiversity and tropical forests.
2. Promote institutional strengthening for the decentralization of policy and actions associated to biodiversity and tropical forest conservation and management.
3. Support efforts that strengthen and broaden the participation of stakeholders in the conservation and management of biodiversity and tropical forests.
4. Support initiatives that encourage conservation-oriented projects by the private sector.

The following section of this executive summary provides a series of general recommendations for USAID for each major theme, outlined above, regarding the conservation of biological diversity and tropical forests.

Recommendations for Biodiversity

Research continues to highlight the great wealth of biodiversity harbored in Peru and indicates that new species and genetic diversity will continue to be identified. However, threats continue mainly outside natural protected areas from development, extractive industries, and migration into areas of high conservation priority. To counteract these threats support should be given to conservation projects that: foster research in the natural and social sciences in order to document and monitor biological resources, promote the institutional strengthening of conservation oriented government entities, encourage local stakeholder participation (with an emphasis on indigenous people and gender-based initiatives), support enforcement and monitoring programs, and encourage conservation-oriented efforts from the private sector.

1.- Support research and efforts aimed at reducing threats to biodiversity.

- Support scientific research efforts that document and monitor biodiversity. In particular the monitoring of species of special conservation interest (i.e. endemic, endangered, or poorly studied species). Results should also be used to aid the Protected Areas Intendancy in INRENA in completing their monitoring systems.

- Support research from the social sciences to document and monitor the social, cultural and economic characteristics and tendencies of local populations in areas of high conservation priority.

- Support the development of an Information Management System that gathers, analyses and disseminates information concerning conservation activities (e.g. research data, project reports, and information generated from universities, think-tanks, NGOs, private sector, local and international organizations).

- Support regional and local environmental agendas to complete the land zoning and land-use planning processes inside and outside natural protected areas.

- Support conservation efforts taking place outside natural protected areas (e.g. forest concessions, market-based conservation projects, private conservation areas, and ex situ conservation centers).

- Support research and environmental assessments in areas of conservation interest where high impact extractive industries are taking place.

- Encourage initiatives that aim at including ecosystems currently underrepresented in the System of Protected areas (e.g. coastal ocean areas, dry forests and cloud forests).

2.- Promote institutional strengthening for the decentralization of policy and actions associated to biodiversity conservation and management.

- Support efforts by the INRENA and CONAM to continue engaging in the decentralization of conservation and management activities. These include projects that support regional and local government agencies such as the Regional Environmental Commissions (CAR) and Municipal Environmental Commissions.

- Support the implementation and integration of regional environmental agendas into the national conservation strategy with active participation of local stakeholders.

- Strengthen communication programs that disseminate legislation and regulations regarding conservation and resource management at the regional and local levels.

- Promote projects that build alliances between public and private conservation projects at the regional and local levels.

- Support the development of mechanisms that generate new forms of income for Protected Areas (e.g. Payment for Environmental Services or continue supporting the Memorandum of Understanding (MoU)).

3.- Support efforts that strengthen and broaden the participation of stakeholders in the conservation and management of biodiversity.

- Promote the exchange of experiences, success stories, "lessons learned" between Management Committees of different natural protected areas around the country, as well as with other conservation projects that show innovation and success (nationally and internationally).

- Promote efforts aimed towards strengthening the participation of local Natural Protected Areas Management Committees. Efforts should recognize logistical challenges such as transportation (to and from meeting places) and prior access and distribution of meeting agendas to be discussed, especially for committee members that live in remote areas.

- Promote appropriate and innovative dialogue mechanisms (e.g. radio programs and workshops) that aim at regularly informing key stakeholders so that problems can be identified, solutions discussed and conflicts minimized.

- Aid in strengthening indigenous people representation and participation in forums where decisions regarding the legislation and future management of protected areas that overlap with their ancestral territories take place.

- Strengthen programs that aim towards building collaboration between local stakeholders and local governments in the management and monitoring of the natural resources (i.e. indigenous communities, settlers, private sector, etc.).

- Support conservation efforts with an explicit gender focus, or component, in order to ensure an equitable distribution of benefits and participation in conservation and sustainable development projects taking place in areas of high biological diversity. One approach to solving these issues would be to analyze experiences (and foster exchange programs) in other countries, such as India and Africa where gender-based conservation initiatives have been developed and have been successful.

- Support communication strategies in order to strengthen citizens' awareness and commitment to conservation. Communication strategies should be tailored to a region's cultural sensitivities.

4.- Support initiatives that encourage conservation-oriented projects by the private sector.

- Support the exchange of "lessons learned" and best practices of entrepreneurs who have engaged in social and environmentally responsible activities (e.g. ecotourism, breeding centers, private protected areas, timber, products, non-timber forest products, etc.).

- Encourage projects that aim at bringing government and private sector representatives together to discuss current challenges faced in managing conservation-oriented businesses (e.g. web-based information network). Issues that need to be addressed

include information regarding regulations, marketing opportunities, possible fiscal incentives, etc.

- Encourage projects that aid in designing legal and institutional frameworks that foster incentives (i.e. tributary, funding, access to information, etc.) and strengthen participation of private conservation efforts.

- Support initiatives by Regional Governments that actively collaborate with private enterprises (e.g. ecotourism, bioprospecting projects, etc.) in the integrated management of natural resources.

- Encourage projects that include the private sector into local efforts for the monitoring and surveillance of areas around and within protected areas.

- Support small-scale market-based conservation projects in indigenous or local communities that provide training and advising in small-business administration and accounting practices prior and during the initial stages of a project. Or aid local associations (interested in market-based conservation) in strengthening their administrative and accounting systems in order to help them to be considered as credit clients and, therefore, real and direct partners with entrepreneurs.

- Support projects that aim at developing market-based conservation projects with local communities. In particular, promote alliances of private entrepreneurs, indigenous communities, and women-based projects for businesses in and around protected areas that are sustainable and compatible with conservation objectives and cultural sensitivities.

Recommendations for Tropical Forests

The recognition of Peru as an area of conservation priority is partly based on its great diversity of tropical forests that house high levels of biological diversity. Unfortunately, the degradation, fragmentation, and deforestation of tropical forests are on the rise outside of natural protected areas. These issues can be addressed in part by strengthening management efforts and current regulations regarding forest and conservation concessions. Due to the diversity of these forests and range of threats resulting from a variety of extractive and development activities, designing sustainable conservation strategies requires: continuous research from both the natural and social sciences in order to document and monitor forests and peoples that live within or nearby forests, effective forest management plans that consider the ecological dynamics and ecosystem services of large forested areas, the design of effective institutional and legal frameworks that address political and economic issues, continuous and equitable funding among all natural protected areas, collaboration with industries that impact tropical forests, and cooperation between stakeholders at the local, regional, national, and international levels.

1.- Support research and efforts aimed at reducing threats to tropical forests

- Support the development of an Information Management System that gathers, analyses and disseminates information concerning conservation activities taking place in tropical forests (e.g. research data, project reports, and information generated from universities, think-tanks, NGOs, private sector, local and international organizations).

- Support scientific research efforts that document and monitor tropical forests. This includes creating a standardized forestry map to be used by all national institutions, and studies that aid in defining standards for adequate extraction yields of forest products. This can be done in collaboration with national universities (thesis exchange programs) or through exchanges with foreign professional (active or pro-bono by retired individuals).

- Support the building of a system to monitor forestry concessions, illegal logging within and outside Protected Areas, and deforestation trends regionally and nationwide (this could be outsourced). In particular more detailed information is required on the current state and trends of the expansion of the agricultural frontier due to illegal land trafficking.

- Support research from the social sciences to document and monitor the social, cultural and economic characteristics of local populations. This can be done in collaboration with national universities (thesis exchange programs) or through exchanges with foreign professional (active or pro-bono by retired individuals).

- Promote alliances between regional authorities, civil society and the local authorities for the establishment of monitoring and surveillance programs that include the participation of district municipalities, village or peasant associations, park rangers, etc.

- Support communication strategies in order to strengthen citizens' awareness and participation in the reduction of illegal activities. Communication strategies should be tailored to a region's cultural sensitivities and provide information on how to safely report transgressions.
- Support initiatives that aim to ensure the equitable distribution of funds among all natural protected areas in order to guarantee effective monitoring and surveillance by local authorities, such as, and in particular, park rangers.

2.- Promote institutional strengthening for the decentralization of policy and actions associated with tropical forest conservation and management.

- Support INRENA in finalizing it's reorganization process in order to expedite the solutions of current problems regarding the management of forest and timber concessions (i.e. problems stemming from the granting of overlapping concessions, illegal logging, ambiguous boundaries, etc). In particular, efforts should also aim at generating awareness and support at the highest levels (Ministry of Agriculture, Ministry Council, and the President) since these conflicts are seriously affecting the viability of forest and timber concessions.

- Support the implementation of the management documents National Forestry Strategy (2002-2021), the National Reforestation Plan (2005-2024) and the Operational Export Plan for the Timber-Yielding Forest Industry of the National Strategic Export Plan, with joint input from regional and local authorities.

- Support regional governments and local stakeholders to take a leading and proactive role when facing potential overlaps of extractive industries with sustainable forest management schemes (e.g. certification programs, non-timber forest management projects, market-based conservation projects, etc.).

- Support initiatives that help link local Forest Management Committees to the decentralization processes of regional governments through discussion forums and training workshops that aim towards informing committee members on forest management legislation and projects.

- Support INRENA in taking the leading role in coordinating and integrating regional forestry policies into the national forest strategy and legal framework.

- Support programs that aim at disseminating up-to-date and clear information concerning the legal framework governing forestry activities.

3.- Support efforts that strengthen and broaden the participation of stakeholders in the conservation and management of tropical forests.

- Promote inclusive decision-making mechanisms at regional, local and national level to empower local communities and organizations, such as Forest Management Committees, that allow for the sustainable management of forest resources.

- Support programs that strengthen the participation of Forest Management Committees in monitoring concessions through projects that involve local stakeholders in the implementation of surveillance mechanisms to monitor forest activities.

- Promote the exchange of experiences between stakeholders at the local and national level. In particular, exchanges between Forest Management Committees of different regions of the country.

- Support projects that encourage and support regional governments in actively participating in land-zoning and planning procedures of their areas with joint collaboration of INRENA.

- Foster the consolidation and greater presence of indigenous peoples, through indigenous federations and associations, in issues related to conservation and management of tropical forests. Special attention should be placed on indigenous communities whose traditional homeland is found within protected areas or forest concessions.

- Support the exchange of experiences and “lessons learned” between indigenous associations (nationally and internationally) regarding issues associated to indigenous rights, conservation and the implementation of different models of forest management.

- Support conservation efforts with an explicit gender focus, or component, in order to ensure an equitable distribution of benefits and participation in conservation and sustainable development projects taking place in tropical forests. Also foster exchange programs with countries in Africa and Central America where women-based forest projects have been successful.

4.- Support initiatives that encourage conservation-oriented projects by the private sector.

- Encourage more collaboration between government agencies and private sectors in order to increase the level of participation of the private sector in developing policy and regulations. This process would aid in developing legal and institutional mechanism that foment the long-term viability of conservation enterprises (i.e. ecotourism, zoobreeding centers, non-timber forest businesses, certified timber product enterprises, etc.).

- Provide assistance towards developing a government-sponsored system of economic incentives that fosters sustainable forest-use and conservation enterprises by the private sector.

- Encourage exchange programs between successful market-based and private sector-driven conservation projects at the regional, national, and international level. In particular experiences with other countries in Latin America. Special attention should be given to experiences regarding the management of forest concessions, private conservation concessions, certification, and joint ventures with indigenous or local communities.

- Support training initiatives at the local and regional levels that focus on providing basic tools in business management for small to medium-size conservation enterprises (e.g. business plans, market dynamics, finance mechanisms, procedures and requirements to gain access to finance institutions and capital risk management, etc).

- Promote innovative communication and dissemination strategies (radio, television, art projects, etc.) focused on providing basic information regarding opportunities and procedures for starting and managing conservation oriented enterprises.

- Promote alliances between universities and the forestry production sector for research that provides base-line information and helps identify the best indicators for the sustainable management of forest products.

- Support forestry and non-timber forest product industries in the development of products with added value and market access. This can be done in conjunction with institutions, such as universities, through competitions in product design and development.

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C. General Overview of Peru's Natural Resources

C.1. Introduction

Located on the western central coast of South America, Peru's territory encompasses an area of 1'285,220 Km.^{2} (slightly smaller than Alaska). The country borders with the Pacific Ocean to the west (2,414 Km of coastline), to the north with Ecuador (border length of 1,420 Km.), to the northeast with Brazil (border length of 2,995 Km.), to the east with Bolivia (border length of 1,075 Km.), and to the south with Chile (border length of 171 Km.). (Figure C.1. provides a map of Peru).

Figure C.1. Map of Peru

Source: Http://www.cia.gov

Peru is classified as a megadiverse country. Although the exact figures of species found in Peru change according to different studies, Peru continues to rank among the top five megadiverse countries of the world, generally after Brazil, Columbia, and Indonesia (TNC 2007). The most updated figures report 25,036 species of flowering plants and vertebrates, of which approximately 5,763 species are endemic (Table C.1. provides a breakdown of species by taxa in comparison with other top megadiverse countries). One of the reasons for such high biological diversity stems from the variety of climates, life zones, and ecosystem types (over 24 types) represented in the nation's territory. For example, of 32 recognized climate types in the planet, 28 are found in Peru (Portilla 2001). Also according to the Holdridge classification (1967) Peru has 84 life zones of the 117 represented worldwide as well as 17 transition zones (Portilla 2001).

Table C.1. Comparison of species diversity by taxa for top megadiverse countries of the world.

Country	Plants with flowers	Mammals	Birds	Reptiles	Amphibians	Fish	Total Biodiversity species
Brazil Total Endemic	56000	524 (131)	1622 (191)	468 (172)	517 (788)	> 3000	59262 – 65262
Colombia Total Endemic	51000	456 (28)	1815 (142)	520 (97)	583 (367)	> 1500	59248
Indonesia Total Endemic	37000	515 (201)	1531 (397)	511 (150)	270 (100)	1400	44054
Peru **Total** **Endemic**	**17144 [1]** **(5354)**	**515[1]** **(109)**	1816 (115)	**370** **N/A**	**403** **(185)**	**2000** **N/A**	**25036** **5763 (aprox)**

Figures combined by authors from TNC (2007) and PNUD (2004), and the Instituto Cuanto (2002).

Given Peru's complex environmental setting the following sections provide a more detailed description of the country's ecosystems types and species diversity figures, and information regarding Peru's tropical forest ecosystems. Finally, this chapter concludes with a section on cultural diversity since a discussion of a megadiverse country would not be complete without considering the role of indigenous populations in the maintenance and management of their local environments.

C.2. Peru's ecoregions and ecosystem types

Peru defines a region's conservation priority and management plan through the identification of places with high concentrations of species diversity, in particular areas that harbor endemic species. However, this practice must also be done in conjunction with the identification of key ecoregions and ecosystem types. According to the National Institute for Natural Resources, INRENA (1997), Peru has four main geographic regions: marine, coastal plain, highlands, and the Amazon basin. Within these there are ten ecoregions, each containing one or more ecosystems types. Table C.2. provides a summary and description of Peru's geographic regions, ecoregions and ecosystems.

The SINANPE Master Plan developed by INRENA (1999) cites the following criteria during the process of determining areas for protection: a) landscape, b) regional diversity, c) ecosystem, d) local species diversity, e) endemism, f) rareness, g) genetic variation, h) migration value, i) ecosystem connectivity, j) size, k) buffer zones, and l) restoration ecology.

Table C.2. Description of Peru's geographic regions, ecoregions and ecosystems

Geographic Region	Ecoregion	Ecosystems	Summary Description
Marine	Peruvian Current	Various currents	Cold, nutrient rich, high population numbers yet less diversity
	Tropical Current	Various currents	Warm, nutrient poor, lower population, high diversity
Coastal Plain	Pacific Desert/Hills	Coastal Hills	On hills up to 700 masl. Very low rainfall/Moisture from mists that support desert vegetation
		Tillandsia Form	Extremely dry flat dessert but moisture from mists support growth of bromeliads
	Dry Equatorial Forest	"Algarrobos"	*Prosopis pallida* forest
		"Hualtaco" Forest	Forest dominated by *Lonopterygium huasango*, a commercial timber tree
		Mangrove Forest	In the estuaries of the Tumbes and Zarumilla rivers on the northern coast
		Scrub Forest	In the northern foothills 200-1000 masl/300-650/yr rainfall/canopy 4-5mt.
		Low Deciduous Forest	In the central/southern foothills /400-1,000mm/yr rainfall/many epiphytes.
	Pacific Tropical Forest	Pacific Tropical Forest	Northern Peru. 1,200 mm/yr rainfall/20-25m canopy height.
Highlands	Puna	Andean Pastures	Above 3,800 masl/150-600 mm/yr rainfall. Severe degradation.
		Tolares	Southern region7Tem. 3-6 C/200-500/yr rainfall. Thorny bushes predominate.
	Andean Steppe	Brushlands	Western Andes 1,500-3,800 masl/125-150mm/yr rainfall. Many cacti.
		Queñuales	3,400—4,500 masl/main plant is "queñual" (*Polylepis* spp.)
	Paramo	Paramo	Small area at 3,500 and 4,500 masl in northern Peru.
Amazon Basin	"Selva Alta" or Cloud Forest	Upper Montane	
		Podocarpus Forest	Moister locations in Cloud forests 1,800-3,500 masl. Mostly in Cajamarca
		Lower Montane	600-1,400 masl. Temp. 17-25 C. 1,600-4,000 mm/yr rainfall
	"Selva Baja" or Lowland forest	Riverain Forest	Beside rivers/20-25m canopy height.
		Swamp Forest/ "Aguajales"	Near confluence of Tigre & Pastaza rivers and many smaller areas.
		Terrace Forest	Alluvial terraces/Fertile soils for agriculture/canopy height 30-45 m.
		Upland Forest	On old terraces/35-40 m canopy height. Many tree species
		Bamboo Forest	1,500,000 ha of *Merostachis* and *Guadua* bamboo genera
	Chaco Savanna	Chaco Savanna	In Pampas del Rio Heath in Madre de Dios Department. *Mauritia flexuosa* palm.

Source: USAID, 2002

Although Peru has a great diversity of ecosystems, there is no agreed upon standard ecosystem classification system. The current classification systems show units that are not necessarily equivalent between the ecosystems classification systems used elsewhere. The following table (Table C.3.) shows the different ecosystems classification systems currently in use by INRENA.

Table C.3. Ecosystems diversity recognized by INRENA

Types	N. Units	Regions	Source
Natural Regions	8	Coast, Yunga, Quechua, Suni, Jalca, Puna, Janca, Rupa-Rupa.	Pulgar-Vidal, 1941
Ecoregions	11	Lowland forest, Cloud forest, Paramo, Dry equatorial forest, Puna, Pacific coastal desert, Andean Steppe, Palm Savanna, Peruvian Cold Current, Tropical Sea.	Brack, 1986
Ecological Regions	18	Hot tropical desert, Warm tropical desert, Andean desert, Underbrush, Dry forest, Steppe, Humid Steppe, Paramo, Andean tundra, Permanent ice, Rain forest, Very humid forest, Humid forest, Hydromorphic tropical humid forest, Seasonal tropical dry forest, Seasonal humid tropical forest, savannah, Equatorial warm ocean.	Zamora, 1992, 1996
Life Zones	84 17	Life Zones Transitions	Holdridge, 1967 ONERN, 1976

Source: INRENA, 2006

C.3. Peru's species biodiversity

The process of documenting the species diversity of Peru, as in other megadiverse countries, is far from finished and research continues to yield new species. This indicates that areas of high biological diversity continue to merit detailed scientific research since most estimates stem from rapid assessment projects (RAP). Although this method of collecting data is valid and useful they should be complemented by more detailed evaluations of the role of a region's species in the overall health and functioning of an ecosystem. Fortunately, Peru has been hosting and participating in research programs (international and national) that aim at a more detailed documentation of the biology and ecology of key areas. However, worth noting is that most of the information available in Peru tends to mostly emphasizes species diversity. One of the reasons is that long-term research projects that do document the ecology of a region tend to be carried out by foreign researchers and academic institutions and their findings often remain aboard. Interviews conducted during this project often commented on the difficulty of obtaining foreign academic sources. Nevertheless, there was hope expressed that the exchange of information might be facilitated with more internet access to journals and other sources in the future. The following section provides a brief summary of current estimates of species diversity in plants, birds, mammals, amphibians, reptiles, and invertebrates.

Plants

Peru has 17,144 species of identified flowering plants, in 2,458 genera and 224 families. This is the fourth largest number of identified flowering plants of any country in South America and the ninth largest number of any country in the world. The families with the most species diversity are the Asteraceae, Orchidaceae and Piperacea. The eastern side of the Andes has more flowering plant diversity than the western side (CI, TNC, and WWF, 2007).

Peru has approximately 1,000 species of non-flowering plants, such as ferns, Licopodios, and Equistos in 16 families. The highest variety and number of non-flowering plants occurs in the "Selva Alta" ecoregion (CI, TNC, and WWF, 2007).

Birds

Birds are the most studied group of Peruvian fauna. Identified bird species number 1,816 in 88 families. There are 115 species of endemic bird species in Peru. The Peruvian Marine ecoregions provide refuges for many species of migrant birds from the Northern Hemisphere. (CI,TNC, and WWF, 2007). The greatest number of species occurs in the "Selva Baja" ecoregion, where 895 species have been reported. The fewest species are found in the Puna ecoregion. Many bird species, especially those that inhabit the western slopes of the Andes, have very restricted distributions.

Mammals

Peru has 515 identified terrestrial and marine species, in 49 families, and 196 genera. Sixty-seven percent of the mammal species are rodents or bats; bat species represent 35 percent of the mammals of Peru, with 164 species in 55 genera and 8 families. Twenty-four rodent species are endemic to Peru. About 30 mammal species are endemic to the eastern "Selva Alta". Seven species are endemic to the western coast and Andean foothills. The largest number of endemic species, however, occurs in the "Selva Baja" ecoregion (CI, TNC, and WWF, 2007). The Marine Geographic region of Peru also supports a high diversity of marine mammal species, such as thirty-one species of whales that live in or migrate through Peruvian coastal waters. Of these, however, only one species is endemic, the *Mesoplodon peruvianus*.

Amphibians

Peru has identified 403 species of amphibians, 185 of which are endemic. About 30 percent of the amphibian species are restricted in their range and have only beeen reported in one site.

The largest number of amphibian species is found in the “Selva Alta” and “Selva Baja” (CI, TNC, and WWF, 2007).

Reptiles

Peru has 370 identified reptile species, and approximately 100 are endemic. Although the largest number of reptile species occurs in the “Selva Baja” Ecoregion, most of the endemic species live in the Pacific Desert and Dry Equatorial Forest Ecoregion. Over 80 percent of the reptile species have restricted ranges (CI, TNC, and WWF, 2007).

Invertebrates

Knowledge of invertebrate species in Peru is far from complete since probably only about 20 percent of the total number of species have been scientifically described and identified. Of the identified species, 10,800 are insects, 3,000 are arachnids, 1,030 are mollusks, and 512 are crustaceans (CI, TNC, and WWF, 2007).

C.4. Peru’s tropical forest diversity

Peru harbors a quarter of the planet’s tropical forests. The country’s rainforest region is the second largest in Latin America and the seventh largest in the world in terms of forest-covered areas. In 2002, the National Strategy for Forest Development estimated that Peru harbors 78.8 million hectares of forest. Of which 53 percent is located in the Amazon Basin and corresponds mostly to primary forests. However, there are also other critical forest ecosystems throughout the nations territory. Table C.4. provides a list of vegetation forms recognized by INRENA.

The Peruvian rain forests can be classified into tropical humid and subtropical forests. These two types of forest are extremely heterogeneous and scientists have identified more than 2 500 different timber species. However, of these species only 500 species have been classified for the timber production. Currently only 80 species are used intensively. (Galarza, E and Fernandez-Baca, U., 2006).

Table C.4. Key forest types and plant communities recognized by INRENA

KEY FOREST TYPES AND VEGETAL FORMATION		KEY FOREST TYPES AND VEGETAL FORMATION (cont.)	
A	**Arid and Semiarid Zones**	C.2	Special life forms
A.1	Forest and Underbrush	C.2.1	Swamps
A.1.1	Savannah dry forest	C.2.2	Aguajales
A.1.2	Hill dry forest	C.2.3	Hydromorphic savannah
A.1.3	Mountainous dry forest	C.2.4	Bamboo forest
A.1.4	Interandean valley dry forest	C.3	Underbrush and "herbazales"
A.1.5	Dry underbrush	C.3.1	Humid underbrush
A.2	Special Life Forms	C.3.2	Pajonal
A.2.1	Mangroves	C.3.3	Puna pastures
A.2.2	Dune underbrush ecosystems	C.3.4	Bofedal
A.2.3	Coastal hills	C.3.4	Queñoales
B	**Subhumid Zones**	**D**	**Other forms**
B.1	Forest and Underbrush	D.1	Deforested areas
B.1.1	Subhumid mountain forest	D.2	Cultivated areas in the coastal region
B.1.2	Interandean valleys subhumid forest	D.3	Coastal desert
B.1.3	Subhumid underbrush	D.4	Rivers, lagoons, lakes, snow capped mountains and peninsular areas
C	**Rainy Humid Zones**	D.5	High terraces humid forest
C.1	Forest	D.6	Low hills humid forest
C.1.1	Meander plains humid forest	D.7	High hills humid forest
C.1.2	Low terraces humid forest	D.8	Mountain Humid forest
C.1.2	Medium terraces humid forest		

Source: INRENA,2006, translated by authors.

Peruvian forests contain an impressive tree population of over 2,500 individuals per hectare, as well as the greatest generic diversity on the planet (Gentry and Ortiz 1993). For example, floristic inventories carried out in the Yanamono and Mishana forests (Loreto) recorded 225 and 249 species of trees per hectare, respectively. In addition, many of the tree species found in these areas have timber potential indicating possible economic opportunities to local population when adequate management plans are implemented.

C.5. Peru's cultural diversity

Peru is a multicultural country with over 65 ethnic groups. The approximate population of the indigenous communities in Peru is of nine million people, mostly organized into distinct "native communities" according to ethnic identification (mostly by linguistic affinity) and ancestral rights to traditional homelands. Currently there are about 7,000 indigenous communities in the country. The indigenous population can be broadly divided into three main groups: Quechua, Aymara and Amazonian peoples on the basis of unique cultural, economic and political features that are drastically different to other sectors of the national population.

Land tenure is an important issue when considering the impacts of rural and indigenous populations on natural resources. According to the Special Land Titling and Rural Registry Project (PETT) of the Agriculture Ministry (MINAG), the number of peasant communities registered has risen since the 3rd National Agricultural Census (1994). According to the latest figures published by PETT, there are now 5,818 peasant communities registered. However, not all of these communities have land titles. In fact, according to the progress report by PETT made in 2004, 82% of the peasant communities have their properties registered in the public registry (meaning that 28% of the communities, approximately 1,600 peasant communities, still do not have their titles cleared). Table M.1. (in the appendix) shows the recognized and titled peasant communities, according to the data published by PETT.

Regarding the indigenous population of the Amazon, the IBC's SICNA Project (Information System on Indigenous Communities of the Peruvian Amazon) estimates that titled indigenous communities occupy an area of approximately 11 million hectares (SICNA/IBC, 2006). As of 2005 there are 1,222 indigenous communities with official legal titles; however, 155 communities are still not registered and/or have property titles issued (IBC, 2006).

In the Peruvian Amazon, where the largest concentration and ethnic diversity is found, there are 59 ethnic groups (IBC, 2006) (see Table C.5.), a population of approximately 300,000 people. These figures highlight the fact that the high cultural diversity found the Peruvian Amazon is linked to biodiversity and that indigenous people have an important role to play in the future of Amazonian ecosystems. In fact most of the protected areas in the Peruvian Amazon correspond to the traditional homeland of indigenous people (Ocampo-Raeder, 2006). For example, the Bahuaja-Sonene National Park in Tambopata overlaps with the Ese eja people's traditional territory (ibid). Unfortunately indigenous people tend to be marginalized by the decision-making process concerning the establishment and management of these areas. Indeed, conservation NGO and government initiatives make an effort to include indigenous people, as well as other stakeholders, in the decision-making process. However, current debates indicate that in many cases the inclusion of indigenous people is superficial (Chapin 2004, Ocampo-Raeder 2006). In particular, these debates call for more research and strategic planning that explicitly consider issues of environmental justice with an emphasis on identifying the cultural value and significance of these ecosystems to native peoples in order to develop true and just collaboration within conservation efforts.

Table C.5. Indigenous people of the Amazon according to linguistic and ethnic classification

Group	Linguistic family	Nº	Ethnic group	Group	Linguistic family	Nº	Ethnic group
I	Arawak	1	Amuesha (Yánesha)	**IX**	Quechua	46	Quechua-Lamas
		2	Ashaninka			47	Quechua-Napo
		3	Asheninka			48	Quechua-No identified
		4	Caquinte			49	Quechua-Pastaza
		5	Culina				
		6	Nomatsiguenga				
		7	Machiguenga				
		8	Piro (Yine)				
II	Bora	9	Bora	**X**	Shimaco	50	Urarina
III	Cahuapana	10	Chayahuita	**XI**	Tacana	51	Ese eja
		11	Jebero				
IV	Harakmbut	12	Amarakaeri	**XII**	Ticuna	52	Ticuna
		13	Arazaire				
		14	Harakmbut				
		15	Huachipaire				
		16	Pukirieri				
		17	Toyoeri				
		18	Sapiteri				
V	Huitoto	19	Andoque	**XIII**	Tucano Occidental	53	Orejón (Mai Huna)
		20	Huitoto			54	Secoya
		21	Ocaina				
VI	Jíbaro	22	Achuar	**XIV**	Tupi-Guaraní	55	Cocama-Cocamilla
		23	Aguaruna (Awajún)			56	Omagua
		24	Candoshi-Murato				
		25	Huambisa (Wampis)				
		26	Jíbaro				
		27	Shapra				
VII	Pano	28	Amahuaca	**XV**	Záparo	57	Andoa
		29	Capanahua			58	Arabela
		30	Cacataibo			59	Iquito
		31	Cashinahua				
		32	Chintonahua				
		33	Cujareño				
		34	Isconahua				
		35	Marinahua				
		36	Mastanahua				
		37	Mayo-Pisabo				
		38	Mayoruna (Matsés)				
		39	Morunahua				
		40	Nahua				
		41	Sharanahua				
		42	Shetebo				
		43	Shipibo-Conibo				
		44	Yaminahua				
VIII	Peba Yagua	45	Yagua				

Source: IBC, 2006

Isolated Indigenous Communities of the Amazon: The Peruvian Amazon harbors some of the last “uncontacted” indigenous groups of the world. The term uncontacted is a misnomer since these populations do have sporadic contact with western societies but have chosen to remain isolated. For this, reason indigenous federations and anthropologists refer to them as Indigenous People in Voluntary Isolation. These indigenous populations have received special attention from indigenous federations and the Peruvian State. As a result several protected areas have been established for their cultural survival (Table C.6.). Although the exact population and in many cases ethnic affiliation are uncertain the following table shows the current information available regarding these ethnic groups and protected areas:

Table C.6. Territorial reserves created for Indigenous Communities living in voluntary isolation

Name	Group	Area (Ha)	Region	Date	Legal Status
Murunahua	Murunahua (Pano)	481,560	Ucayali	01-04-1997	RDR 00189-97-CTAR/DRA
Kugapakori-Nahua- Nanti	-	(443,887) (457,435) 456,672	Cusco/Ucayali	14-02-1990 13-12-2002 26-7-2003	RM 0046-90AG/DGRAAR Recomposición expediente administrativo DS 28-2003-AG
Isconahua	Isconahua (Pano)	275,665	Ucayali	11-06-1998	RDR 00201-98-CTARU/DRA-OAJ-T
Mashco-Piro	Mashco-Piro (Arawak)	768,848	Ucayali	01-04-1997	RDR 190-97-CTARU/DRA
Madre de Dios	-	829,941	Madre de Dios	22-04-2002	RM 0427-2002-AG
Total		2'812,686			

Source: IBC, 2006

D. Legislative and institutional structure affecting biological resources

D.1. Introduction

Numerous Peruvian legal dispositions (laws, regulations, administrative resolutions, policy guides, etc.) shape the body of rules and procedures that govern the management of natural resources, including tropical forest ecosystems. In our opinion Peru's legal framework pertaining to the conservation of natural resources adequately reflects and addresses the intrinsic complexities associated with reaching sustainable conservation goals. In other words, on its own, the legal and institutional framework that directly aims to regulate biological resources of high conservation priority is adequate. However, there is a lack of effective collaborative mechanisms between national, regional, and local institutions. Thus aiding the decentralization process currently under way in Peru is critical to achieving successful conservation. A second issue concerns the relationship between conservation-oriented government entities with other government agencies associated with more traditional extractive industries (i.e. mining and energy ministries). Conservation-oriented government agencies compete and need to negotiate with government sectors representing such industries that have more political power in the decision making process at the national level, which often results in the slowing down of ideal conservation mechanisms.

This chapter outlines legislation pertaining to Peru's natural resources in need of conservation (i.e. biological diversity and tropical forests) and its place within the boarder context of the Peruvian government. The chapter aims at explaining the legal framework and institutional scope of agencies involved in conservation as well as some of the opportunities and challenged faced by key stakeholders (e.g. the private sector, NGOs, market-based conservation industries, and marginalized populations).

D.2. General laws and institutions regarding environmental regulations in Peru

General legal framework

Under the Peruvian Constitution (Art. 66), all natural resources are the property of the State. Thus, the State owns all tropical forests and other associated so-called "renewable natural resources." Most of these are located on public lands.[1] Private sector utilization of state-owned natural resources on public lands is permitted through grants of time-limited concessions.[2] Six laws (and their respective provisions) constitute the primary legal bases for environmental compliance procedures and environmental management requirements and policies applicable in Peru. These six laws are listed below in Table D.1.

[1] If a person occupies public lands undisturbed for several years, and makes certain improvements thereon, that person may acquire ownership rights and may be entitled to obtain a title.

[2] Although not the focus of this discussion, natural resources on or under privately owned land are the property of the state; these may be the subject to private concession, but state ownership permits close regulation of use, as well as impose strict environmental management mandates.

Table D.1. Principal environmental laws governing Peru's natural resources

Title of Law	Name of Law	Date of Decree
Legislative Decree Nº 613	Environmental and Natural Resources Code (CMARN / ENR Code)	Sept 9, 1990 (amended several times from 1991 to 1998
Law Nº 26834	Natural Protected Areas Law (NPA Law)	July 4, 1997
Law Nº 27308	Forestry and Wildlife Law (Forestry Law)	July 16, 2000
Law Nº 27446	National System for Environmental Impact Evaluation Law- (SNEIA)	April 23, 2001
Law Nº 28245	National Environmental Management System Framework Law (SNGA)	June 8, 2004.[3]
Law Nº 28611	General Law of the Environment	October 15, 2005

Elaborated by the authors

Institutional structure

In Peru, the framework for environmental management has evolved for the last 15 years towards a complex institutional system (a detailed chronology of the most important highlights that took place can be found in Table M.2. of the appendix). This process created a series of institutions in charge of the administration and management of Peru's environmental resources. The following section explores the role and function of each one of these entities.

Sectorial Environmental Units within Ministries:

Environmental management and compliance with its legal framework are the responsibility of a great number of institutions within the public administration. The following Table D.2. lists 11 of the 15 public administration sectors that are coordinated by the Presidency of the Council of Ministers (PCM) and each of which have their own Sectorial Environmental Units (UAS) but with different levels of hierarchy, so that some are principal policy offices, others work within the principal policy management, and others are simply offices.

[3] Basically, the SNEIA and the SNGA laws provide greater specificity to and clarification of the ENR code of 1990, making the system more operational. Regulations have not yet been approved for the latter two laws. Until that occurs, regulations, policy directives and official guides adopted pursuant to the 1990 law continue to govern, subject to changes imposed by provisions of these subsequent laws.

Table D.2. Ministries and its sectorial environmental units (UAS)

Ministries *	Sectorial Environmental Units (UAS)
Production	National Direction of Environment and Fisheries
Energy and mines	Mining General Direction of Environmental affairs. Energy General Direction of Environmental affairs.
Agriculture	National Institute for Natural Resources
Transportation and communications	Direction of Social and Environmental affairs.
House, construction and cleaning	Environmental Office
International trade and tourism	Environmental and Sustainable Tourism Direction
Health	General Direction of Environmental Health
Education	Environmental Education Program
Foreign Affairs	General direction of Environment
Defense	Direction of Ports and Coastguards captainship
Internal Affairs	Direction of Tourism and Ecology

* Ministries without UAS: Labor and social assistance, Economy and Finance, Justice y Women and Social Development
Source: CONAM, 200

CONAM:

In addition to the environmental units within each ministry there is CONAM (the National Council for the Environment). CONAM was established as an autonomous organism within the Presidency of the Council of Ministers, and has the mandate to propose, coordinate, manage and evaluate the nation's environmental policy. The following are among its principal achievements (World Bank, 2006):

- Creation of the Structural Framework for Environmental Management (MEGA).
- Establishment of multi-sector regulations to set standards and limits of environmental quality.
- Promotion of legislative initiatives to form an inter-sector EIA system.
- Start-up of the National Environment Information System.
- Creation of the General Environment Law.
- Creation of the Regional Environment Commissions (CAR).

In spite of these achievements, CONAM, as a central environmental agency, has faced a great number of difficulties, including the lack of resources and personnel to tackle the country's complex environmental problems appropriately. Although it is a positive step to have Sectorial Environmental Units in place, carrying out multiple functions presents a conflict of interest, since the ministry in charge of promoting the activity is also responsible for guaranteeing that the environmental regulations are complied with (World Bank, 2006).

FONAM:

The National Environmental Fund (FONAM) was proposed in 1995 as a means to collect and fund-raise the necessary resources to finance the programs being developed under the environmental agenda determined with the creation of CONAM (Pulgar Vidal, 2006). Consequently FONAM was created in 1997 through Law Nº 26793, with the purpose to promote public and private investments in programs, projects and activities destined to improve environmental quality. FONAM has defined its areas of action around: (i) energy; (ii) transport; (iii) forestry, water and waste; and (iv) mining environmental legacies. The first two areas are directly linked to climate change issues, and the latter, via the Law for Environmental Legacies of Mining Activities (Nº 28271) assigns the mandate for fundraising and financing the remediation and rehabilitation of legacies to FONAM.

ONERN:

In 1962, the Congress established the National Office for the Assessment of Natural Resources (ONERN) through a supreme decree in order to systematically collect and analyze information and propose policies for the sustainable use of natural resources.[4] Thus, ONERN became the center for the administration and conservation of natural resources in Peru between 1962 and 1992.

In 1992 the ONERN was dissolved and in its place the National Institute for Natural Resources (INRENA) was created. However, the functions of INRENA did not include ONERN's role of collecting and analyzing information regarding the state of natural resources and their potential. In fact, this created a problem that currently continues to affect the management of natural resources since there is currently no institution that is in charge of a systematic evaluation of the state of natural resources. The gap in the availability of up-to-date statistics is evident in recent assessments and studies that continue to quote data produced during ONERN's tenure. This problem was also encountered during the course of investigation for this assessment, in particular when seeking updated deforestation rates, forest classifications, and current forest status. In our opinion, there is a need for an institution or sector that fulfills this role.

INRENA:

Since 1992, INRENA is the public authority in charge of carrying out and promoting the actions necessary for the sustainable use of renewable natural resources, the conservation of wild biological diversity, and the protection of the rural environmental, by focusing on the territorial ordering of basins and their integrated management; as well as establishing strategic alliances with all the social and economic actors involved. Its main responsibilities are:

- Management of public forests.
- Supervision of 60 natural protected areas.
- Audit the companies that export wild animals and those that breed them in captivity.
- Promote the sustainable management of soil and water resources.
- Control the illegal traffic of flora and fauna.
- Validate the evaluations of environmental impacts.

The enactment of the 1993 Constitution and the incorporation of the Chapter on Natural Resources also strengthened the regulatory framework for the conservation and management of natural resources. INRENA, as the environmental agency with the greatest resources, has made considerable progress in different fields. However, there are institutional limitations that still limit its performance (World Bank, 2006) and are discussed throughout this assessment.

Finally, the principal public agencies for environment and natural resources (CONAM and INRENA) continue to depend on public resources, which are complemented by international cooperation funds to cover their operating costs and their investments.

PROFONANPE:

The Peruvian Trust Fund for Protected Areas (PROFONANPE) was established as a private entity with the purpose of obtaining and promoting the continuous financing of conservation projects in protected areas. PROFONANPE was established with seed funds (US$ 5.2 million) from the Global Environment Facility (GEF). Since its inception PROFONANPE's endowment fund has increased to US$ 10 million. PROFONANPE has also:

[4] The mandate of this office was to centralize the evaluation of natural resources and to develop basic documents to inform on the economic and social development plan and its sectorial programs, as well as to guide structural reforms.

- Administered a number of projects with foreign donations (i.e. GEF-Participatory Management of Protected Areas Project).
- Provided procurement management services for projects implemented by INRENA (i.e. GEF Indigenous Management of Protected Areas Project, the Natural Protected Areas Project by the KfW).
- Coordinated bi-lateral nature swaps (i.e. governments of Finland, Germany, Canada and the EU).

The resources for protected areas come from a number of donations and nature swaps primarily from the GEF, the governments of Canada, Finland, Germany (GTZ and KfW), Holland, and the United States. In addition, grants from the McArthur and Moore Foundations, and international NGOs (CI, TNC, WWF) have also been managed by PROFONANPE.

Current State of Environmental Laws

The General Law of the Environment (LGA) (Law Nº 28611) approved in October, 2005 builds on the consensus reached by different sectors (i.e. civil society, the private sector, etc.) and the ratification of International Convention by the Peruvian government (ratifications concerning International Conventions are listed in Annex M.3.). The LGA which to an extent replaces the Environmental and Natural Resource Code (CMARN), strengthens the trans-sectorial coordination and regional approach to environmental management. Yet it also incorporates a series of new characteristics and challenges and, to a large extent, depends on CONAM's capacity for its final regulation and adequate implementation.

The Law consolidates CONAM as the leading entity of the National System of Environmental Management (SNGA). The SNGA Law assigns environmental control functions and the administration of the system to CONAM. The LGA opens the possibility to establish environmental priorities at the national and regional level. A review of the history of environmental management in Peru reveals little consideration towards priorities across environmental sectors (Pulgar, 2006, CONAM, 2005). Although plans do exist for key areas within the environment sector (such as forestry, water, natural protected areas), no systematic periodic planning exists to establish priorities across environmental programs and sub-sectors such as air pollution, disaster risk management, and water sanitation. This gap has been highlighted in evaluations of planning in the SNGA (Pulgar, 2006).

Among the new features the LGA includes a fiscal framework to promote sound and responsible environmental practices and behaviors. Likewise it establishes CONAM as the leading administrator in the Environmental Impact Assessment (EIA) process, ensuring a more active role and participation, thus decreasing the sectorial role in the EIA process. Furthermore, there are clearer responsibilities with regards to environmental emergencies and the establishment of transitory environmental quality norms of special character in critical environmental areas. This would allow CONAM to have presence and mandate in addressing specific environmental problems, in which previously CONAM did not get involved (e.g. air pollution in La Oroya, noise levels in Iquitos, water pollution of key watersheds such as the Rimac river).

Some of the key challenges include strengthening the role of CONAM in its new role in the enforcement process, and the establishment of an autonomous enforcement agency. However, there are a number of pending issues concerning the General Law of the Environment and its regulations, such as: (a) the overall definition of key responsibilities among government agencies (including MEF); (b) harmonizing the system of incentives and sanctions (fines); (c)

defining the methodologies and scope for environmental zoning; (d) defining environmental spending; and, (e) empowering CONAM with enforcement capabilities.

D.3. Descentralization process

Critical to the development and functioning of government agencies in charge of environmental issues has been the process of decentralization. In Latin America, the initiative for decentralization has come about more as a result of institutional crises or pressures for power rather than because of any political will to find mechanisms that will help improve citizens' wellbeing. As a result, decentralization processes are dissimilar. Some countries decided to strengthen state and municipal instances; others preferred to strengthen regional institutions while others opted for local-municipal decentralization. In all these cases, decentralization includes the political, administrative, and fiscal components (PNUD 2006). Peru is one of the last countries in the region to have implemented a decentralization process. For example, until 2002 the National Government centralized 97% of all fiscal revenue and in that same year the first regional elections were held despite the fact that the 1993 Constitution had established decentralization.

The first public institution assigned with decentralization activities and that promoted a local participatory process is CONAM. As the leading environmental institution, its role and presence in all regions of Peru is critical since it works directly with regional and local governments in their environmental management plans. Therefore, CONAM established the Regional Environment Commissions (CAR) to coordinate and reach consensus on regional environmental management and policies. This process included both the local public and private stakeholders. As of 2004 CONAM began working with local governments represented by the Municipal Environment Commissions (CAM). Table D.3. shows the results of CONAM and the decentralization of environmental management processes taken by 2006.

Table D.3. Number of initiatives during environmental management & decentralization processes

	Nº
Number of regional environmental commissions	27
Number of regional environmental plans approved	25
Number of regional environmental agendas approved	25
Number of regional environmental policies approved	20
Number of regional environmental management systems approved	21
Number of local environmental management systems approved	12

Source: CONAM, 2006

Decentralization in Peru is being implemented progressively according to a preparatory period and four implementation stages wer laid out in the Fundamental or Organic Law of Decentralization (LOD):

- First stage (preparatory period): June through December 2002, with the debate and approval of the legal and institutional framework for decentralization. Installation of regional and local governments with transfer of programs and social projects.
- Second stage: Failed attempt to make up viable aggregate regions (macro-regions) through a referendum on October 30, 2005.
- Third stage: As of 2003, transfer of responsibilities in sectors other than health and education (PRONAA, FONCODES and INADE) with prior accreditation by the national government.

- Fourth stage: The transfer of education and health responsibilities has no clear schedule.

During the process of decentralization, the second election of regional presidents and counselors was held at the same time as elections for mayors and councilmen (November 2006), and the results favored the regional movements, which took the greatest number of regional presidencies. For example, there has been a greater proportion of regional movements winning the regional presidencies for the period 2007-2011, compared to that of the previous term (2002-2007) when the political parties garnered the greatest number of regional presidencies. This indicates that during the last election, representatives elected for regional governments stemmed from regional movements and not from political parties (whose agendas tend to focus on broader national issues) as in previous elections.

This change in scenario means that the current regional presidents have begun their administrations with new requirements such as developing and presenting to civil society and mass media their government plan during their campaign. [5] These presidents were also the first to coordinate the transfer process with the previous regional presidents, and also had the opportunity to see the successes and errors of their predecessors. In their government plans, all have proposals for economic development and positions in favor of support of private investment.

Within this new scenario, regional presidents are choosing to organize themselves in groups, and an example is the inter-regional coordination board of the North and East (Tumbes, Piura, Lambayeque, Cajamarca and San Martin; with the integration of La Libertad and Ancash under consideration). Similar steps are being taken by the regional governments of Amazonia (San Martin, Amazonas, Loreto, Ucayali and Madre de Dios) and the group of regional governments (GR) in the south (Cusco, Arequipa, Apurimac, Puno, Moquegua and Tacna). This shows that a new types of negotiations with the central government are occurring (by groups).

The decentralization process is fostering each region's own dynamics and has created in departments, provinces and districts irreversible forces that are favorable. It also creates a need for the Regional Governments (GR) to work in coordination with the provincial and district governments.

In October 2006, the President of the Republic announced 20 measures directed at deepening the decentralization process, including those covering the administration and control of forests and the territorial ordering and management of biological resources (see Box D.1.).

[5] Modification incorporated in the law of political parties by means of Law nº 28711.

Box D.1. GOP has engaged in a decentralization process which affects the management of natural resources

The following indicates the progress made in implementing the presidential measures to boost the decentralization process:

Measure	Progress
1.- Transfer to regional governments of 185 sector responsibilities established by the Fundamental Law of Regional Governments, with their human resources, budget and material resources (to conclude December 31, 2007).	Amendment of the Transfer Plan 2006, including the transfer of 7 functions of the Ministry of Agriculture (MINAG). Delegation of INRENA responsibilities to the Regional Government of San Martin.
11.- Delivery on July 28, 2007 of the artisanal fishing docks and fish-farming centers to the regional governments, and fisheries sales modules to the local governments.	Amendment to Plan 2006, including the transfer of 26 artisanal fishing docks and 21 fish-farming centers to the regional governments and 7 fisheries sales modules.
15.- Design of a new National Regionalization Plan, in order to start-up at least one pilot region in 2007.	The National Decentralization Commission expected to prepare a Plan in the first quarter of 2007.
16.- Democratization of the Inter-regional Coordination Boards.	In September, the Executive sent to Congress a bill that incorporates the provincial mayors to the Boards. The project has been approved by the Decentralization Commission and is awaiting debate in the full session of Congress.

Source: PRODES, 2007 in www.prodes.org.pe

D.4. Environmental management process of implementation

Systematic Environmental Management Procedures

The provisions of SNGA add another dimension to environmental procedures established under the National System of Environmental Impact Studies (SNEIA). It permits and facilitates voluntary procedural compliance within a broader and more participatory environmental management context. The approach goes beyond formal procedural compliance and enforcement by promoting integration of sustainable environmental management strategies into the business plans of enterprises and into local government territorial planning and management by governmental bodies, including local (municipal) governments.

Although not a substitute for command and control mechanisms, the SNGA seeks to reduce the enforcement burden by internalizing systematic sustainable environmental management into business management and investment strategies of enterprises (and thereby improving profitability), and into territorial management and investment strategies of government entities. SNGA environmental management applications are not mandatory.[6] However, such applications often are more cost-effective than are command and control alternatives because they integrate compliance procedures into programs. In this respect, SNGA is especially attractive as a mechanism for local governments and others to develop and implement mitigation measures responsive to larger scale cumulative and synergistic indirect impacts.

To facilitate achievement of this goal, municipalities are authorized to establish, by ordnance, Municipal Environmental Commissions (CAM), that specify their scope, functions and membership consistent with the law. Local governments are authorized to enter into

[6] Enterprises are motivated to adopt environmentally-friendly technologies and make environmentally-friendly investments when it is the least-costly means for achieving environmental compliance.

agreements with public and private sector organizations specialized in environmental matters to train neighborhood organizations to defend and protect environmental assets and natural resources.

Additionally, SNGA places special emphasis on generating and disseminating environmental information, as well as on environmental education at all levels. Such initiatives are prerequisites to establishing a culture of environmental awareness and understanding, and to generating public demand and peer group pressures for effective environmental management.

Environmental Procedures under SNEIA

SNEIA establishes comprehensive procedures for ensuring compliance with specified environmental management standards and criteria. No public or private sector investment projects or activities involving actions, construction of works that may cause negative environmental impacts may be initiated without an "environmental certification."[7]

A "competent authority" (i.e., sector oversight and approval authority) must issue the environmental certification based on approval of the Environmental Impact Evaluation (EIA) that varies depending on the categorization of the activity. Competent authorities are designated units within the various sector ministries (sector environmental authority).[8] Required documentation must be prepared on behalf of (and at the expense of) the originator or proponent of the activity by a specialist firm registered with the sector's environmental authority. Additionally the environmental sector authority establishes guidelines for the preparation of the documentation required for categorizing activities within the sector.

All investment activities must be classified into one of three categories, based on specified criteria for each. Requirements for obtaining environmental certification (a pre-requisite for initiation) are different for each category.

- *Category I*: Activities will not have significant negative environmental impacts. An Environmental Impact Declaration (DIA) recommending classification as Category I must be prepared on behalf of the proponent by a specialist registered with the sector authority that has jurisdiction. The DIA is submitted to the sector authority for approval. This approval constitutes environmental certification.

- *Category II*: Activities may have moderate negative environmental impacts that can be avoided or minimized through the adoption of "easily applied" mitigation measures. In such cases, the DIA will include a recommendation for a Category II classification, along with proposed terms of reference (TOR) for carrying out a Semi-Detailed Environmental Impact Study (EIA-sd). DIA approval authorizes the proponent to contract a registered firm to carry out the EIA-sd in accordance with the TOR. Subsequent approval of the EIA-sd by the sector authority constitutes environmental certification.

- *Category III:* Activities are those with characteristics, magnitude and/or location that may have significant negative quantitative or qualitative environmental impacts. Such activities require a Detailed Environmental Impact Study (EIA-d) entailing an in-depth analysis to assess impacts and propose a corresponding environmental management strategy.

[7] See SNEIA, articles 2 and 3.
[8] The Ministry of Agriculture has designated (INRENA) as the competent authority for that sector (see DS Nº 002-2003-ag, January 15, 2003). The sector approach to environmental compliance and oversight at times leads to confusion and overlap regarding which sector authority is competent for a particular activity or class of actions. Procedures are being developed by national council for the environment (CONAM) and sector authorities to manage these situations.

Subsequent procedures are the same as for activities in Category II. However, the TOR must reflect the more detailed and in-depth analysis requirements to assess impacts and design the environmental management strategy, mitigation measures, and monitoring plan. Approval of the EIA-d by the sector authority constitutes the environmental certification.

In all cases, the sector authority may reject the application for classification or the subsequent EIA, may request additional information, and/or request the inclusion of additional mitigation measures, prior to approval. Or may approve but subject to compliance with specified conditions. Each sector's authority maintains a register of firms and specialists that have been licensed to prepare DIAs/EIAs. Each sector also has issued guidelines for the preparation of these documents.

The SNEIA authorizes the sector authority to establish mechanisms for classification of "common" activities into a class of actions assigned to a particular category and the preparation of standard or "common" terms of reference to be used for completing the activity-level EIA. This "strategic sector environmental impact study" (our designation and hereafter referred to as SSEIA) is appropriate for numerous activities that are sufficiently similar to be included within a single class of actions within the jurisdiction primarily of one sector authority.

INRENA has established such mechanisms for forest concessions as specified in the Forestry Law.[9] INRENA determined that all forest concessions awarded under the Forestry Law are Category II activities and require an EIA-sd. Further, the EIA-sd will be included as an integral part of the forest concession's management plan,[10] and will follow the format and guidelines included in the standard TOR for forest management plans approved by INRENA.[11]

Although not yet fully incorporated into the national environmental impact evaluation system, CONAM is facilitating the use of the so-called Multi-Project Strategic Environmental Impact Assessment (MSEIA) approach. This approach permits one assessment exercise to categorize and develop a comprehensive environmental management plan, the application of which satisfies environmental procedures requirements for a number of on-going and future activities that are encompassed by multiple classes of actions and whose potential impacts may transcend sectors.

Sustainable management of critical habitats and high biodiversity areas

Peru has been establishing national parks and other protected areas since 1961, when the first national park was established. Since then, 60 national parks, reserves, sanctuaries, communal reserves, hunting preserves, and other categories of protected areas were established through various legal dispositions.

The National Protected Areas Law (NPA Law) provides uniform procedures for Protected Areas (PA) under the National System of Natural Protected Areas (SINANPE). PAs are established expressly for purposes of conserving and protecting endangered species, critical wildlife habitats, biodiversity, and ecosystems, encompassing areas co-extensive with and/or associated with tropical forests, as well as other natural areas traditionally occupied or used by native communities or that contain significant archeological or cultural sites.

[9] Article 15.1 of the forestry law.
[10] See Resolución Jefatural Nº 109-2003-INRENA, dated January 15, 2003.
[11] Ibid, arts. 1-4 and accompanying documents.

The NPA Law, along with derivative legal provisions and policies, establishes the rules for preparing and approving the master management plans for each protected area, including the establishment and management of surrounding buffer zones, as well as conditions and plans for public and/or private use and enjoyment of renewable natural resources within protected areas.

A number of PAs and corresponding buffer zones are included in the USAID/Peru focus regions, covering considerable areas of tropical forests and associated ecosystems. Major USAID funding is being invested in activities that assist in consolidating and effectively managing selected PAs and surrounding buffer zones. This support aims at maintaining these areas' environmental integrity and also to improve the living conditions of families located therein. In addition to being subject to the provisions of the PA and Forestry laws, activities related to protected areas and buffer zones are also subject to the environmental procedures and management provisions of the SNEIA and the SNGA, discussed below. In addition, the PA Law authorizes the establishment of management committees for each PA. These committees are to serve as vehicles for facilitating local stakeholder participation in the management of the PA and surrounding buffer zones, and for assisting in local conflict resolution.

Sustainable Management of Tropical Forests

The Forestry Law regulates conservation, protection, management and use of tropical forests. Under specified conditions, long term (up to 40 years) renewable concessions are granted for timber harvesting from tropical forest areas designated as permanent production forests. [12] These are subject to compliance with general environmental procedures, as well as with a number of specific environmental management requirements and policies.

In the case of permanent production forests, as well as for other classifications of tropical forests, concessions also may be granted for non-timber uses (such as eco-tourism, conservation, harvest of other non-timber products, etc.). These are subject to compliance with both general and specific environmental management and sustainable use requirements. [13]

Operations of production forest concessionaires must comply with an approved general forest management plan that is required to include environmental management considerations. An annual operating plan that incorporates specific environmental management considerations also must be prepared and approved prior to initiating each annual timber harvest cycle. These plans must incorporate harvesting and maintenance technologies that assure sustainable productive use over the full period of the concession, and that leave the natural resource base at the end of the concession at least as intact as it was when the concession was granted.

The Forestry Law also provides for the establishment of Forest Management Committees (CMF) in tropical forest areas where concessions have been granted. These are intended to represent the interests of all stakeholders (including the general citizenry) within a naturally inter-connected geographic area (e.g. a watershed). Their purpose is to facilitate local stakeholder participation in managing and ensuring compliance with the provisions of the Forestry Law and with other environmental requirements, and to assist in resolving related local conflicts.

[12] Which in view of their characteristics have been classified as such by INRENA, the responsible entity.

[13] General environmental procedures are based on the SNEIA law. In addition to environmental compliance procedures, Peru has been applying environmental management standards and procedures over the past decade. The new SNEIA law is expected to facilitate the incorporation of procedural requirements of the SNEIA law within systematic environmental management plans integrated into enterprise business management plans and into national, regional and local government territorial management planning.

D.5. Indigenous people: Legal and institutional framework

The human, customary and collective rights of the Indigenous Communities are recognized in national legislation (Political Constitution of Peru, Civil Code, Law Nº 24656 of Peasant Communities, Law Nº 22175 of Indigenous Communities, Legislative Resolution Nº 26253 that ratifies Agreement Nº 169 of the OIT, among others) and international instruments (Agenda 21, Río Declaration 1992, Convention on Biological Diversity, Project of United Nations Declaration on the Rights of Indigenous Peoples, Accords of the United Nations Forum on Forests, among others); all of which require the development of legislation to guarantee that they are effectively applied.

Indigenous organizations believe that communal rights should not only be effectively put into practice but that the indigenous people should be able to recover legal rank that is due to them as communities and, consequently, recover their full legal status. Additionally, indigenous communities possess historical rights that pre-exist the State. These historical rights share the same legal status as personal human rights, and they are preserved for as long as they exist as such, and consequently the rights of indigenous communities are ancient but cannot be outdated nor can they legally be abolished (http://www.caaap.org.pe/down/territorios.pdf).

Before the Agrarian Reform in the 1970s, indigenous communities on the coast and in the Andean highlands operated as indigenous communities, and became peasant or farming communities after the reform and continue as such today. In contrast, Amazonian communities were impelled to become nuclear organizations called “native” communities, in order to fit into the legislation of the time. Later, in 1978, the Indigenous Communities Law and the agrarian development of the low and high montane forest was approved. It was not until 1993 that the Peruvian State approved the Convention 169 of the International Labor Organization (OIT).

The Law governing private investment in developing businesses on national, peasant and indigenous lands (1995) was approved by the State prior to the Law on land titles for coastal peasant communities (1996) and the Law protecting indigenous or native peoples in isolation or in situations of initial contact (2006). There is an obvious contradiction between the promotion of private investment and the granting of property rights to peasant and indigenous communities.

However, it is important to note that in the 1990s indigenous communities obtained representation in the Commission for Indigenous Affairs in the Peruvian Congress, and the Ministry for Women and Human Development (PROMUDEH) issued a directive on the need to respect ethnic and cultural identity of indigenous peoples and peasant communities (both in 1999). As a result, the indigenous issue became more visible to the Peruvian government.

Starting in 2000, the native and peasant issue began to acquire greater prominence in the legal, institutional and political fields of the country. For example, the Presidency of the Council of Ministers (PCM) approved a multi-sector Commission for native communities (2001), and the national Commission for Andean and Amazonian communities (2001). Additionally, the National Superintendency of Public Registries (SUNARP) approved procedures to register management councils of native communities (2002). A multi-sector Commission was established to study the difficulties of titling, demarcation of borders and registration of native and peasant communities (2002), and a task Commission was set up to evaluate problems of territory, national defense, and legal aspects arising between the Peruvian Navy and the different indigenous communities in Amazonia. As a result, the indigenous and peasant communities began obtaining registration in the Public Registries and the difficulties associated with territorial rights acquired greater relevance within the national political system.

Regarding the management of natural resources, in 2005 the Ministry of Agriculture recognized native communities' ancestral and traditional rights of possession, use, and enjoyment of the benefits linked to the use of natural resources. In 2006 it approved the terms of reference to formulate forestry management plans in forests owned by indigenous and/or peasant communities for the purpose of commercial development at a low, medium and high scale, including the use of communal forests under the current forestry laws.

With regard to indigenous communities, biodiversity and collective traditional knowledge, a Law was enacted in 2002 that establishes a protection regime for the collective traditions of the indigenous peoples linked to biological resources (2004); also, a Law and its regulations were enacted to protect access to Peruvian biological diversity and to the indigenous peoples' collective traditions (2006).

As to Amazon and Andean people's national institutionalism, it should be noted that the National Commission of Andean and Amazon Peoples (CONAPA) created in 2001, set the basis for the current National Institute of Andean, Amazon, and Afro-Peruvian Peoples (INDEPA, 2005). The budget was assigned from the public treasury and from international cooperation projects. Also, the Commission to review the legislation regarding peasant and native communities (2004) was set up, and the National Elections Authority (JNE) approved registration rules for members of indigenous communities to run as candidates for regional and municipal positions in the 2006 elections. At a regional level, the San Martin Government created the Regional Development Office for indigenous peoples in 2006.

Meanwhile, constitutional reform is being debated to amend the current Constitution in order to ratify international commitments taken on by Peru such as the OITs Agreement 169 and the use of natural resources. Peasant and indigenous groups expect that their ownership of natural resources existing in their ancestral lands is recognized, which contradicts the current Constitution that claims that natural resources belong to the nation and cannot be considered as private property. Also, all sectorial laws (Water Law, Mining Law, Forest and Wild Fauna Law, Natural protected areas Law, etc.), as well as the General Environment Law, have the same focus. It must be noted that the State recognizes peasant and indigenous communities' right to exploit, free of charge and without much procedure, the existing resources in their communities' lands, but as stated earlier, no ownership of these resources is recognized.

However, legislation in this regard needs to be improved because confusion still remains among the stakeholders. This has been caused because laws have been approved at different times responding to different principles and frameworks (even different constitutional frameworks), causing duplicity, contradictions, and legal gaps. For example, the first law of indigenous communities and agricultural promotion, enacted in 1974 (law nº 20653), recognizes the ownership of forests by the indigenous communities, yet this is done in contradiction to the constitution of the time, which said that forest lands were property of the nation. As a result, there is a need to match the environmental and natural resources legislation to the recognized and established rights of peasant and indigenous communities. Finally, it should be noted that under the 1993 Constitution, community lands are no longer considered as inalienable or non-seizable.

A positive aspect of Law nº 20653 (although ineffective) regarding communities and natural resources is the recognition of the communities' preferential right to participate in the benefits generated by these economic activities. Unfortunately this right is hindered by the social and economic reality of indigenous people who are often unfamiliar or marginally involved in market-

based enterprises. Another positive aspect in the legislation (although it also is not respected) is that the communities must be previously consulted before any license or other rights can be granted to any individual or company. Once more, this right is hindered by weaknesses in the political effectiveness of indigenous organizations. However, indigenous people are increasingly becoming active participants in the country's political agendas, and have indeed won battles concerning their rights to ancestral lands (e.g. the establishment of the Communal Amarakaire Reserve in Madre de Dios). Slowly but surely a series of government and NGO organizations have been formed to aid in the development of effective political platforms that represent indigenous rights but more work and support is needed to avoid conflicts.

Institutionally, the National Institute of Andean, Amazon, and Afro-Peruvian People (INDEPA) is the organism governing and in charge of setting out and supervising the fulfillment of national policies, as well as of coordinating with the Regional Governments the execution of projects and programs aimed at promotion, defense, research, and protection of rights.

INDEPA is a public, decentralized, multi-sector institution working at a ministerial level. Its major functions are:

- To formulate and approve the policy, programs, and nationwide projects focused on the comprehensive development of Andean, Amazon, and Afro-Peruvian peoples.
- To plan, program, and coordinate activities with both Regional and Local Governments.
- To coordinate with the Regional Governments the execution of region-wide programs and projects.
- To study the uses and traditions of the Andean, Amazon, and Afro-Peruvian peoples to justify rights to seek formal recognition.
- To coordinate with the Special Land Title Deed Granting and Rural Cadastre Project in order to complete the legal physical territorial reorganization process for Andean, Amazon, and Afro-Peruvian peoples.

According to the Instituto del Bien Común (2006), there are currently around 50 federations that have been gradually demarcated and defined according to their geographical areas. As a result of this process, federations made up by one or more indigenous ethnic groups have been founded. These federations are affiliated to two national organizations: The Inter-Ethnic Peruvian Jungle Development Association (AIDESEP), and the Confederation of Peruvian Amazon Nationalities (CONAP). AIDESEP has six regional organizations, ARPI, CORPI, FENAMAD, ORAI, ORPIAM, and ORAU, that coordinate the federations' organizational work at a regional level. The INDEPA peasant communities do not have any groups whatsoever.

D. 6. Gender legal framework

Poverty has the face of rural woman since women make up 49.2% of the population, and rural women's illiteracy rate is 37.4%. Also, 20% of rural women are agricultural producers, but only 4.7% of them hold registered property titles to their land. In fact it is very probable that the number of women producers is greater, since research and statistics are scarce and there tends to be less women registered and 52% of rural women are considered as unpaid family workers. Also, Peru records a high infant mortality rate in rural areas: 448 deaths per 100,000 live births, which is higher than the national average of 185 deaths per 100,000 live births.

In Peru, progress towards generating a demand for women's rights and social equity was institutionalized when in 1996, the Ministry of Women and Human Development (PROMUDEH)

was created. This was in response to the global women's movement encouraged by the Beijing conference in 1995, during which the then President Fujimori announced the creation of the Ministry.

The Government of Peru, through PROMUDEH, enacted the Equal Opportunity Plan for Women and Men 2000-2005 (PIO) (D.S. Nº 001-2000-PROMUDEH), which consider "actions in different sectors to mobilize efforts and resources in order to overcome obstacles that prevent the full participation of women in equal conditions to men." While the first PIO was still in effect, the process began for the current Plan, which came into effect in January 2006 and which incorporates new processes for State reform, regionalization, the National Plan and the National Poverty Eradication Plan. It is important to note that the current PIO does not include environmental issues.

Since 2002, PROMUDEH changed its name to the Ministry of Women and Development (MIMDES). MIMDES is the governing organ on gender issues in Peru. It is also in charge of designing, proposing and executing social and human development policies, promoting gender equity and equal opportunities for women, children, third age citizens, and populations in situations of poverty and extreme poverty. MIMDES is in charge of different services including nutrition, abandoned children, and day care centers (PRONAA, INABIF, PAR, WAWA WASI); programs that could distract from achieving its real objective, which is promoting changes in women's position in society.

The Ministry of Agriculture has an Intra-sector Commission for the Follow-Up and Evaluation of the National Plan for Equal Opportunities between Women and Men 2000-2005. The role of this Commission is focused on consolidating the information related to incorporating the gender focus into the Ministry's different programs and projects by coordinating activities with MIMDE#S. The commission is also in charge of make sure those international agreements on gender initiatives are appropriately complied with.

In addition to the institutions mentioned above, there is also the Specialized Ombudsman for Women's Rights and the Congressional Commission of Women and Social Development. The Specialized Ombudsman for Women's Rights is part of the Public Ombudsman office and is in charge of contributing towards the eradication of state administrative acts that show discrimination against women. To carry out its tasks it investigates complaints and reports against any public institution that fails to comply with its functions and causes harm to women's rights. The Congressional Commission of Women and Social Development created in 1995 has the right to propose and approve bills regarding women's rights, as well as initiate debates on policies for women in the Legislature.

D.7. Nongovernmental organizations

Non-government organizations (NGOs) have played a historically important role in the development of SINANPE. Annex M.4. provides a list of the main national and international NGO´s with direct intervention in the NPA´s. Besides channeling national and international financial resources, they have contributed with technical expertise in the field and offered strong institutional support. In general, NGOs contribute to conservation in Peru in the following ways:

- Supporting the management of the NPAs and SINANPE, mainly in technical and financial aspects, and in carrying out the management of its projects in coordination with national authorities.
- Strengthening SINANPE's image and the relationship with the local population, through the distribution of information and providing guidance to the projects executed in the NPAs.
- Supporting the improvement of SINANPE's legislation framework.
- Supporting the design and development of SINANPE's financial instruments, such as in the case of PROFONANPE.
- Supporting the design and development of long-term planning instruments of the NPAs, such as the Directive Plan
- Take on responsibility, at the request of the national or regional authority, in the management of the NPA.

Not all the NGO´s work directly with NPAs. The National Society for the Environment (SNA) includes more than 50 civil society organizations working on environmental issues. Within SNA these civil society organizations are classified into three categories: (1) nongovernmental organizations (NGOs) including large nationally-based organizations with presence in at least two of Peru's three regions; (2) regional networks formed by NGOs acting within a specific geographical area; and (3) national networks, including organizations regrouped by specific areas of intervention such as radio programs and equipment, environmental education, sustainable urban development, water, forestry, and sustainable agriculture.

Another example is the Peruvian Environmental Network formed by 38 NGOs working on environmental issues across the country. These networks have played an important role in the dissemination of "good practices" in environmental management and in the creation of spaces for discussion, learning, and designing proposals on specific issues of environmental management. Examples of these discussion platforms are: the National Commission of Biological Diversity (CONADIB), the Discussion Group on Hydrocarbons and Natural Protected Areas, and the Management Committees of Natural Protected Areas. The leading national and international NGOs involved in forestry and biodiversity conservation are the WWF, CI, AIDER, and PRONATURALEZA, while the NGOs with important work in gender issues are Flora Tristán, Manuela Ramos and AIDER.

D.8. Private sector

The participation of the private sector in issues concerning biological diversity and tropical forests is scarce, and appropriate legal and institutional frameworks designed to regulate or foster their involvement are practically non-existent. Nevertheless, those businesses involved in conservation are optimistic and are often readily willing to adjust their operations according to new regulations that emerge concerning NPAs. For example, companies involved in ecotourism, forest product certification projects (timber and non-timber), breeding centers, or private donors have participated and collaborate with NPAs and SINANPE. Their involvement includes:

- Participation in the planning processes of the NPAs and SINANPE.
- Support the management of the NPAs and implementing better environmental options to develop their activities within the NPAs or when activities could affect them.
- Where possible, providing technical and financial support to strengthening the management of the NPAs.

In the private sector realm there is a continuum in terms of levels of commitment to conservation within their operations. In some industries such as ecotourism, certification programs, breeding centers for endangered species, and private foundations their primary mission is articulated in terms of conservation goals. That is, although they are for-profit enterprises their operations also aim to produce environmental and social benefits. Others, such a more traditional timber industries are incorporating conservation objectives in more indirect ways such as instituting educational programs, highlighting their conservation commitment in their marketing (even if their actual guidelines to achieve these goals are not fully developed), or planning new strategies that will allow their enterprise to take advantage of emerging conservation markets or the newfound environmental awareness of their consumers.

In other sectors such as bioprospecting, the legal framework and funds required for a fair process of identifying and commercializing products is costly and complex given that interests are represented by stakeholders at international, national, and local levels. In addition there are challenges associated with dealing with issues of compensation for traditional knowledge in indigenous populations who are generally targeted for these projects. In Peru, government organizations overseen intellectual property rights, such as the National Institute for the Defense of Competition and Intellectual Property (INDECOPI), are currently creating a databases and search mechanism to monitor bioprospecting activities in the country and abroad.

Conservation opportunities developed through the collaboration with the private sector are ample in Peru, but have been underdeveloped for a variety of reasons. During interviews and workshops carried out for this assessment representatives of the private sector articulated the need for economic incentives from the government to carry out these enterprises. Since market-based conservation enterprises take longer than normal business to reach profitability (due to the need for research, capacity building, and monitoring) these projects are forced to seek funds from conservation NGOs or private foundations. Other problems faced by market-based conservation enterprises are transporting products and finding markets, both nationally and internationally, that are willing to choose and pay for the environmental benefits of their product. Once more, in some cases such as ecotourism and forest certification there are organizations and market trends that facilitate this process. The success of these projects indicates that there is a wealth of opportunities that should be further encouraged by the government. The following examples detail the types of enterprises involved in conservation and their experiences.

Ecotourism

Given its profitability and growing status as a prime ecotourism destination, ecotourism represents the most successful of market-based conservation strategies in Peru. Two pioneers in ecotourism have been Inkaterra and Rainforest Expeditions, both Peruvian enterprises. These companies offer tourism packages with explicit ecotourism goals in mind. That is, success and mission is not only measured in profitability but also in their ability to provide environmental and social benefits as well as contribute to environmental education. Both enterprises are active participants in decision-making processes regarding the natural areas in which they work in. Inkaterra is involved in the Management Committees of the Santuario Histórico Machu Picchu (Inkaterra) and Rainforest Expeditions with the Bahuaja-Sonene National Park and the Tambopata Reserved Zone. The case of Inkaterra and Rainforest

Expeditions merit further detail since they both began operation with different conservation targets in mind.

Inkaterra began with a focus on orchid conservation based in the Historic Sanctuary of Macchupichu in addition to an Orchid Garden (within their premises) that works as a center for procreation and protection of endemic orchids. Currently the Orchid Garden is the largest exhibition of native orchids open to the public.

Located along the Tambopata River next to the Tambopata Reserved Zone, Rainforest Expeditions represent a case of ecotourism that explicitly involved local participation. In this case, the Posada Amazonas Lodge is part of a joint-venture with the Ese eja indigenous community of Infierno. The agreement between the private ecotourism company and the native community is complex and much has been written about this case (i.e. Stronza 2000). The project is hailed, nationally and internationally, as a successful ecotourism enterprise both in terms of the product given as well as the intricate arrangement between the company and the community. Profits from the lodge are divided 60% to the community and 40% to the company. Operations, administrations, and logistics are negotiated and implement equally between parties. And after 20 years the community has the option to continue working with Rainforest Expeditions or take over lodge operations and marketing on their own. In addition, this project has invested much money and time in the capacity building of community staff and now counts with bilingual guides and a staff well-trained in hospitality.

Timber Certification

The timber company Venao S.R.L. obtained certification by the Forest Stewardship Council (FSC) in 2007, the first Peruvian company with certification. This company is associated with two native Ashaninka communities (Sawawo Hito 40 y Nueva Azuaya) who own the land. Located in the province of Atalaya in the Ucayali region, the Sawawo Hito community has 35,273 certified hectares; and the Nueva Azuaya community has certified 47,580 hectares. In addition to dividing profits among each parties, each party has a specific set of responsibilities. The Venao company has agreed to implement a sustainable management plan, aid in the transformation of natural products (value added), and deal with the commercialization and placement of products. The native communities are in charge of monitoring and supervising (with the help of a professional team of foresters) the sustainable management of the timber operation. This arrangement has proved beneficial to both parties and for this reason the Venao company is currently working towards incorporating new lands and obtaining certification in cooperation with the native communities of Santa Rosa, Nueva Victoria, El Dorado y Flor de Shengari.

Non-Timber Forest Products

The key representative of market-based conservation regarding non-timber forest products is the case of Brazil Nuts or Amazonian Nuts harvested in the Madre de Dios Department. This economic activity is one of the traditional industries in the region arose after the collapse of the second rubber boom in the late 1940's. Currently 25% of the region's population (about 20,000 people) is directly or indirectly involved in the harvest of these nuts. Among the most salient examples of projects are: Candela Peru, an NGO, who obtained certification in 2001; the Asociación de Recolectores de Nuez Amazónica del Perú (RONAP) who obtained certification in 2004; and the Association of Brazil nut harvesters from the Tambopata Reserved Zone certified by the FSC and the Organic Alliance Fast Trade since 2005.

Breeding Centers for Endangered Species

Today there are a couple of examples of breeding programs established for the purpose of increasing the population of key endangered species. In general, private companies who have established foundations with an explicit conservation focus fund these programs. The most visible example is the Fundación Backus, a foundation established by a consortium of beer companies (i.e. Unión Cervecerías Peruanas Backus y Jonson S.A.A. Compañía Cervecera del Sur S.A. y Cervecería San Juan S.A.A). Since 1995 the Backus Foundation has been working with the Asociación Cracidae Perú (Zoocriadero Bárbara d'Achille, Lambayeque) in the development of a conservacion plan for the Pava Aliblanca (*Penelope albipennis*) an endangered native bird species. Their goals include a breeding program to increase current populations, documentation of the bird's biology, cultural significance, and touristic potential at the national and international level. After 12 years in operation the project has been successful in its breeding and has released individuals into its native habitat in Área de Conservación Privada Chaparrí (a private protected natural area). Also worth noting is that this protected area also houses conservation projects aimed at the protection of the Spectacled Bear (*Tremarctus ornatos*) and South American camelids. The Fundacion Bakus is also involved in the protection and breeding efforts of jaguars (*Pathera onca)* in the San Juan breeding center in Ucayali where behavioral and biological studies of these species also take place.

Other private donations

Another example of the type of involvement private companies have in conservation efforts is the Fondo Paracas del Consorcio Camisea. This foundation was established with donations from a consortium of natural gas companies (i.e. Camisea). The consortium donated seven million dollars in support of the Paracas National Reserve. The funds have been used mostly for infrastructure and logistics which include motorcycles, buses, GPS equipment, computers, radios, scuba gear, etc with the goal of helping the park's staff monitor and manage this protected area.

D.9. Bilateral, international organizations, and other donors

During the last decade, the executed resources of Total International Cooperation in Peru show an increasing tendency from US$ 261 million (1994), to US$ 355.6 million in 1998, and to US$ 390 million in 2004. This fact must be carefully analyzed, since the apparent increase of private resources, which compensated the general drop of governmental cooperation, may be a statistical effect due to improvements on the registration and accounting of private cooperation. If this supposition were correct, the global amount would have gradually decreased throughout the last few years (APCI, 2005).

During the last five years (1998-2004), both Bilateral and Multilateral Cooperation have decreased their contribution by US$ 5.2 million and US$ 11.4 million respectively, while private organizations (mainly NGOs) have doubled its resources from US$ 57 million to US$ 110.2 million. In 2004, funding by private organizations (around US$ 210 million), were greater than those granted by official organizations (around US$ 180 million). In other words, private organizations (NGOs) grant more resources than government organizations.

In 2004, the total volume of Non Refundable International Cooperation (Official Development Assistance and Private Aid) executed in Peru was US$ 390 millions (Bilateral Sources, US$ 219.6 millions; Multilateral Sources, US$ 60.2 millions, and Private sources, US$ 110.2 millions). [14]

[14] In 2005, the CTI was us$ 584.6 million (20% of the Peruvian budget), 80% of this amount came from official sources and only 20% from private sources (Boletín de Noticias apci nº 24 (February 2007) in www.apci.gob.pe).

Government funding for environment management

To understand government funding for environmental management, one study (by Shack 2006) showed GOP's environment expenditures measured by an environment expenditure classifier (CG-AMB). The CG-AMB classifier refers to the expenditures made by the GOP in issues concerning the environment (or environmental categories outlined in Table D.3.) This classifier is based on criteria from CEPA 2000[15] and the Budget and Budget Execution Laws of the period 1999-2005. Table D.4., in the next page, shows the evolution of environment expenditures. The table shows that the national CG-AMB per inhabitant decreased 9%, from US$ 4.3 to US$ 3.2, in spite of a real and per capita economic growth (the decrease was mainly due to the reduction of the Government's budget.)

The same study reports five environment categories were expenditures were made:

- Protection of the biodiversity with an execution of US$ 14.30 million (19.15% of environment expenditures.)
- Management of forest resources with an execution of US$ 10.96 million (14.68% of environment expenditures)
- Management of fish resources with an execution of US$ 8.66 million (11.06% of environment expenditures.)
- Clean ups with an execution of US$ 6.05 million (8.09% of environment expenditures.)
- Prevention and control of soil damage with an execution of US$ 5.62 million (7.52% of environment expenditures.)

The expenses executed on Protection of the Biodiversity were made by INRENA (US$ 8.22 million), the National Institute of Agrarian Research and Extension (INIEA – US$ 2.19 million), the Peruvian Amazonia Research Institute (IIAP – US$ 1.5 million), the National Agrarian Clean-Up Service (SENASA – US$ 0.929 million), the National Council of South American Camelids (CONACS – US$ 0.44 million), the National Council of Science and Technology (CONCYTEC – US$ 0.41 million), the National Council of Environment (CONAM – US$ 0.32 million), and the National Development Institute (INADE – US$ 0.22 million.) Meanwhile, the largest amount was executed on Management of Forest Resources (mainly in the control of deforestation) which was spent by INRENA (US$ 13.75 million), followed by the Ministry of Agriculture (MINAG – US$ 7.24 million), IIAP (US$ 0.16 million), and INADE (US$ 0.09 million.)

[15] CEPA (Classification of Environmental Protection Activities and Expenditures) refers to treasury funds only and is "a functional classification to categorized activities, products, outlays, and other transactions whose primary purpose is environmental protection, for purposes of environmental statistics and environmental accounts." (http://unstats.un.org/unsd/cr/family2.asp?cl=232)

Table D.4. Evolution of expenditures on environment by GOP (in Millions of US$)

Environmental Category	YEARS						
	99	00	01	02	03	04	05
Management of water resources (assignment of water rights)	15.00	2.87	1.84	8.31	17.36	8.00	1.84
Control of water pollution (construction of civil works)	0.21	0.05	0.05	0.01	0.21	0.15	0.32
Clean-ups	3.20	41.05	6.79	7.18	7.40	12.92	6.04
Control of external air pollution	0.00	0.01	0.01	0.01	0.02	0.04	0.05
Prevention and control of natural disasters	0.36	2.38	1.10	17.77	8.83	1.19	1.49
Prevention and control of soil damage (control of erosion and salinization)	17.96	15.32	14.14	14.55	13.85	7.48	5.62
Management of forest resources (control of deforestation)	11.93	12.11	14.29	12.28	14.04	9.07	10.96
Management of fish resources (control of over-fishing)	3.36	1.52	5.18	2.95	6.32	7.81	8.66
Use of rural lands	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Urban environmental problems	0.00	0.01	0.08	0.04	0.05	0.06	0.04
General environment zoning	0.00	0.00	0.17	0.35	0.61	0.44	0.65
Protection of biodiversity	7.35	10.26	5.26	10.34	11.86	10.24	14.30
Control of ozone-reducing substances	0.12	0.16	0.31	0.29	0.24	0.21	0.20
Climate change adjustment and mitigation	0.27	2.07	0.18	0.22	0.38	1.74	1.61
Other environmental protection activities	12.22	20.11	22.20	12.78	18.36	25.14	22.85
Total	**72.07**	**107.99**	**71.65**	**87.14**	**99.62**	**84.57**	**74.69**

Source: Shack, N. 2006 in www.conam.gob.pe

On the whole, the major funding sources for the spending on the environment are Ordinary Resources (53.19% - US$ 39.73 million), followed by Directly Raised Resources (24.73% - US$ 18.47 million), Donations and Transfers (14.15% - US$ 10.56 million). Other sources are External Credit Official Operations (3.62%), Regional Compensation funds (2.22%), and Rates and Overrates (2.08%). Table D.5. shows the funding source breakdown for protection of the biodiversity and management of forest resources.

Table D.5. Comparative federal expenses of protection of biodiversity and management of forest resources, according to funding source, 2005 (%)

Funding Source	Protection of Biodiversity	Management of Forest Resources
Ordinary sources	36	35
Directly raised resources	26	60
Donations and transfers	28	4
Rates and Overrates	9	1
Regional Compensation Fund (FONCOR)	1	0

Source: Shack, N. 2006 in www.conam.gob.pe

Geographically, over half of the expenditures concerning the environment were concentrated in the Lima region, with US$ 41.89 million, followed by the Callao region (US$ 7.61 million), Loreto (US$ 3.22 million), Cajamarca (US$ 2.96 million), and Ancash (US$ 2.94 million). Table D.6. shows the funding geographical location breakdown for Protection of the Biodiversity and Management of Forest Resources. Worth noting is the concentration of funding in Lima. This fact shows that most of the decision-making processes and administrative costs continue to be centralized in the capital of the country. The result is that funding does not effectively trickle down to areas where biodiversity and forest resource management is actively taking place.

Table D.6. Comparative federal expenditures for the protection of biodiversity and management of forest resources, according to funding source, 2005 (%)

Financial source	Biodiversity protection	Forest resource management
Lima	44	28
Cuzco	11	0
Loreto	14	0
Ucayali	5	0
San Martín	3	8
Ancash	0	13
Madre de Dios	0	6
Cajamarca	0	8
Others	23	37

Source: Shack, N. 2006

Finally, Abugattas (2005)[16] estimated that the public spending on environment executed in 2002 by all three Government levels was close to US$ 150 million (US$ 5 per inhabitant), from which US$ 80 million correspond to operations and US$ 70 million, to investment. Abugattas also reported that the operation expenses were kept from 1999 to 2003 to around 0.14% of the GDP during that period.

The US$ 390 million of Total International Cooperation (ODA + Private Aid) was equivalent to 2.9% of the 2004 national budget and 23.2% of Peru's Public Investment. The Official Development Assistance was equivalent to 2.1% of the national budget and 16.6% of Public Investment (APCI, 2005).

USAID is the cooperation agency that contributes the most to Peru. Its contribution of US$ 131.6 million (APCI, 2005) represents 59.9% of all Bilateral Cooperation and is almost eight times larger than the second most important bilateral source (Germany). The Alternative Development Program, almost 50% of the United States cooperation, is so important within the Total International Cooperation that it impacts statistical tendencies (predominant themes, investment by regions, MDG, among others). Please refer to Annex M.5. for a table that compares non-refundable government cooperation by country for the period of 1994-2004. However, the European Union, as a multilateral body of cooperation, contributes the most resources to Peru (59.9% of the multilateral cooperation and is almost two times greater than the second sources of multilateral cooperation (PNUD) (see Table D.7.).

[16] In www.gtz-cepal.cl

Table D.7. Non refundable governmental cooperation executed by multilateral organizations for Peru (1994-2004)

Multilateral source	1994		1998		2004	
	Amount (US$)	% total	Amount (US$)	% total	Amount (US$)	% total
EU	35'320,461	50.1	46'163,480	64.5	24'791,737	41.2
PNUD	378,450	0.5	499,462	0.7	12'564,572	20.9
Banco Mundial	1'924,701	2.7	1'292,111	1.8	6'773,833	11.3
UNICEF	3'584,179	5.1	1,580	0.002	3'859,474	6.4
OPS	834,650	1.2	14,230	0.02	3'395,758	5.6
BID	5'092,328	7.2	1'070,582	1.5	2'322,016	3.9
PMA	13'045,155	18.5	10'472,713	14.6	1'949,619	3.2
UNFPA	1'098,890	1.6	2'110,555	2.9	1'460,591	2.4
OIEA	442,414	0.6	1'016,180	1.4	846,420	1.4
FAO	156,150	0.2	1'551,786	2.2	838,192	1.4
OIM	2'450,500	3.5	793,535	1.1	713,591	1.2
OEA	182,595	0.29	247,130	0.3	334,164	0.5
CAF	370,222	0.5	14,499	0.02	275,625	0.5
FFTG					66,995	0.1
UNFEM	10,633	0.01	4'758,945	6.7		
PNUFID	5'343,000	7.6				
Others	271,139	0.4	1'551,155	2.2		
Total multilateral	**70'505,467**	**100.0**	**71'557,943**	**100.0**	**60'192,587**	**100.0**

Source: APCI, 2005

Out of the Total International Cooperation, 30.8% (US$ 120 million) is executed at the National level, and the rest, 62.2% (US$ 270 million), is assigned to specific regions. Out of this 62.2%, each region receives an average of US$ 10.8 million (Lima, San Martin, Ayacucho, Ucayali, Cusco, Huanuco, Piura y Junin).

The 66.9% (US$ 260.9 million) of the executed International Cooperation (ODA + Private Aid) in 2004 is aligned with some Millennium Development Goals (MDG). Furthermore, 79.3% of funds from the ODA (US$ 222 million) respond to the MDG, while in Private Aid only 35.3% (US$ 38.9 million) is aligned with MDG.

The 39.0% (US$ 152.2 million) of the Total International Cooperation received (ODA + Private Aid) is assigned to Goal 1, "Eradicate extreme poverty and hunger", followed by Goal 7," Ensure environmental sustainability", with 14.3% (US$ 55.7 million), and Goal 8, "Develop a Global partnership for development", with a 3.9% (US$ 15.1 million) [17].

Finally, in the last years the total volume of the international cooperation increased faster than the average amount received by other countries. Nevertheless, this pattern could change due to the current Peruvian classification "country of medium to low average rent", in other words now Peru is no longer considered an extreme poverty country.

[17] In 2005, the first objective of the Development Millennium Goals (MDG) received the highest priority by the international cooperation (32.9% or us$ 192.3 million). The 7th objective of the MDG was in second place receiving us$ 72.5 million (12.4%).

E. Status and management of protected areas and endangered species

E.1. Introduction

This chapter explores how the Peruvian system of natural protected areas, or the National System of Natural Areas Protected by the State (SINANPE), works in terms of the management of these areas as well as how it interacts with other organizations involved in conservation. Worth noting in this introduction is that SINANPE now represents most of the key conservation hotspots of Peru. Although the process continues, the current SINANPE Master Plan[1] reflects a well thought out process that accounts for environmental, social, economic, and political factors that need to be considered in any management plan. However, as will be discussed through out the chapter, challenges do exist in certain areas, especially concerning the distribution of funds, the management and protection of endangered species, effectiveness of participation from local and indigenous peoples, and sparse gender-based initiatives.

E.2. The National System of Natural Areas Protected by the State (SINANPE)

Peru follows a complex system for the management of protects areas encompassed in the National System of Natural Areas Protected by the State (SINANPE), which is administered under INRENA the official government entity in charge of natural protected areas. SINANPE constitutes associated laws and regulations, stakeholder interactions, and communications relevant to the country's sustainable development and conservation goals. That is, SINANPE recognizes four main components needed for successful conservation strategies: physical, social, legal, and interactive elements (communication strategies). Table E.1. details the four major components of SINANPE's overarching goals.

Table E.1. Components of the SINANPE main goals

Component	Definition
Physical	Group of natural areas protected by the State (NPA) in the different management categories established.
Social	Different actors in civil society and public administration involved in the development of the NPAs.
Legal	Group of general and specific laws that protect natural heritage and regulate the use of its natural resources; stimulates the participation of civil society and establishes sanctions on offenders among other activities.
Elements of interaction	Composed of the communications media and the coordination mechanisms between different sectors and organizations

Elaborated by the authors

Officially, SINANPE was recognized by D.S. Nº 010-90-AG (March 24, 1990) as part of the Agriculture sector at that time. In 1996, the national forests were excluded from

[1] Please note that the SINANPE Master Plan (in Spanish referred to as the Plan SINANPE Master) is different from the NPA Master Plan (referred in Spanish as Plan Maestro). The SINANPE Master Plan refers to the overarching strategic guidelines for all natural protected areas. Whereas the NPA Master Plan refers to the strategic plan developed and tailored to the characteristics of each individual protected area.

SINANPE, which reduced its coverage of the system from 10.06% to 8.46% of the national territory. Later, in 1997, the Law of Natural Protected Areas (Law Nº 26834) was enacted and consolidated the system currently in effect, integrating public institutions of the central government as well as regional and municipal governments, private institutions and local populations. In 1999, the National Strategy for Natural Protected Areas (SINANPE Master Plan) was enacted as a fundamental step in the planning and management of the system. In 2001, through a participatory process and consensus, D.S. Nº 038-2001-AG was created (regulations governing the Natural Protected Areas Law), consolidating the objectives and rules of the system and promoting the development of strategic alliances with the local populations, particularly among peasant and native communities given their legitimate rights to land and resources. Finally, in 2004, a process to update the overall SINANPE Master Plan, began and is scheduled for completion in the first quarter of 2007.

E.3. Types of natural protected areas protected by the State

As in other areas of the world, SINANPE recognizes the need for different categories of protected areas. The Law Nº 26834 and its regulations define the categories of the SINANPE's natural protected areas since each area has different objective managements and protection levels. SINANPE is made up of 10 different categories of NPAs:

1. National Parks (NP)
2. National Sanctuaries (NS)
3. Historical Sanctuaries (HS)
4. National Reserves (NR)
5. Wildlife Refuges (WR)
6. Landscape Reserve (LR)
7. Communal Reserves (CR)
8. Protected Forests (PF)
9. Enclosed Hunting Land (EHL)
10. Reserved Zones (RZ)[2]

Coastal marine ecosystems are not fully represented in the categories mentioned above and currently SINANPE is providing minimal coverage to these ecosystem. Of the 60 NPAs, only three are located on the coast and they only cover 76 kilometers of coastline (NS Tumbes Mangroves, NS Mejia Lakes, and NR of Paracas). This is less than 3% of the coastline and less than 1% of the national territory protected by SINANPE. The Paracas National Reserve is the only one that includes adjacent marine areas, and 60% of its area includes some of the marine habitats of the Humboldt Current. At the present time, there is a proposal to establish the National Reserve System of Guano Islands, Islets and Points pending approval in the Presidency of the Council of Ministers. Also, and thanks to the support of the Municipality of Sechura, the National University of Piura and the AIDER and APECO non-government organizations, a proposal is being made to create a Reserved Zone of the sea-coast mangroves in Sechura.

SINANPE categories

When making a comparison of SINANPE versus IUCN categories (Table E.2.) one can see that of SINANPE's NPA categories correspond to Category I of the IUCN (nature reserve / wilderness area and natural wilderness area); but also, SINANPE's Reserved Zone category has no equivalent among the IUCN categories. In addition, the IUCN's category VI encompasses four of SINANPE's different NPA categories, while two

[2] SINANPE's reserved zone categories are transition areas in the system that still require definitive categorization because it needs technical studies. These zones represent 25% of the system's total area.

SINANPE categories fit into each of the IUCN's categories III and IV. Finally, SINANPE's Historical Sanctuary category is equivalent to the IUCN categories III and V.

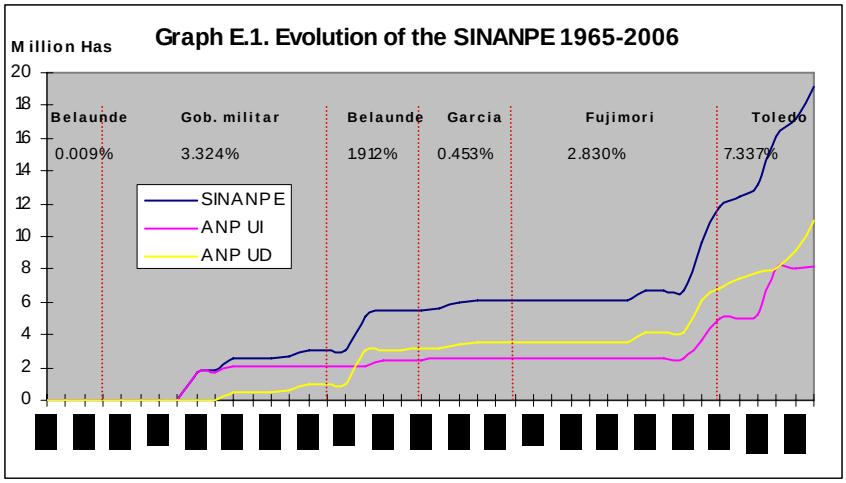
Table E.2. Comparison of the Peruvian NPA categories with the IUCN categories

SINANPE / IUCN	National Parks (NP)	National Sanctuaries (NS)	Historical Sanctuaries (HS)	National Reserves (NR)	Wildlife Refugees (WR)	Landscape Reserves (LR)	Communal Reserves (CR)	Protected Forests (PF)	Enclosed Hunting Lands (EHL)	Reserved Zones (RZ)
I										
II	X									
III		X	X							
IV					X					
V			X			X				
VI				X			X	X	X	

Elaborated by the authors

The NPA categories set up by SINANPE determine the legal condition, purpose, and allowed uses for both indirect and direct uses. The indirect use category permits non-manipulative scientific investigation, recreation and tourism in zones properly designated and management for such purposes. No extraction of natural resources is permitted in the areas, nor any modification or transformation to the natural environment (this includes NP, NS and HS). The direct use category permits the use or extraction of resources, giving priority to local populations (including NR, LR, WR, CR, PF, EHL and regional conservation areas). Since 1990 the area managed by the SINANPE has been increasing significantly. Graph E.1. shows sustained growth between 1999 and September 2006. For example, the 7.337% of the current area in the system has increased since 2001. Also, until 1981 the area of indirect use NPAs was higher than those of direct use, and in 2004 the area of direct and indirect use NPAs was almost the same. Please refer to Table M.6. in the Annex for the number and names of the current NPAs in the system. Annex M.7. provides the SINANPE's map.

Graph E.1. Evolution of the SINANPE 1965-2006



Elaborated by the authors

E.4. Complementary Areas of the SINANPE

Complementary areas (CA) are a different category recognized by the SINANPE but not administered by the INRENA as are the natural protected areas mentioned above. Complementary areas are administered by regional, municipal, local, or private entities according to their own Master Plan. In other words, the Complementary Areas Master Plan follows some of the guidelines set up by SINANPE, however they are not administered by INRENA. The reason for this difference is that CA corresponds to certain areas of conservation interest for local populations, generally referring to key areas that provide critical ecosystem services to a region (e.g. water sources) or work as corridors in between other SINANPE areas. However, they have been excluded from SINANPE because these areas, albeit important ecologically, do not form part of the main goal of SINANPE which is to protect a representative sample of the nations critical national resources or areas of high conservation priority. Complimentary areas are divided into three categories: Regional Conservation Areas (ACR), Municipal Conservation Areas (ACM) and Private Conservation Areas (ACP).

Regional Conservation Areas

These are established over zones that continue to be of ecological importance but do not qualify to become part of SINANPE, and their management objectives and possible uses should be indicated in the founding document. The ACRs do not have categories outlined, although this does not mean that the conservation objectives of these areas should always be the same. Currently, there is a Regional Conservation Area at Cerro Escalera in the Region of San Martin, and the Ventanilla Wetlands in Lima, an approval is pending on the proposals for the ACR Cerro Campana located in the region of La Libertad. The ACR's map can be found in Annex M.8.

Municipal Conservation Areas

The objective of these areas is the protection of ecosystems, wildlife species, recreation, zones that contain unique landscapes or that act as buffers for water sources that the municipal governments wish to protect. Local governments have made inroads to establish municipal- or district-level NPAs for quite some time now, but they have not received official recognition from INRENA because the legal basis needs to be consolidated and they need to appropriately promote the scope, opportunities and limitations of the instrument. There are 64 municipal areas that have been established but that are not formally recognized by SINANPE because of legal gaps. The 1997 natural protected law does not mention the municipal conservation areas and the municipal organic law does not authorized the creation of municipal conservation areas (51 in San Martin, 3 in Cajamarca, 1 Huanuco, 1 in Pasco, 1 in Apurimac, 1 in Loreto, 2 in Lima, 1 in Ayacucho, 1 in Amazonas and 2 in La Libertad).

Private Conservation Areas

The private conservation areas are created on areas that can be public lands or privately owned that have environmental, biological, landscape or similar characteristics that could complement SINANPE's coverage, contributing to the conservation of biological diversity and increasing the offer of opportunities for scientific research, education and specialized tourism. The recognition of Private Conservation Areas is based on an agreement between the State and the concessionaire in order to protect the biological diversity of that area for a minimum of ten years, and the contract is renewable. At the present time, the following are recognized private conservation areas: Chaparrí, in the departament of Lambayeque, Cañoncillo in La Libertad, Pacllon in Ancash, and awaiting

recognition by INRENA are the ACPs of Sagrada Familia and Huiquilla. The ACP's map can be found in Annex M.9.

E.5. Management in Protected Areas

The natural protected areas that form part of SINANPE have planning instruments available to guide their development, from the definition of policies, the framework of concepts and strategies to establish and manage NPAs, to formulas for specific actions that lead to achieving the conservation objectives. Below are the details on the current state of the management tools, the mechanisms for participation and the system's personnel.

SINANPE's management tools include the following instruments:

- SINANPE's Master Plan
- NPAs Master Plans
- Specific Plans
- Other Strategies

SINANPE Master Plan:

SINANPE's Master Plan is the principal instrument, at the national level, for planning and management, since it defines the policy guidelines and the land zoning according to priorities and regulations for its development. It includes the conceptual framework for the constitution and long-term operation of the NPAs, analyzes SINANPE's representation, and formulates the appropriate measures for conservation to assure an effective ecological coverage. It establishes the organization, zoning, planning and programming of each NPA in harmony with its objectives. Currently a new SINANPE Master Plan is in the process of being revised and approved that incorporates new world trends in conservation and the decentralization process that the country is undergoing .

The mission of the SINANPE Master Plan is to "Contribute to the sustainable development of the country, through efficient management of the NPAs, guaranteeing the contribution of its environmental, social and economic benefits." For this, eight strategic objectives are established and 52 lines of action, which were evaluated during the update of the SINANPE Master Plan. The eight strategic objectives are as follows:

1. Consolidate mechanisms for management and inter-institutional coordination at national, regional and local level.
2. Consolidate SINANPE as an institution, particularly as the national authority responsible.
3. Consolidate SINANPE's legal base.
4. Assure the necessary financing for the development of the system.
5. Provide the system with the appropriate human resources.
6. Consolidate the technical and information bases for SINANPE's development and the management of the NPAs.
7. Develop mutually beneficial relations between local populations and the NPAs.
8. Increase public awareness of the link between NPAs and national development.

The SINANPE Master Plan is being updated and plans to propose a new mission: "To constitute a sustainable management model of the territory and its natural resources by creating a joint system that is mutually complementary, ecologically representative and

functional in natural protected areas, managed according to principles of good governance in order to guarantee the conservation of the biological diversity and other values of cultural, landscape, and scientific interest associated with these spaces, as well as the contribution of its environmental and social benefits to the sustainable development of the peoples of Peru and the world."

To achieve this, the following strategic objectives are proposed:

1. General public
2. Cultural bio-physical environment
3. Leaders, authorities and organizations
4. Governing institution
5. Management of resources

What has changed is the direction of the SINANPE Master Plan's strategic objectives regarding helping populations truly benefit from the goods and services provided by the NPAs and thus contribute to the sustainable development of the country. As a result, the hope is that the public will value the importance of the NPAs and participate actively in realizing its goals.

Master Plans for NPAs

The NPA's Master Plans are management documents that guide the management and development of each Natural Protected Area. They are updated every five years by a participatory process, determining the organization, zoning, general strategies and policies, within a context of cooperation, coordination with the area and the buffer zones of each NPA. Table M.10. in the appendix provides an updated list of NPAs with Master Plans.

Specific Plans

The specific plans are defined by the NPA Master Plan and can be made for each type of activity in each particular NPA. All of the fundamental uses or lines of work that have a fundamental influence on the course of the NPA should be developed according to specific plans. Examples of these include the tourism load, the extraction of natural resources and more specific concepts or indicators not mentioned in the master plans. The document that outlines the regulations and indicators to be considered at this more local level is referred to as the Resource Management Plan.

The Resource Management Plans principally contain actions for protection, monitoring, guidelines for usage, and the registration of data of the population of renewable resources; repopulation, reintroduction, transfer and culling of native species, eradication of exotic or non-native species, as well as the recovery, regeneration and restoration of the habitat.

The Plans for Public Use or Tourism Use are specific planning instruments that define in greater detail the criteria, guidelines, priorities and limits to public use of a natural protected area. The Plans for Public Use are developed along the guidelines of the Master Plan. At the same time, any and all public usage of a specific area within a natural protected area should have a Site Plan that contains the exact layout, on the land, of the works and installations made, the guidelines for their architectural design, the regulations on the flow and activities of visitors, as well as the load capacity. Table M.11. in the appendix provides an updated list of NPAs with Plans for Public Use /Tourism Use and Site Plans.

SINANPE Personnel

According to the National Protected Areas Intendancy (IANP) reports (since December 2005), there are 344 park rangers (or *guarda parques* in Spanish) working in the natural protected areas (NPA) under SINANPE, and they make up almost 60% of the personnel in the system. Only 70% of the NPAs in SINANPE have park rangers. Table below shows the distribution of rangers per protected area as follows (Table E.3.):

Table E.3. Number of park rangers per Natural Protected Area

Natural Protected Area	N. of Park Rangers	Natural Protected Area	N. of Park Rangers
NP Cordillera Azul	52	NR Titicaca	5
HS Machupicchu	32	NS Tabaconas Namballe	5
NR Pacaya Samiria	28	RZ Guepi	5
NP Manu	24	HS Bosque de Pomac	4
NR Tambopata	18	NS Manglares de Tumbes	4
NP Huascaran	16	WS Pantanos de Villa	4
NP Rio Abiseo	15	NPCutervo	3
NP Cerros de Amotape y ZR Tumbes	14	NP Tingo Maria	3
NR Paracas	13	NR Calipuy	3
NP Yanachaga Chemillen	9	NR Lachay	3
CR Amarakaeri	8	NR Salinas y Aguada Blanca	3
RZ Santiago Comaina	8	NS Calipuy	3
NP Bahuaja Sonene	7	NS Lagunas de Mejia	3
CR Ashaninka	7	NP Alto Purus	2
CR Mashiguenga	7	CR Purus	2
NP Otishi	6	NS Ampay	2
CR El Sira	6	NR Allpahuayo Mishana	1
NR Junín, SN Huallay y SH Chacamarca	6	RZ Chancay Baños	1
NS Megantoni	6	RZ Laquipampa	1
PF Alto Mayo	5		

Source: IANP-INRENA, 2005. Elaborated by Luis Alfaro in Chávez, J., et al., 2005

A salient observation stemming from the table above is that the distribution of park rangers is not equal throughout all national protected areas. Our research during the workshop and interviews indicate that there are several reasons for this finding. First, there are areas where more projects are currently in process, such as Cordillera Azul and thus tend to have more park ranges since they have the funds to hire them. Other areas of high conservation activity such as Tambopata and Manu also have more park rangers. In these areas the high influx of tourists from ecotourism enterprises has justified the need for more park rangers. Tourism also seems to be a factor for Machupicchu's situation.

One of the lessons learned from the park ranger situation is that their distribution does not seem to correspond to areas where illegal activities may be more prominent than other natural areas. For example, although Pacaya Samiria figures second in the list with 28 park rangers, it is the largest protected area of Peru. Pacaya Samiria does have a thriving ecotourism industry, but it is also an area with high levels of illegal activities. Thus the amount of park rangers may seem high but not enough to patrol and regulate. The issue of considering the level of illegal activities, in our opinion, is a point worth considering in the future.

Eleven of the NPAs concentrate the largest number of park guards (64%) in the system. The remaining 36% are spread out in 31 NPAs. If a comparison is made between the

territorial area of the system and the number of park guards, each guard would be in charge of supervising close to 50,000 hectares. In the 11 NPAs where the larger number of guards is assigned, each guard would be in charge of watching over 30,000 hectares, while in the 31 NPAs with fewer park guards, each guard watches over 72,000 hectares. The conclusion is that the system does not have enough park rangers, but these figures are not sufficient to determine the actual needs of each NPA.

Only 73 park guards in the system are on the INRENA payroll, while 231 are hired under the form of non-personal services. Of all the guards, close to 54% are financed by international cooperation projects. The Peruvian State does not fully assume its responsibilities that arise from the creation and growth of SINANPE. Thus the State's insufficient contribution to the NPA budgets is obvious, as is the strong dependence on external sources of financing. The result is low fund allocations for NPA operations, a diluted impact of the investments from international cooperation, and the high costs of transaction and coordination between the different parties.

E.6. Mechanisms for participation

Within the context of NPA management, their planning and management should be shared with the different sectors of civil society and in collaboration with the local populations. Peruvian legislation provides a wide scope for public and private participation. This framework is also compatible with the right of every citizen to participate in and have access to information, the right to monitoring by citizens and to institutional transparency. SINANPE has mechanisms that seek to guarantee the participation of civil society, particularly for direct involvement, in the administration and management of natural protected areas. The following details the status of SINANPE's Coordination Council, the Management Committees, the administration Contracts for NPAs and the special administration Regimens for NPA:

SINANPE Coordination Council*:*
The SINANPE Coordination Council's function is to identify the coordination needs between the various sectors involved in the management of the natural protected areas, and set up the actions to meet such needs. It is the Coordination Council's function to promote the participation of the various social, public and private sectors, and civil society as a whole, in the agreed upon management of the natural protected areas. The Coordination Council has nine members:

1. The INRENA head (Chair).
2. A representative from the National Council for the Environment (CONAM.)
3. The National Tourism Director from The Ministry of Exterior Comerce and Turism (MINCETUR).
4. A representative from the Regional Governments (GR).
5. A representative from the Management Committees of the natural protected areas (CG).
6. A representative from the Institute for Invesitigations of the Peruvian Amazon (IIAP).
7. A representative from public and private universities.
8. A representative from NGOs carrying out significant and relevant work on natural protected areas.
9. A representative from private corporations.

Also, with regard to matters concerning specific issues, the Coordination Council has four additional members:

1. With regard to areas with peasant and native populations, a representative from the National Comosion for Andean, Amazonian and Afro-Peruvian Peoples (CONAPA), now the National Institute for the Development of Andean, Amazonian, and Afro-Peruvian Peoples (INDEPA).
2. With regard to areas with archaeological, historic, and cultural sites, the Director of the National Institute of Culture (INC).
3. With regard to the tapping of hydro-biological resources, a representative from the Ministry of Production (PRODUCE.)
4. With regard to the tapping of mining-energetic resources, a representative from the Ministry of Energy and Mining (MEM.)

In 2003, the Coordination Council was established but did not begin action until 2006 when all of its members were acknowledged. It has only held five meetings so far, and has approved a set of meeting rules; these cover the elections of representatives among the Regional Government and Management Committee presidents.

Since 1994, 43 cooperation agreements have been approved between INRENA and various public institutions, in order to promote information exchange, technical coordination, and project execution; however, no agreements have been signed with INC nor PRODUCE, and there is also a restricted participation from CONAM's technical groups. IANP has participated in seven (7) multi-sector commissions on the subjects of sea farming, environmental management, illegal felling, tourism, and indigenous peoples.

There are also five (5) agreements within a cooperation framework with regional authorities (from Lambayeque, Cusco, Tumbes, Piura, and Puno), in order to facilitate the appropriate management of the national protected areas (NPA) (e.g. The cooperation agreement with the Loreto Regional Government to pay national park rangers for the Pacaya Samiria National Reserve); however, NPAs are usually not included in the Regional Development Plans.

NPA Management Committees:

Law 26834 states that each NPA, except for the ACP, will have the Management Committee's (CG) support. The CG is made up of representatives from both the public and private sectors that have an interest or involvement in a NPA. An approval from INRENA is required in the case of national management areas, or an approval from the Regional Governments is required when dealing with regional management areas.

NPAs from SINANPE and ACRs will each have a CG made up of no less than five members (representatives from regional, local Governments, the public and private sectors) and especially members from the peasant or native communities who develop their activities within the scope of such NPAs. Table M.12. in the appendix provides an updated list of the SINANPE NPAs Management Committees.

NPA Administration Contracts:

This is the instrument by which the State, through INRENA, entrusts to a private and non-profit institution, for a period of up to twenty years, the full or partial execution of the management and administration operations contained in the Master Plan, the Annual Operating Plan and other management instruments of the natural protected area.

In natural protected areas that have Administration Contracts, the Area Chief is in charge of control and supervision, while the Executor of the Administration Contract is responsible for management and administration. Additionally, the Executor of the Contract administrates the economic resources assigned to it or that it obtains for the benefit of the area and promotes the active participation of the local communities in the management of the area. The Administration Contracts are granted on a merit basis in public bids.

Currently, the National Reserve of Salinas and Aguada Blanca is under an administration contract (September 27, 2006) with the Center for Development Studies and Promotion (DESCO), and this contract is partially financed with resources granted by the World Bank through the NPA Management Participation Project (GPAN) and with resources leveraged by DESCO as executor of the administration contract. This contract is focused on management by results that are related to the natural resources conservation program and to strategic objectives of the Master Plan 2006-2011 of the NPA, which include:

- Recovery of grazing land for domestic camelids and the expansion of swamplands.
- Recovery of natural grasslands for camelids.
- Increase of the total vegetation coverage.
- Maintenance of the current coverage of varietal grasses in the NPA.
- Improvement of the condition of patches of *queñoa* on Chachani.
- Increase the density of the vicuña population in the wild, in semi-captivity, and the volume of fiber production.
- Increase the density of the guanaco population.
- Maintenance of the viable populations of birds in the RAMSAR sites: Salinas swamp lands and lakes.

Special administration Regimens of Communal Reserves:

The Communal Reserves come under a "Special Regimen for the Administration of Communal Reserves" that considers the right of beneficiary communities to be recognized as the Executor of the Administration Contract, for which they must accredit one sole legal representation. This regimen was approved by Intendancy Resolution Nº 019-2005-INRENA-IANP (June 24, 2005).

On December 18, 2006, INRENA signed Administration Contracts for Communal Reserves with the presidents of three contract executor units: AMARCY (CR Yanesha), ECOSIRA (CR El Sira) and ECA-RCA (CR Amarakaeri). As a result, the Native Communities will be able to participate in and decide on actions to promote the conservation and sustainable use of the natural resources that exist in the Communal Reserves of El Sira, Yanesha and Amarakaeri, located in the departments of Pasco, Ucayali, Huanuco, Madre de Dios and Cusco. They will also be able to carry out surveillance and control of resources, tourism use, recreation, environmental education and research.

NGOs in SINANPE

The following is a list of identified international cooperation agencies and NGOs collaborating in SINANPE's financial management:

- Conservation International (CI-Peru)
- The Nature Conservancy (TNC-Peru)
- Zoologische Gesellschaft Frankfurt (ZGF)
- ENTWICKLUNGSBANK (KfW)
- Gesellschaft Für Technische Zusammenarbeit (GTZ)
- World Wildlife Fund (WWF-Peru)
- Parks Watch Peru
- Field Museum of Chicago

Most of these players are actively involved in the Memorandum of Understanding (MoU) signed in 2004, aiming to support the fulfillment of the work program goals for CoP7 protected areas, as the working out of the Strategic Plan and financial plan for SINANPE are made a priority nationwide. Table M.13. in the appendix gives the list of NGOs in each one of SINANPE's NPAs.

Since 2002, the IANP has been applying a matrix for monitoring the management of SINANPE. This Matrix for Monitoring Effective Management of NPA has undergone a series of evaluations and changes since 2001. This year the validation process should be completed in order to finally have a tool that can be applied directly by NPA personnel to identify optimum solutions in the different work areas and thus be able to continue towards that optimum standard. The matrix has 33 indicators grouped into aspects and these into three fields (legal, institutional, administrative and management of NPAs). To carry out a complete analysis of SINANPE the following critical factors were identified and selected:

1. Registration in the Public Registry
2. Management Committee
3. Preparation of Master Plan
4. Financial sustainability
5. Concordance of POA with the Master Plan
6. Research
7. Sustainable use of natural resources
8. Threats to the NPAs

During the years that the matrix was applied, the following difficulties were identified:

- NPA personnel did not clearly understand the need for monitoring.
- There is a resistance to analyzing the information.
- Personnel are used to verification instruments.
- Facilitators are not available for all the NPAs.
- Sometimes the matrix is not filled honestly for fear of reprisals.

The system's monitoring matrix is limited to evaluating SINANPE's management and does not measure its effectiveness in handling or protecting natural resources and biological diversity of the NPA.

Meanwhile, APECO with financing from the PIMA project, and TNC with the Data Conservation Center (CDC), are carrying out separate matrices to monitor biological diversity. In APECO's case, the matrix is already completed and only needs to be put into operation in the natural areas included in the PIMA project (NP and NR Alto Purús,

RZ Santiago Comaina and RZ Güeppí, the National Reserve Pacaya Samiria and the Communal Reserve of El Sira). The matrix prepared by TNC and CDC was completed in April 2007 and needs to be tested in the NR Pacaya Samiria.

In our opinion the plethora of monitoring systems in existence today raises a couple issues regarding the coordination of programs and effective exchange of information and results. Generally speaking, each project works under a set of agendas and priorities dictated by the organizations, stakeholders, and/or funding agencies involved in a project. The differences in agendas and guidelines observed is not problematic per se, but the result is that monitoring, implementation and research take place according to very specific objectives that do not always correspond with an overarching strategic conservation plan for the nation. In fact, there is no overarching set of objectives, or road map, set up by the Peruvian government (INRENA) in cooperation with other stakeholders involved that could help guide and fit different efforts towards a common goal. The result is that duplication of efforts is likely to occur yet difficult to estimate since results and databases form individual projects are hard to locate. One recommendation suggested here is to foster the creation of a centralized locale where information or reports can be gathered, analyzed, and new overarching databases developed based on the wealth of experiences and research carried out in different areas.

The activities still pending are the integration of the two matrices to monitor biological diversity in just one matrix. At the same time, IANP should be given support so that it can supervise the validation of the matrix in the field in all the areas that make up the system, in order to assess whether it can be applied in all areas.

E.7. Financing the SINANPE

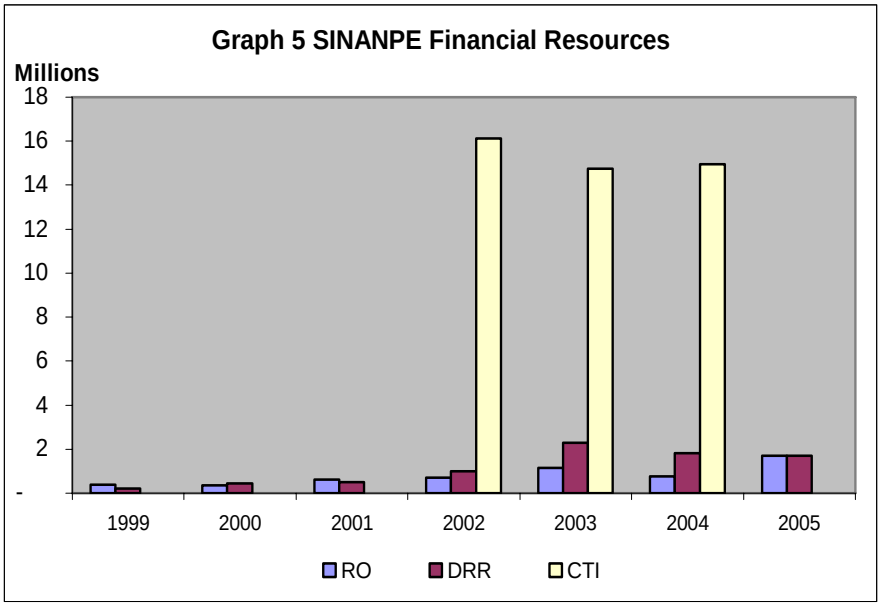
Since the 1990's, inputs to the NPAs management have gradually increased. The graph below (Table E.4.) shows the significant increase of INRENA's incomes for the SINANPE, with income from the Treasury Department's ordinary resources (OR) and Directly Raised Resources (DRR) generated at the NPA´s through various types of activities mainly tourism. It must be highlighted that these funds are totally used within the system itself.

Table E.4. Sources of SINANPE's income

Years	OR	DRR	International Cooperation (CI)
1999	383,090	203,790	
2000	346,236	425,463	
2001	605,270	484,659	
2002	712,033	1'006,167	16,127,720
2003	1'130,539	2'292,735	14,740,951
2004	765,200	1'819,991	14,938,872
2005	1'704,408	1'687,647	N/A

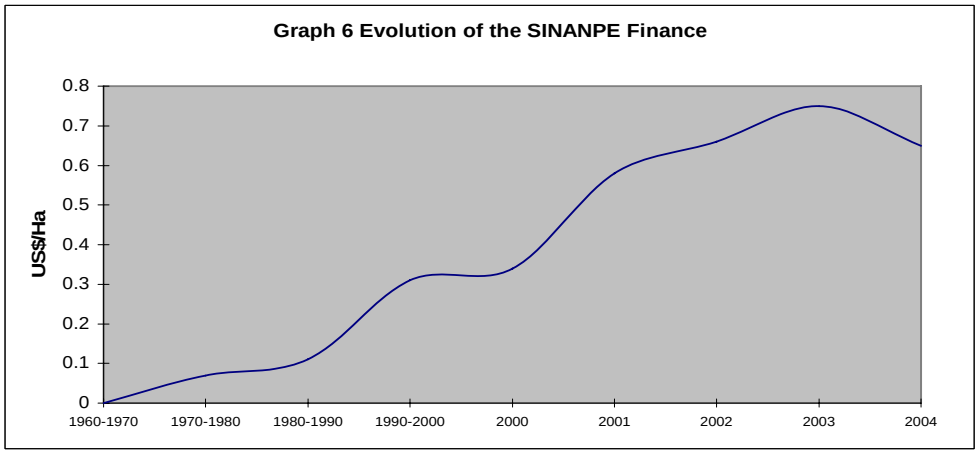
Elaborated by the authors with data available up to 2005 from INRENA and APCI

The budget for the SINANPE comes from three types of resources: International Cooperation, Directly Raised Resources (DRR), and the Ordinary Resources (OR). INRENA managed the DRR, some CI, and the OR, part of the International Cooperation resources are managed by the "National Fund for the National Protected Areas (PROFONANPE). As the graph below (Graph E.2.) shows, the PROFONANPE (International Cooperation Resources) resources are the most significant to the system.



Elaborated by the authors

On the whole, the system's global funding has shown an upward trend over the last 10 years. The following graph shows a sustainable funding increase for every funding source. (Graph E.3.)



Elaborated by the authors.

According to INRENA's (2005) report on conservation monitoring, the budget allocated to SINANPE is very low when compared to budgets in existence in other countries. For example, developed countries allocate US$ 20/Ha average, while funding to developing countries is around US$ 1.57/Ha average. In Peru, funding per hectare in 2004 reached US$ 0.65/Ha. This trend is in part due to the fact that the SINANPE is growing yet funding for these areas is not given priority by the government when allocating funds from the national budget. Also the opportunities available to fund the SINANPE through the private sector have not been fully recognized. As discussed in section D. 8. ("Private sector') of chapter D in this document, there are initiatives that are demonstrating that the private sector has much to contribute. But there are no incentives provided by the Peruvian government to foster such initiatives.

Funding Plans at NPA

At the present time, Yanachaga Chemillen NP, Paracas NR, Río Abiseo NP, Lachay NR, Titicaca NR, the Northwestern Biosphere Reserve, the Huascarán NP, and NR Pacaya Samiria have funding plans that are still to be set up. These documents define the strategy and instruments to assure their financial self-sustainability.

Studies supporting the NPA funding instruments

INRENA's Natural Protected Areas Intendancy (IANP) has coordinated the execution of the Salinas and Aguada Blanca NR environmental goods and services economic assessment study. Another developed experience is located in Yanachaga Chemillen National Park and Pacaya Samiria National Reserve and its nearby natural protected areas. Finally, GTZ has developed an environmental goods and services supply and demand study on behalf of the Alto Mayo PF. However, in order to execute this conservation mechanism, institutional coordination is still needed.

Memorandum of Understanding – MoU

During preparations for the 7th. Conference held by the Parties (CoP7) in February, 2004, in Kuala Lumpur, with the participation of 187 countries, different meetings at international and national level were held in Peru that were useful to review the major lines of action on NPAs, to be discussed at this conference for the first time in the Convention's 12-year history.

During the CoP7, a Work Program on Natural protected areas (PoW) was approved, and which is inspired on the World Summit on Sustainable Development (WSSD) Application Plan, the Millennium Development Goals, and the Durban Agreement and Action Plan. The PoW assigns priorities to various actions and goals that every single subscribing country will have to develop and achieve within the next few years; having set year 2010 as the deadline to meet the goals related to land areas, and year 2012 to meet the goals related to ocean areas.

The PoW's general objective is to back the creation and maintenance of efficiently managed and ecologically representative complete national and regional systems that are representative of protected areas that contribute to the achievement of all of the Agreement's three objectives and to the 2010 goal to significantly reduce the current loss of biological diversity. Therefore, within an ecosystemic focus framework, it is made up of four (4) interrelated elements that must be mutually reinforced and applied between all the sectors.

As to CoP7, TNC and a consortium of conservation cooperation institutions promoted an international effort to set up national alliances to support PoW and the CoPy agreements (NISP.) In Peru, TNC the INRENA and CONAM authorities included this initiative as they prepared CoP7.

In February, 2004, eleven (11) local public and private organizations signed an inter-institutional agreement to support the NPAs in Peru. This Memorandum of Understanding (MoU) was introduced at the CDB CoP7. At present, twenty (20) organizations have signed the MoU:

1. Asociación ANDES
2. Asociación para la Conservación de la Cuenca Amazónica (ACCA)
3. Asociación Peruana para la Conservación de la Naturaleza (APECO)

4. Centro de Datos para la Conservación (CDC-UNALM)
5. Centro de Conservación, Investigación y Manejo de Áreas Naturales (CIMA)
6. Consejo Nacional del Ambiente (CONAM)
7. Conservation International (CI)
8. Derecho, Ambiente y Recursos (DAR)
9. Instituto Nacional de Recursos Naturales (INRENA)
10. Instituto de Estudios Ambientales de la Pontificia Universidad Católica (IDEA - PUCP)
11. Instituto de Montaña (IM)
12. Instituto del Mar del Peru (IMARPE)
13. Fondo Nacional para las Áreas Protegidas por el Estado (PROFONANPE)
14. Fundación Peruana para la Conservación de la Naturaleza - ProNaturaleza
15. Sociedad Peruana de Derecho Ambiental (SPDA)
16. Zoologische Gesellschaft Frankfurt (ZGF)
17. The Nature Conservancy (TNC)
18. Unidad de Conservación de la Universidad Peruana Cayetano Heredia (UPCH)
19. World Wildlife Fund, (WWF-Peru)
20. Wildlife Conservation Society (WCS)

The MoU, as this agreement is called in Peru, aims to join public and private efforts to set up the Work Program on Protected Areas (PoW), within Peru's strategies and national commitments regarding the CDB, thus it sets to work with its subscribers' financial input through public and private projects that aim just to fulfill nine of the objectives within the CDB elements and recommended deadlines.

In September 2004, the MoU organizations approved the Action Plan worked out by a small group of its members. This action plan is specific for two major SINANPE related activities: the strategic planning (the SINANPE Master Plan review and updating) and the financial planning (Long-Term Financial Plan), both aiming to strengthen SINANPE, which is the CDB NPA PoW's, as well as the national MoU's main concern.

TNC, based on a financial support proposal for the Action Plan, granted a fund of US$ 162,500, in a balancing entry that is 25% of the international and Government cooperation funds that could be committed to execute the Action Plan detailed in the following table. Also, this action plan was financially supported by CI that offers a US$ 30,000 fund, and for the PROFONANPE GPAN and NPA projects, the support amounts are US$ 300,000 and US$ 240,000, respectively.

It must be pointed out that from all of the PROFONANPE sums committed, the SINANPE Master Plan has spent the committed total, that is, US$ 240,000, whereas for the Financial Plan, just US$ 25,000 have been invested. Therefore, there are funds still available to execute the design phase specifically, i.e. US$ 275,000. This sum will have to be scheduled for the next Action Plan (Table E.5.) in order to execute SINANPE's financial sustainability plan.

Table E.5. 2004-2006 Memorandum of Understanding (MoU) Action Plan

Main Activities	Support Activities to the MoU Action Plan
I. SINANPE Master Plan Review - SINANPE representational analysis - SINANPE vision setting - SINANPE mission setting - SINANPE strategic values setting - Diagnosis updating of the priority conservation zones - Management mechanisms for civil society's involvement in the NPA management - Analysis of centralization and/or decentralization of INRENA's national and international technical, management, economic, social, and technical cooperation decisions. - Cost-benefit analysis - Evaluation and adjustment of the SINANPE buffer zones evaluation. - Use of non-renewable natural resources - Strategies for the supplementary areas to SINANPE - Organizational structure analysis - New management models for NPA.	- Identification of system representational gaps - Making up of work groups for each subject - Workshops development to set SINANPE vision, mission, and strategic values. - Workshops development to submit progresses throughout the process - Follow-up to get process expected products - Methodology systematization and analysis for process development purposes - TDR working out to hire facilitators for process development purposes - Coordinators selection for work groups - Design of new management models within the NPAs - Coordination with the GPAN and NPA projects.
II. Financial Plan Design - SINANPE historical analysis - Current financial situation diagnosis - Identification of the funding needs in the light of SINANPE strategic plan - Identification of barriers to SINANPE financial sustainability and strategies proposal to face these problems. - Strategies design to fund SINANPE needs in the long term (Business Plan), including the strategy for PSF setting up - Scenarios and sustainability analysis - Financial information system design - Monitoring and financial control system design - Guidelines for PSF setting up	- Support to funding work group making up - Support to workshop development to set SINANPE funding policy - Support to workshop development to report progress throughout the process - Support to follow-up to get process expected products - Support in the systematization and analysis of the methodology for process development purposes - Support in setting a network of experts on natural protected areas funding

Further medium term support is still required to fulfill PoW. Convention for Biological Diversity (CDB) has set commitments and goals in the short, medium, and long term that are necessary to be included in Peru's agendas and taken into account in the new MoU action plan. Table E.6. provides the commitments by year set forth by the CBD.

Table E.6. Commitments set forth by the Convention for Biological Diversity (CDB)

Commitments for 2006	**Commitments for 2008**	**Commitments for 2009**
- To set PA-related goals and indicators - To set PA in continuous large and/or threatened areas - To take action to increase representation of ocean and continental water ecosystems - To carry out participatory reviews of the existing and potential PA conditions. - To identify ecological gaps in the system. - To identify training needs. - To develop and adopt evaluation methods on the management efficiency and its rules.	- To take measures to increase representation of ocean ecosystems - To improve PA integration to land and ocean sceneries. - To set up mechanisms to prevent key threats - To establish and set up sustainable funding. - To involve indigenous and local communities in management and planning - To increase public awareness. - To develop rules, criteria, and best practices.	- To design new PAs based on information gaps - To identify gaps and legislative barriers that prevent PAs setting and management.
Commitments for year 2010	**Commitments for year 2012**	**Commitments for year 2015**
- To set complete and representative PA systems at national and regional level. - To set and strengthen cross-bordering PAs - To develop national approaches on legal accountability and compensation. - To set up training programs. - To set up evaluations of management efficiency in the lower 30% of the national PAs. - To set monitoring systems for PAs.	- To set complete, representative, and efficiently run ocean PAs at both national and regional level. - All PAs are efficiently run by using planning processes based on scientific knowledge and a participative approach.	- All PAs and PA systems are integrated in the widest land and ocean sceneries and relevant sectors, by applying the ecosystems focus and by taking into account the ecologic connectivity and the ecologic networks concept.

E.8. Threatened and endangered species

One of the main problems found was that there is not much data concerning the status of endangered species in NPAs. Every two years through a supreme decree Peru produces a list of endangered species and their status. However the document does not provide more detail such as the status of each species by region. From other sources we know that the main threats to these species are habitat fragmentation, illegal extraction for commercial purposes, the expansion of the agricultural frontier, urbanization, pollution caused by industrial activities (mining, agriculture, and fisheries), and the draining of wetlands. Table E.7. provides the main threats to endangered species by ecosystem type.

Table E.7. Major threats and causes for ecosystem degradation by ecosystem type

Ecosystem Type	Major threats and causes for ecosystem degradation
Mangrove forest	Expansion of the agricultural frontier. Over harvest of mollusk species. Deforestation and ecosystem degradation by shrimp farms.
Coastal wetlands	Drainage to expand the agricultural frontier and urbanization.
Marine-coastal ecosystems	Contamination by the fishmeal industries, and urban sewage.
Coastal hills	Overgrazing and urbanization.
Northeast dry forest	Logging for agriculture, and firewood.
Algarraboles (*Prosopis pallida*)	Logging for firewood and charcoal.
Scrub forest	Deforestation to increase the agricultural frontier.
Andean lakes and lagoons	Contamination by the mining industry and the urban sewage.
Andean forest	Logging for firewood
Cloud forest	Deforestation for agricultural activities.
Amazonian tropical forest	Slash and burn for agriculture and logging for the timber industry.
Coastal rivers	Contamination by mining and agriculture activities & urbanization.

Source: PNUD, 2004

The last endangered species list was decreed in 2004 (D.S. Nº 034-2004-AG) and mentions 65 mammal species; 172 bird species; 26 reptile species, and 38 amphibian species distributed throughout the nation and categorized as being "in critical danger," "in danger," "vulnerable," or "almost threatened." If these figures are compared with the lists form 1977, 1990, 1999, 2001 y 2004 (Table E.8.) one can observe that there is an increase in species considered endangered.

Table E.8. Number of threatened wildlife species by year

Groups	1977	1990	1999	2001	2004
Mammals	55	62	73	73	65
Birds	32	69	86	86	172
Reptiles	17	25	44	44	26
Amphibious	0	14	18	18	38
Total	104	170	221	221	301

Source: UNALM – CDC, 2001 in Instituto Cuanto, 2002 El Medioambiente en el Perú, and www.inrena.gob.pe

With respect to flora, the most recent list was completed in 2006 (D.S. Nº 043-2006-AG). This list defines 404 species of the Pteridophytes, Gymnosperms, and Angiosperms; 332 species belonging to the Orchidaceae family, and 41 species belonging to the Cactaceae family. The principle threat to these endangered species, both flora and fauna, is habitat destruction or degradation.

The case of mahogany

Due to its commercial importance related to the quality of the wood, mahogany (*Swietenia macrophylla*), occupies a special place in the Peru's timber industries as well as in conservation projects that take place in areas where this species is found. In the last 20 years the population of this species has decreased due to intense selective legal and illegal logging in the Madre de Dios, Ucayali, Loreto and San Martin departments where today only about 305,000 individuals remain (Vargas and Lombardi N/D). Of this population only 60% of the individuals have reached a size adequate for commercialization.

Although mahogany conservation has been in place in one form or another for several decades, the process has not been formalized or institutionalized until recent years. Since the inclusion of the mahogany tree into the Appendix II of CITES in 2003, Peru

has begun to address its conservation according to the recommendations set forth by CITES. For example, according to the rules provided by the Planes Operativos Anuales (annual management plans) the presence of both mahogany and cedar must be verified in forest concessions granted for timber extraction and areas for timber harvest. This activity is coordinated between the INRENA and the National Agrarian University (Universidad Agraria La Molina) the academic institution in charge of determining extraction quotas.

At the beginning of 2007 a conservation strategy was approved for the mahogany. This strategy called the Plan de Acción Estratégico para la Conservación de la Caoba en el Perú y la Implementación del Apéndice II de la CITES para la Caoba en el Perú (PAEC-Perú) has as its major objective to ensure the long-term viability of this species by the year 2011. To achieve this goal, the plan outlines the following set of objectives:

i. Identify ecosystems with populations of mahogany in Peru and monitor populations of this species currently found within timber concessions, native communities, natural protected areas, and reserves in order to determine and adopt policies for its conservation.
ii. Develop and implement management plans that ensure the survival and recovery of mahogany populations in a manner that is formally approved and monitored.
iii. Develop and provide the timber industry with a reliable system of chain of custody that follows mahogany products from the point of extraction to the final market place in order to guarantee its legal harvest.
iv. Conserve a representative sample of the genetic variation of mahogany populations currently found within natural protected areas.
v. Strengthen institutional capacity in order to facilitate the implementation of the strategic plan of action for the mahogany and the sustainable development of associated timber activities.
vi. Promote, by the year 2011, mahogany forest products for export that prioritize products with added value.
vii. Establish policy and norms that give incentives for the establishment of mahogany plantations for industrial purposes.

E.9. Indigenous People and Protected Areas

Conflicts between the State-protected areas and the local indigenous communities due to territorial claims and the management of natural resources represent an issue that has not been widely discussed. The literature, mostly from environmental anthropologists, expresses the need to find ways to communicate with indigenous people via culturally adequate forums for discussions (Chapin 2004; Ocampo-Raeder 2006). Furthermore, they highlight the need not only to have indigenous people represent their needs, rights, and opinions (which are often just a formality), but encourage the conservation community to consider the value of natural resources in other ways that in purely scientific terms. This is very difficult for conservationists to do since the process of determining protected areas and management is based on ecological indicators and not insights for indigenous resource management that are also valid and may indeed have better insights to the ecology of the region. In other words, the authors of this document see the incorporation of indigenous people and their

traditional knowledge into policies and management strategies as an opportunity that has been currently overlooked, simplified, or underestimated.

Since the beginning of the 1990s, the SINANPE area has grown around 10 percent, currently covering 60 protected areas. Of these, 24 are located in the Amazon region, and in some cases, they overlap with ancestral lands belonging to local indigenous groups. Instead of embracing the opportunities to build up alliances and empowering indigenous communities to manage and protect the natural resource area, INRENA has focus mainly in control measures and restrictions. This situation has created conflict between both stakeholders, and so, reinforces the indigenous peoples' demands to be granted autonomy on their lands.

An illustrative example, is the case of Communal Reserves located in Amazonia (Yanesha, El Sira, Amarakaeri, Machiguenga, Ashaninka, and Purús). The indigenous communities inhabiting them saw their opportunity to have their ancient lands recognized by the State. But the State was not proactive to recognize the indigenous rights and rejected their petition. The main reason is that the lands are the nation's assets. However, the resources can be exploited by those living in the vicinity (both settlers and indigenous peoples), and their management carried out by the users themselves under the Special Regime for the Management of Communal Reserves. During the negotiation process between the Inter-Ethnic Peruvian Jungle Development Association (AIDESEP) and the National Natural Resources Institute (INRENA) to work out the Special Regime for the Management of Communal Reserves, the indigenous communities expressed their intention of claiming territorial rights and natural resource management by proposing that settlers should be included as beneficiaries of the reserves, and that the directors' committee of the administration's general assembly must include an ad hoc representative of each of the existing indigenous organizations within the scope of the community reserve.

If we consider that the indigenous communities and the territorial reserves for isolated populations represent over 18 percent of the Peruvian Amazon territory (Table E.9.) that the populations in these areas cause little impact on the wildlife, and that there is also a high degree of correlation between the location of the indigenous populated areas and the high ecological vulnerability areas (Banco Interamericano de Desarrollo, 2003), the State and the conservation movements should view these indigenous populations as a serious conservation alternative in the country.

Table E.9. Area under indigenous peoples management

	Total Surface	% of the Peruvian Amazon
Communal Reserve	1'658,900.95	2.19
Native community	11'000,000.00	14.51
Territorial reserve	2'812,686.00	3.71
Total	**15'471,586.95**	**20.40**

Modified by the authors from IBC, 2006

E.10. Gender issues and biodiversity conservation

Areas of conservation priority tend to be located in rural environments and conservation programs make an explicit effort to address the socio-economic and cultural realties of the people who inhabit these areas and have been traditionally marginalized. However,

within these populations members of a society use and impact resources differently, making gender an important consideration when designing conservation strategies that are equitable and effective. Of relevance is the recognition of the role of women in using and managing natural resources as well as their participation in projects. During our assessment we found that projects with a detailed gender (in this case women) component were lacking in most conservation projects taking place in Peru. According to Dr. Martha Rodriguez, incorporating a gender focus in conservation projects is not initiated by a project executor but as a suggestion made by the cooperating institution or the development of international agreements on gender.

In any event, the persons interviewed indicate that development NGOs incorporate the gender issue in their projects more frequently than conservation NGOs. Dávalos (2002) indicates that in some cases the conservationist organizations incorporate the gender criteria in order to gain access to financing sources and not because they are adopting it as an intervention strategy.

The state organizations that are in charge of environmental protection (CONAM and INRENA) have designed programs that give access to women but without any due programming for their participation, nor any consideration of using women leaders right from the onset of the design of the programs (Saenger, K., 2002). The author also points out that the National Program for the Management of Water Basins and Soil Conservation (PRONAMACHCS) does not involve the issue of gender in its conservation activities of soils and reforestation.

Despite the fact that women play an important role in the management of natural resources and their conservation, there are few systematically documented experiences which analyze the scope of gender in the development of conservation initiatives; those that do exist emphasize management of agricultural and forestry resources (e.g. Ashaninka women in the Tambo River basin by Fabian 2006). One of the few projects tackling issues of gender and family is ANIA (Asociación para la Niñez y su Ambiente), which focuses on sustainable development and conservation goals associated directly to children. This NGO, although not particularly based on women, is structured to address a variety of issues regarding conservation through a focus on children that in turn has shown to have a positive effect in fomenting women's participation in its programs. In our opinion, this approach explores issues of gender in an innovative, and indeed more sophisticated manner, since most conservation organizations tend to see the "gender" rubric as only addressing the women of a society.

F. Status and management of tropical forest resources

F.1. Introduction

The previous chapters have discussed the wealth of natural resources harbored by Peru. This includes a great diversity of tropical forests with high levels of biological diversity. However, designing conservation strategies that recognize as well as sustainably manage this forest diversity requires: continuous research from both the natural and social sciences in order to document and monitor forests and people that live within or nearby forests, the design of effective institutional and legal frameworks that address political and economic issues, continuous and equitable funding, collaboration with industries that impact tropical forests, and cooperation between stakeholders at the local, regional national, and international levels. This chapter explores these issues by discussing the underlying threats to Peru's tropical forests and some of the progress made to solve them.

Broadly speaking three issues emerge as salient themes through out this analysis. First, there continues to be a need for more reliable data on the current status of tropical forests (i.e. ecosystems, individual species, ecosystem services, etc.). This includes funding for more research as well as creating a centralized place where information can be gathered, analyzed and shared. Second, there needs to be more government incentives for conservation projects carried out by the private sector. Our analysis shows that the private sector is demonstrating innovation in creating projects with promising conservation potential that could be replicated around the nation. However, these cases are still few and face challenges from a variety of political and economic forces, as well as at the institutional level that need to be addressed. Third, there continues to be conflict between extractive industries with high impacts on tropical forest environments, and conservation efforts since both take place in overlapping spaces but have different political and economic power.

F.2. Evaluation of the current forest/land cover

The National Strategy for Forest Development (Estrategia Nacional para el Desarrollo Forestal, 2002) states that Peru possesses 78.8 million hectares of natural forests, of which 74.2 million are located in the jungle region; 3.6 million are located on the coast, and 1.0 million are located in the Andes region. At the same time, INRENA (2003) specifies that the Amazon forest represents 53 percent (676,347 Km^2) of the national territory. Such forests, the majority of which are made up of primary forest, also have forest plantations, but over limited extensions (around 6,400 Km^2), and other forests in the Peruvian Andes and coast (27,782 Km^2 in the coast, and 14,567 Km^2 in the Andes.) The types of forest formations and other plant key communities with their corresponding forest cover in Peru are given below in Table F.1.

Table F.1. Peruvian forests and key plant communities, and corresponding surface cover

KEY FOREST TYPES AND VEGETAL FORMATION	Surface (Has)	Percentage
Arid and Semiarid Zones	**7'079,850**	**5.509%**
Forest and Underbrush	6'747,700	5.250%
Savannah dry forest	2'430,700	1.891%
Hill dry forest	151,400	0.118%
Mountainous dry forest	1'052,400	0.819%
Interandean valley dry forest	310,600	0.242%
Dry underbrush	2'802,600	2.181%
Special Life Forms	332,150	0.258%
Mangroves	4,550	0.004%
Dune underbrush ecosystems	136,000	0.106%
Coastal hills	191,600	0.149%
Subhumid Zones	**4'144,800**	**3.225%**
Forest and Underbrush	4'144,800	3.225%
Subhumid mountain forest	22,500	0.018%
Interandean valleys subhumid forest	384,500	0.299%
Subhumid underbrush	3'737,800	2.908%
Rainy Humid Zones	**93'634,963**	**72.855%**
Forest	56'771,463	44.173%
Meander plains humid forest	3'690,200	2.871%
Low terraces humid forest	1'754,900	1.365%
Medium terraces humid forest	4'567,200	3.554%
High terraces humid forest	1'297,700	1.010%
Low hills humid forest	28'558,200	22.221%
High hills humid forest	1'851,500	1.441%
Mountain Humid forest	15'051,763	11.711%
Special life forms	10'464,100	8.142%
Swamps	5'043,400	3.924%
Aguajales	1'415,100	1.101%
Hydromorphic Savannah	7,800	0.006%
Bamboo forest	3'997,800	3.111%
Underbrush and "herbazales"	26'399,400	20.541%
Humid underbrush	4'077,700	3.173%
Pajonal	19'711,400	15.337%
Puna pastures	2'424,900	1.887%
Bofedal	91,700	0.071%
Queñoales	93,700	0.073%
Other forms	**23'661,947**	**18.411%**
Deforested areas	6'948,237	5.406%
Cultivated areas in the coastal region	942,500	0.733%
Coastal desert	12'857,500	10.004%
Rivers, lagoons, lakes, snow capped mountains and peninsular areas	2'913,710	2.267%
Total	**128'521,560**	

Source: INRENA,2006, translated by authors.

Deforestation of tropical forests

During the last decade Peru's tropical forests have suffered an increase in deforestation, degradation, devaluation, and fragmentation. In general trends indicate that deforestation occurs more intensely outside protected areas, an issue discussed more amply in chapter G. The deforested area nationwide, until 1985, was estimated to be 5'642,447 Ha, with Amazonas and San Martin being the more seriously deforested departments. The estimated annual deforestation rate between 1985 and 1990 was 261,158 Ha/year, whereas deforestation forecast for 2000 was 9'559,817 Ha (INRENA-DGMAR, 1996.)

Slash and burn and cattle-raising in the low and high jungle are the main causes of deforestation of the country's Amazon forests. Thus, according to Portugués and Huerta (2005), by 2000 these activities generated the deforestation of 7'173,953.87 Ha (9.25 % of the country's Amazon rainforests surface, and 5.58 % of the national territory.) The land-use type with the largest surface is the mixed Secondary Forest / Agriculture type, with 3'168,727.48 Ha , (44.18 % of the total deforested area by 2000), and the type with the smallest area is the zone without vegetation type, with 65,564.64 Ha (0.91 % of the total deforested surface.) At department level, San Martin shows the largest deforested are with 1'327,736.15 Ha (18.51 %), followed by Amazonas, with 1'001,540.11 Ha (13.96 %), and Loreto, with 945,642 Ha (13.18 %.)

Illegal logging

The problem of illegal logging is vastly recognized by the private and public sector in Peru. The main underlying causes contributing to illegal activities in the forest sector, include a flawed policy and legal framework, minimal law enforcement capacity, insufficient information about forest resources, and a high demand for cheap timber. Corruption both in the public and private sectors is also intrinsically linked to illegal logging and trade. In addition, illegal logging activities have far-reaching economic, social, and environmental impacts including the loss of government revenue, ecological degradation, and greater income inequality.

The Multi-Sectoral Commission to Fight Illegal Logging, created in 2002 with representation from several ministries and SUNAT (the national tax agency), released the National Strategy to Fight Illegal Logging in November, 2004. It was succeeded by another commission of the same name, which became operational in March 2005.

The species that are targeted by illegal logging are those with high economic value, principally mahogany (Swietenia macrophylla) a specie listed in Appendix II of CITES, cedar (*Cedrela odorata*) listed in Appendix III, and cumala (*Virola sebifera*); however, other species such as tornillo (*Cedrelinga catenae*), shihuahuaco (*Dipterix micrantha*), ishpingo (*Amburana cearensis*), lupuna (*Chorisia insignis*), among others also extracted illegally.

Although the illegal logging network is very complex, there are official findings that indicate the some concessionaires are carrying out illegal logging by laundering/falsifying the timber extraction permits and/or authorizations without complying with the stipulations set out in their Operational Plans. They either extract wood within their concession but outside the felling area, or outside their concession in forests that belong to another concession or to an indigenous community or natural protected area or, in fact, any area outside their concession. There are also intermediaries (in many cases armed groups who confront INRENA authorities) that contribute to the corruption network by extracting timber from conservation areas or indigenous lands.

Strategies to improve law compliance in the forest sector in Peru should be based on assessment of the underlying causes of illegal logging and identification of the leverage points to combat corruption. Several national initiatives have emerged over the last few years to tackle the problem of corruption and illegal forest activities. However, this issue is clearly not a priority in the political agenda. Without comprehensive political will to improve forest law compliance, any measures taken have a limited chance of success.

Any strategy aimed at addressing the problem of illegal activities needs to be holistic and include a wide range of policy, legal, institutional and technical options in order to discourage illegal activities and facilitate legal behavior.

Natural Protected Areas in zones characterized by difficult access resulting in scare monitoring by authorities tend to create ideal conditions for illegal logging activities. For this reason illegal logging of highly valued species (mainly cedar and mahogany) takes place principally in the Parques Nacionales Manú, Cordillera Azul, Yanachaga Chemillen and Alto Purús; the Bosque de Protección San Matías-San Carlos; the Reserva Nacional Pacaya Samiria, the Zonas Reservadas de Santiago Comaina and Gueppí; the Reserva Comunal Amarakaeri and las Reservas del Estado designated for populations of indigenous people in voluntary isolation such as the Reservas Indígenas de Madre de Dios, Nahua-Kugapakori and los Murunahuas (Proceso de Revision y Actualizacion del Plan Director de Areas Naturales Protegidas: Grupos de Trabajo sobre Cultivos Ilicitos y Tala Ilegal, 2005) . However, an issue encountered during the preparation of this report is that there is hardly any concrete data reflecting the levels of illegal logging in natural protected areas, and thus a systematic program of monitoring is needed to keep track of these activities.

According to the findings stemming from the updated SINANPE Master Plan in 2005 (ibid), significant strides have been achieved in controlling illegal logging when the participation of local monitoring comities are encouraged and supported; when native communities are given technical advise in the design of forest management plans; and in some cases when training is provided for Forest Management Committees (Comites de Gestión de Bosques). Furthermore, a recurrent theme is the importance of consistent and adequate patrolling in regions of high illegal logging activities.

F.3. Current policies of the forestry sector and institutional frameworks

Peru currently is undergoing a new forestry management scheme as per the Forest and Wildlife Law (Law Nº 27308) established in 2000 and as per its regulations (D.S. Nº 014-2001-AG.) The access for exploitation of forest resources are being called to be under several modalities: timber-yielding and non-timber-yielding forest resources with forestry management plans. This management model intends to reverse the previous short-term forestry extraction model, which had no forest management control and evaluation requirements, meaning that informality in the timber industry sector was wide spread. Additionally, the old model provided no legal security over the concessions to carry out long-term production, and exploitation was only focused on the timber resource.

The 2000 Forestry law declared production forests to be granted as forestry concessions. At the same time, these forests were subdivided into permanent production forests (PPF), covering an area of 24’586,458 Ha , and reserve production forests that cover more than 20 million Ha.

INRENA's Forestry Intendancy is responsible for managing forestry concessions and related programs. The reforms in the forestry industry include the classification of the country’s forests[1] and promotion for extraction and management of the timber, non-

[1] (1) Local forests, (2) forests in indigenous communities, (3) protected natural areas, (4) forests in protected lands, (5) forests for future use, and (6) production forests. Production forests are subdivided into reserve production forests and permanent production forests (PPF).

timber and wild fauna resources with management plans. In order to achieve this, different options to access forest resources are set: logging concessions, conservation concessions, ecotourism concessions, wild fauna management areas concessions, other jungle, forestation and deforestation products concessions; and authorized forest permits for different purposes.

The concession bidding process has been conducted from 2002 to 2005. Table F.2. provides the concessions granted since 2002 to 2005. The forestry concessions for timber production are defined for access of resources for 40-year renewable periods in areas up to 50,000 Ha. This intends to promote the national forestry industry to develop while also ensuring the continued productive process in order to meet the internal and international market demand requirements. The current forestry scheme promotes forest products with value added (production chain approach).

Table F.2. Forestry concessions granted by region since 2002 until 2005

Year	Region	Number of concessions
2002	Huanuco	0
	Loreto	0
	Madre de Dios	56
	San Martín	0
	Ucayali	97
2003	Huanuco	47
	Loreto	0
	Madre de Dios	29
	San Martín	34
	Ucayali	76
2004	Huanuco	1
	Loreto	241
	Madre de Dios	0
	San Martín	0
	Ucayali	9
2005	Huanuco	0
	Loreto	7
	Madre de Dios	0
	San Martín	0
	Ucayali	0
Total		597

INRENA, 2006

However, there are challenges in adopting the Forestry Law and policy enforcement is weak in the concessions granted. Illegal logging of high value timber is wide-spread impacting natural protected areas and indigenous lands. Additionally, the GOP has stated its policy to fight the corruption network since September 15 in Ucayali but little has been seen in adopting clear measure to fight illegal logging.

There are some weaknesses associated with the process of assigning and managing forest concessions. Regarding the institutional framework, the first concessions were granted before OSINFOR was created. Thus these contracts were supervised by INRENA who did not have funds or personal to carry out this task. The result was that outdated maps were used when determining a concession's area creating conflicts and invasions by neighboring native communities, peasant communities, and coca farmers.

Another issue that arose was that the bidding process took place very close to prime harvest time and thus people did not have enough time to participate. For example, in Madre de Dios the public bidding was reduced to a period 30 days, which prevented the participation of many interested. Interested parties were also unable to visit areas of concessions thus not knowing the state of a forest before bidding took place. In fact those who did obtain concessions without scouting the area consider that they paid more than what an given concession had to actually offer. Finally another lesson learned form this experience, is that those who did obtain the concession reported that fees paid for the right to use a concession area was not representative of their activities and in fact the fee should be adjusted to reflect only the area they actually used (Galarza y La Serna, 2005).

At the beginning concessions were directed towards small and medium sized enterprises that generally lacked capital and/or experience. Also the public biddings allowed for the participation of individuals or small-organized groups of loggers. This determined that in Ucayali and Madre de Dios contracts were drawn for an average of 2.75 and 7.3 partners per concession respectively (ibid). Since loggers do not have a tradition of forming organized groups some of the partnerships had to reorganize after the contracts were drawn.

Lastly, managing a concession implies that loggers have to deal with more responsibilities such as labor laws, taxes, administrative and planning processes. These responsibilities are difficult to carry out in an industry where informality has been the norm and where participants do not have high levels of formal education.

Other agencies and organizations are also important in the forestry sector. The Supervisory Agency for Forest Resources (OSINFOR), which was absorbed into INRENA in 2004, is charged with enforcing the forestry law, including the GOP's quota on mahogany exports, now set at 23,621 metric tons. The concentration of both management and enforcement responsibilities in INRENA has resulted in ambiguity and inconsistency in the execution of governmental management functions. The National Forestry Consensus-Building Roundtable (Mesa Nacional de Diálogo y Concertación Forestal, MNDCF) − like similar institutions in Brazil, Paraguay, and elsewhere − is composed of numerous prominent governmental agencies and NGO's, and played a key role in facilitating the implementation of the new forestry law. It continues to be a locus of consensus-building in the forestry sector, and is being replicated in several regions of the country, including Ucayali, San Martín, Tingo María, and Loreto.

F.4. Forestry monitoring

INRENA is the national authority in charge of forestry sector. Among its responsibilities are the management and administration of forest resources and wildlife. The Forestry and Wildlife Intendancy (IFFS) within INRENA is in charge of watching over the sustainable use of forestry and wildlife resources via the regulation, supervision and participation of the players in the forestry industry, seeking to promote economic, social and economic development by establishing clear and long-term laws.

The Forestry Information Center (CIF) within INRENA is the unit specialized in preparing official statistics of the country’s forestry industry, preparing maps used in the forestry concession processes (it prepared the forestry maps in 2000 that were used to make an

orderly record of Amazonian forests and to establish the annual felling units) and to manage information on the wood flows in the country.

The Forest Lumber Resources Supervisory Office (OSINFOR) is in charge of the Supervision of Forest Concessions for the lumber industry in Peru, and was incorporated to the Organic Structure of INRENA in 2005. All INRENA departments, the forestry concessions granted for lumber, and the public institutions related to forestry are under obligation to provide information, whenever it is requested, to OSINFOR so that it can carry out its purpose.

Although the task of State forestry institutions is clearly defined by laws and regulations, one of the major problems they have to face is working with a budget that does not allow them to carry out their job properly. As a result, the State forestry institutions have concentrated particularly on the control and verification of plans and documents presented by individuals or companies to extract lumber in forestry concessions or forests of indigenous communities. Additionally, non-forestry State institutions such as the police force or the judicial system do not lend sufficient support to the forestry institutions to fully meet their duties.

F.5. Programs in the forestry sector and industrial activities

Non-Governmental Programs

Non-governmental programs play an important role in Peru's forestry sector. The Netherlands funded Project "Institutional Support to INRENA with a Focus on the Forest Sector", was a $ 2.1 million (U.S.) effort to implement sustainable forest management in the Amazon through institutional strengthening of INRENA, including support for a decentralized forestry administration system, improved communications and training, and leveraging donor funding. The project supported the launching of the concession process and helped INRENA sign 338 forest concession contracts through July, 2004.

The "Certification and Development of Peru's Forest Sector" (CEDEFOR) Project was focused to help reform, modernize, and promote sustainable management of the forest sector, through institutional strengthening in forest management, implementation of sustainable forest management and forest certification, and strengthening business management capacities and improved market access, especially for certified markets.

The Forest Development Promotion Fund (FONDEBOSQUE) is a public-private organization (with the Chief of INRENA as president of the Board of Directors) and mostly funded by the donor community with some funds from the GOP Economy Ministry. Its objective is to promote investment in sustainable and competitive forest enterprises and in environmentally responsible projects generating economic opportunities and conservation of biodiversity. Specific projects have included technical assistance to 31 forest concessionaires, including timber processing; 2) support to Brazil nuts harvesters (394,106 Ha); 3) support for construction of the first industrial timber products factory in Madre de Dios; 4) creation of a Forest Development Center in Oxapampa, with an estimated production of 730,000 seedlings and 5) creation of a forest business information center, and 6) establishments of high technology timber nurseries.

Industrial Sector

Although Peru's forest area covers 72 million hectares (Galarza, 2006), its contribution to GDP and global exports is barely 0.20% and 1.5%, respectively (PENX, 2004). The principal destination countries of lumber exports are the United States (61.7%), which demands mostly sawn lumber; and Mexico, in second place with 21.7 percent of the total (PENX, 2004). Table F.2. shows there is a strong concentration (83.4%) of exports towards the first two countries.

Table F.3. Peru's main timber exports by country

Countries	US% millions	Percentage
United States of America	70.0	61.7
Mexico	24.7	21.7
China (Including Hong Kong and Taiwán)	8.0	7.0
Dominican Republic	4.3	3.8
Italia	1.7	1.5
Venezuela	1.0	0.9
Others	3.8	3.3
Total	**113.8**	**100**

Source: National Strategic Plan for Exports 2003-2013, 2004

In Peru, the sawmill industry is the most important within the lumber industry. Currently, there are around 200 sawmills operating with an installed capacity of slight more than a million cubic meters. The most important sawmills are in the regions of Ucayali, Junin, Madre de Dios and San Martin (Guzman, 2000).

Twelve companies produce plywood, laminates and veneers and are located in the cities of Pucallpa (Ucayali), Iquitos (Loreto), Puerto Maldonado (Madre de Dios) and Lima (Lima). The plywood industry has an installed capacity of 105,240 m^3, while the laminate industry handles 20,784 m^3. It is important to note that both these industries in 2000 had an idle capacity of 49.9% and 42.2%, respectively (Galarza, 2006).

F.6. Indigenous people and forest management

Under the Forestry and Wildlife Law (Law Nº 27308), forest areas were granted for the forestry industry. Delimitation of forests was, to all practical purposes, a desk job, and the result was a series of overlaps on native communities with and without title deeds. These overlaps have increased conflicts in Amazonia (IBC, 2006).

According to the Ombudsman's Office (Defensoria del Pueblo, 2006), invasion of isolated indigenous peoples' territories by illegal loggers is a major crime. The Ombudsman's Office has received reports on loggers in Reserves granted to isolated indigenous groups in the Ucayali and Madre de Dios regions. In these cases, timber merchants extracted only cedar and mahogany by using illegally permits granted by INRENA for other extraction areas.

In some cases, there have been clashes between illegal loggers and the isolated or initially contacted indigenous groups. An extreme case occurred in the Madre Dios region, where the Mashco Piros or Iñapari isolated groups attacked the illegal loggers with bows and arrows. And, in 2004, also in the Madre de Dios region, isolated indigenous people killed an illegal logger (Defensoria del Pueblo, 2006).

In 1995, AIDER formulated the Conservation of Communal Forests project, with the initial participation of 22 indigenous communities. Currently, five indigenous communities are in the certification process for 35,000 Ha with training activities centered on forest management, use and maintenance of portable sawmills, power saws, minor transport and secondary transformation machinery. This is allowing the development of indigenous community forests within the certification system.

The actions being taken in each of the member communities permits:

- Control with State support of communal forests.
- Guarantee of communal territory.
- Better protection of the forest and its biodiversity.
- Compliance with national and international laws, and respect of indigenous culture.
- Diminished indiscriminate logging or use of other resources.
- Increased profits in the use of forestry resources (better prices).
- Sale of transformed wood (value added) instead of selling untreated logs.
- Encouragement of economic development based on sustainable use of forest resources.
- Lessens indiscriminate felling of the forest.

Another valuable experience in management of tropical forests with the participation of indigenous communities is being carried out through the FORIN project (Strengthening of Sustainable Forest Management in Territories of Indigenous Peoples of Peruvian Amazonia), executed by the WWF and financed by the European Union.

F.7. Gender issues in the forest sector

The reality of rural Andean communities shows that there is an intimate connection between women, the communities, and trees, a relationship rarely recognized in development programs. It is also evident that women, besides their tasks related to reproduction, have an ever greater direct relationship with the different facets of production since, while the men migrate from the community to supplement the family income, the women take over the responsibilities of the crops, livestock, handicrafts and trees, when they have them. (Balarezo 1996).

In forestry the participation of women, particularly in rural areas, has been very significant. An example of this is the experience of AMUCAU (Association of Peasant Farmer Women of the Ucayali), which has been working indirectly in business development projects for reforestation of bolaina and capirona trees. Another example is that of the Aguaruna Communities in the area of the Alto Mayo and Naranjillo, in the department of San Martin; in the Alto Mayo, the women make handicrafts such as hats and baskets, and thus increase the value added to bamboo products; at Naranjillo, the women head the work in the family plots by implementing the agro-forestry systems with pijuayo and other tree species. (Dancé and Alfaro 2002).

Additionally, in the planning and implementation of forestry, farming or rural development projects, the family has been mistakenly considered as an analysis unit with the male members as the only executors of decisions and as principal sources of information. The role of other members of the family has almost never been taken into account, and this

has led to poor levels of participation and unfair results, especially for women, and ultimately poor efficiency of the projects. Nevertheless, women, old people and children frequently contribute with work, knowledge, skills and specific priorities in agricultural and forestry production. To ignore them is to cast aside more than half of the participants in the farming and industrial forestry production systems (Balarezo 1996). For example, women are affected by the deterioration of soils and desertification because it is they who collect the firewood and must ensure there is a supply of water for the family's vital needs. And they are also responsible for putting the food on the table, which often comes from forest and agro-forestry products, or that could be substantially improved with them, and they maintain the homes which they build with wood, and care for the sick with traditional medicines that come form the forests.

G. Conservation outside of natural protected areas

G.1. Introduction

Currently, conservation efforts worldwide show a trend towards focusing efforts on private lands and in general towards private action. In Peru, the proportion of public lands is greater than that of private lands. Although conservation efforts in Peru continue to be more focused on public lands, private conservation projects are increasing and will be an important component in the country's overall conservation mission. Nonetheless, dealing with issues outside natural protected areas are complex since stakeholders and economic activities are diverse. Challenges include a variety of socio-economic factors associated to the sustainable development of rural and traditionally marginalized populations, a mostly incipient collaboration between government entities and the private sector that needs to be expanded, as well economic forces at the local, national and international levels.

G.2. Management of natural systems

Currently Peru recognizes several types of private conservation efforts. These include areas of private conservation, ecotourism concessions, conservation concessions, and wildlife management concessions. These projects follow legislation set forth by the Forestry and Wildlife Law and the Natural Protected Areas Law. The laws and regulations are similar and complementary to those applied for Natural Protected Areas. However, they are tailored to a different set of goals since these enterprises work within a different context. To be considered a private conservation enterprise or project, the following goals must be met:

- Improve the conservation coverage in the country.
- Work in conservation within the rule of law.
- Carry out sustainable eco-businesses.
- Improve the quality and conditions of life among local populations.
- Give value (and formal occupation) to the forest or to areas worthy of conservation.
- Relive the State of roles that can be well executed by the Private Sector.

Although there are not many private conservation efforts taking place in Peru, considering the size and wealth of natural resources, there are a select number of cases that are currently in place. Their experience helps explain some of the opportunities and also challenges faced by this sector of conservation.

Areas of private conservation

An area of private conservation is private property that because of its environmental, biological, scenic, and/or other features contributes towards complementing the coverage by SINANPE, by contributing to the conservation of the biological diversity, increasing the supply of areas for scientific research and education, as well as opportunities for development of specialized tourism.

Private conservation areas constitute private property lots with preexisting ownership titles or lands with significant natural value, whose owner voluntarily requests this legal status. The declaration or recognition of the property is an administrative act (Ministerial Resolution), made at the request of the owner. The private property is subject to conditions of use and restrictions, needs to be registered in the Public Registry and to be valid for a minimum of ten (10) years, renewable at the request of the owner. The following is a summary of the areas of private conservation granted from 2001 to 2006 (Table G.1.)

Table G.1. Private conservation areas from 2001-2006

Private conservation areas	Surface (Ha)	Region	Year
Chaparri	34,412.00	Lambayeque, Cajamarca	2001
Bosque Natural El Cañoncillo	1,310.90	La Libertad	2005
Huiquilla	1,100.00	Amazonas	2006
Pacllon	12,896.56	Ancash	2005
Sagrada familia	75.80	Pasco	2006
Huayllapa	21,106.57	Ancash	2005
Total	**70,901.83**		

Fuente: INRENA, 2006

Ecotourism concessions

Ecotourism concessions are granted on lands that are capable of greater forestry use or in forests protected by INRENA. This foresees the payment of usage rights to the State, calculated according to the area requested for the ecotourism concession (in areas not suitable for lumber production). When a request is filed for an area within a permanent production forest, the amount of the usage rights is the same as that determined for lumber concessions. Table M.14. in the appendix shows a summary of the ecotourism concessions granted since 2006.

INRENA, through the document RJ Nº 209-2004-INRENA, approved the value of the usage rights for direct ecotourism concessions located in the Amazonian region outside or partially within the permanent production forests (US$ 0.9/Ha). The fee is paid at the start of each year of operation. On concessions requested and granted outside the Amazonia, INRENA will determine the value of usage rights for each separate contract.

Conservation concessions

Conservation concessions seek to involve private business in the conservation of forests, biodiversity and the environmental services that depend on them. These concessions promote scientific research, environmental education, and facilitate the application of national and local strategies aimed at sustainable development with the participation of the local population. Conservation concessions are non-transferable to third parties and they cannot be subject to taxes or encumbrances, mortgages or similar burdens.

Conservation concessions are granted preferentially in forests that are not classified as permanent production forests and in protected lands for periods of up to 40 years, renewable. The concessions are granted free of charge, according to the regulations governing the Forestry and Wildlife Law (article 119).

Conservation concessions in protected land forests are not subject to paying usage rights because they constitute a voluntary contribution for the management of these areas. In cases where a secondary activity is carried out to use products other than wood and/or wildlife, the payment of rights to use resources is equal to 150% of those set for using these resources in other areas. In cases where ecotourism is a secondary activity, the payment of usage rights is equal to 10% of the total amount charged per visitor. Table G.2. shows a summary of the conservation concessions granted up until 2006:

Table G.2. Summary of the conservation concessions granted up until 2006

Concessionaries	Surface (Ha)	Region	Year
ACCA	135,832.00	Madre de Dios	2001
ACCA	10,113.24	Madre de Dios	2005
APRODES	1,776.54	Junin	2005
Paraiso de Yurilamas	6,966.40	San Martin	2005
AICON	30,828.19	Loreto	2005
CI	12,772.12	Madre de Dios	2005
Picaflor research center	1,334.13	Madre de Dios	2005
Lotty Morey	38,699.00	Loreto	2006
Amaru mayo	3,552.80	Madre de Dios	2006
WCS	9,926.19	Loreto	2006
Antonio Fernandini	479.57	Madre de Dios	2006
Carlos Berninzon	7,445.93	Tumbes	2006
Universidad Alas Peruanas	2,599.91	Ucayali	2006
Queros	6,975.99	San Martin	2006
Huayabamba	143,928.00	Cusco	2006
Total	**413,230.01**		

Fuente: INRENA, 2007

Wildlife management concessions

There are not many well-developed examples of projects involved in wildlife management concessions. One example is a poison-dart frog project in Tarapoto called ASPRAVEP (The Association of Producers of Poisonous Frogs Progreso). The INRENA document RJ Nº 243-2004-INRENA (2004) approved the Technical Proposal presented by ASPRAVEP and granted the concession for wildlife management areas in the form of a direct concession. It also approved the base amounts of the usage rights of wild fauna per species. In this case, the approval usage rights are temporary.

The methods of management and use (ex situ conservation) proposed are summarized as:

- Artificial provision of optimum conditions for feeding and the reproduction of the *Dendrobatidae* and *Hylidae* amphibian species.
- Strategic placement of recycled plastic containers of water and food.
- Management, care and supervision of eggs laid by the reproducers.
- Collection of juvenile samples obtained artificially, and the sale of juvenile individuals obtained by 100% artificial means.

The contract will allow the inhabitants of the Tarapoto zone and surrounding areas to make sustainable use of the wild flora and fauna, which in its initial stage will consist of breeding and exporting frogs to the United States and European markets. However, there are also proposals to export orchids and other wildlife products of the area.

Reforestation concessions

During the 1960s, forestry plantations were established in peasant communities in the Andean highlands, as part of a Ministry of Agriculture initiative. Currently, the reforestation is carried out with technical assistance from private and public institutions, municipal, and regional governments via the Soils and River Basins Management Project (Proyecto Manejo de Cuencas Hidrográficas y Conservación de Suelos -PRONAMACHCS; the Civil Association for Forestry Development-ADEFOR, Universities and NGOs).

The country has 10.5 million hectares of land that is suitable for reforestation, of which approximately 850,000 ha have been reforested, an amount below the desired level. The forest plantations are located in areas of private property, native and farming communities, individual farms, and state lands, which have been planted with the participation of the local population.

INRENA together with PRONAMACHCS promotes and supports forestation as a priority for industrial use (lumber and other products and environmental services). The concessions are granted to:

- Lands suitable for forestry.

- Land with no vegetation coverage.
- Non-arable land.
- Areas for forest recovery with no vegetation coverage or scarce tree coverage, or that include low commercial value species.
- Riversides.

The concession periods granted for forestation and reforestation are for 40 years renewable and on a maximum area of 40,000 hectares. The forest planted must be registered, at no charge, with INRENA and the user has the right to acquire an extraction permit. In the case of fire or felling by third parties, INRENA will be able to prove the existence of the plantation concession.

G.3. Ex-situ conservation

Conservation ex situ, or off-site conservation, is defined as "the maintenance of components of the biological diversity outside their natural habitat" (CONAM, 2007). The principal objective of ex situ conservation is to support the survival of species outside their natural habitat. It is, thus, considered a strategy that acts as a complement to the preservation of species and genetic resources in situ.

There are different forms of ex situ conservation; species for food and farming are usually kept in germoplasm banks, wildlife species in holding and management centers that are divided into fauna centers (zoos, rescue and in transit centers, breeding zoos and museums), and flora centers (botanical gardens, nurseries and herbariums). Table G.3. defines the different kinds of fauna and flora centers.

Table G.3. Definition of the types of flora and fauna centers in Peru

Ex situ conservation of wildlife	Definition
Fauna Centers	**Zoos**: Centers that maintain a collection of wild fauna that is open to the public in order to promote the conservation of wildlife through recreational environmental education, biological research, and the protection of endangered species.
	Rescue centers and temporary custody centers: Places designed to receive and properly maintain animals that have been victims of species trafficking, in order to rehabilitate them and later release them into their natural habitat.
	Commercial nurseries: Public or privately-owned centers dedicated to the keeping and breeding of wild animals in captivity or semi-captivity conditions, for the commercial production as food, industrial or recreational use, etc.
	Museums: Places that hold dead collections of fauna and/or flora specimens, principally for research and education.
Flora Centers	**Botanical gardens**: Open air spaces that grow collections of wild plants for conservation, research and recreational education.
	Herbariums: Collections of dried botanical voucher specimens, arranged in determinate order to be used as a source of reference in botanical and taxonomic research. Also used for research in ecology, evolution, morphology, etc.
	Nurseries: Centers that grow plants on a permanent basis for conservation or research, or on a temporary basis for commercial production and sale.

Source: CAN, 2003

Fauna Centers:

Zoos: According to current legislation, this type of center is for keeping wild fauna for non-commercial purposes. In Peru, there are 25 zoos authorized by INRENA (www.inrena.gob.pe), of which 24 are located in the Lima region and one in the Madre de Dios region. Table M.15. in the appendix shows a list of the species found in these zoos. The most important zoos, in number of species and individual animals are the Parque de las Leyendas and the Huachipa Zoo, both in Lima. The Parque de las Leyendas has 2,100 individual animals belonging to 268 different species: 87 species of mammals, 103 species of birds, 32 species of reptiles, 42 species of fish, 4 species of amphibians, and 23 families of plants (www.patpal.gob.pe). The Huachipa Zoo has 2,000 individual animals distributed in over 300 species, and also has over 70 species of cacti and other succulent plants (www.zoohuachipa.com.pe).

Rescue and temporary custody centers : Current legal guidelines indicate that this type of center is for management of wildlife for non-commercial purposes. In Peru, there are only three non-commercial wildlife rescue centers. These are located in San Martin, Madre de Dios, and Lima. The first holds common woolen monkeys and spider monkeys, the second holds primates, and the third, birds of prey. The only temporary custody center is located in the department of Loreto and holds species of scarlet macaws, blue macaws, jaguars, monkeys, Brazilian tapirs and river turtles (www.inrena.gob.pe).

Commercial breeding center: This type of center is for the commercial management of wild fauna. There are currently 85 commercial breeding centers (zoocriaderos) in Peru (www.inrena.gob.pe). Curiously, most of these breeding centers (51.76% of all centers nationwide) are concentrated in the Lima region, despite the fact that the natural habitats of the managed species are found elsewhere. According to Mulanovich (2007)[1] there are several reasons for this pattern, namely that the commercial breeding centers in Lima have greater access to financial, economic and technological resources to set up their centers, and they are also closer to the bureaucratic center of INRENA (see Table M.16. in the appendix for a list of breeding centers).

The commercial breeding centers in Peru are proposed as a mechanism to remove pressure from fauna species in their wild habitat by supplying specimens reproduced in captivity for the national and international trade, such as for skins and leather. Additionally, the commercial breeding centers could be a potential source for repopulation of specimens.

The legislation is seen as the principal problem for the commercial breeding of birds, amphibians and reptiles, followed by few financing options available and few market circuits. The technology package of breeding, the health systems for commercial breeding, reproduction systems and feeding regimens for species are considered secondary (CONCYTEC Seminar 2003, cited by Portilla, 2005).

In the case of mammals, the problem is seen to be an absence of research followed by obtaining successful reproduction in captivity, feeding systems, technological package available to inform breeding procedures, and the health system in commercial breeding (CONCYTEC Seminar 2003, cited by Portilla, 2005).

To complement the above, PROMPEX (2002) set out the problems as follows:

- The law is confusing, centrist, with very stringent requirements for those who wish to enter the industry, and there is little information on development of breeding technology, reproduction and the health and sanitation requirements of native species.
- The lack of solutions to these problems available to the commercial breeder affects production and export costs, indirectly encouraging illegal trade of species that are caught directly in the wild.

Mulanovich (2007) suggests that there must be a re-categorization of commercial breeding centers, since even people with one animal are considered commercial breeders. Also, there is no technical support by INRENA to establish the number of species necessary to establish viable genetic pools[2]. He also believes that the administrative process must be simplified, and considers that the main bottleneck is the time involved in the paperwork process.

Lastly, according to the Andean Community (2003), there is no exact information available on the number of individual animals or species that are being bred under this system. However, what is known is that birds are the most heavily exploited wildlife group at commercial breeding centers, followed by mammals and herpetofauna.

[1] Personal communication with Augusto Mulanovich, owner of the butterfly farm and the butterfly house in Tambopata, Madre de Dios.
[2] If the breeder requests permission to capture a certain number of species for their genetic working pool INRENA only allows the capture of a smaller number of species but does not justify its decision nor provides clear criteria for this decision.

Museums: Peru's most important museum is the Natural History Museum, belonging to the San Marcos University. This museum exhibits around one million samples, representing almost all the wildlife that exists in Peru. The number of mammals, birds, fish, amphibians, reptiles, insects and spiders are shown in Table G.4.

Table G.4. Wildlife collections in the Natural History Museum-UNMSM

Groups	Approximate number of individuals
Mammals	25,000
Birds	26,000
Fish	300,000
Amphibians-reptiles	25,000
Insects	600,000

Source:: www.museohn.unmsm.edu.pe

Flora Centers

Nationwide, there are 22 institutions (11 state entities, 2 international centers, 5 private, and 4 NGOs) that hold ex situ genetic banks and, with a varying degree of efficiency, maintain a total of approximately 54,351 registrations corresponding to 255 species of plants of different uses, including nutritional, fruits, medicinal, aromatic, industrial, ornamental, forage and forestry species.

Germoplasm Banks: On the issue of ex situ conservation, the publication on Regional Biodiversity Strategy for Countries of the Tropical Andes (*Estrategia Regional de Biodiversidad para los Países del Trópico Andino*, CAN, 2003) identifies 31 institutions that keep genetic material of plant species (nutritional, fruit, medicinal, aromatic, industrial, etc). Among the public institutions worth mentioning are the National Institution for Agrarian Research (INIA), which holds 44.9% of the total registrations and possesses 11 germoplasm banks, and the Agrarian University La Molina, with 6.4% of the registrations. Of the international centers, the most important is the International Potato Center (CIP), which holds 32.2% of the entries for potato, sweet potato and other Andean tuber crops (Cuanto, 2002). Table M.17. in the appendix lists the institutions that possess germoplasm banks.

Herbariums: The San Marcos Herbarium at the Natural History Museum, of the San Marcos University, holds the most representative number of species and samples. This herbarium has 500,000 specimens and an annual addition of 10,000 samples of plant species (www.museo.unmsm.edu.pe). Table M.18. in the appendix provides a list of herbariums in Peru.

It is important to point out that starting in 2001, CONAM formed a technical group for the "Ex Situ Conservation Centers Network", in order to manage and make rational and integral use of renewable natural resources and their ecological environment. This network of centers is made up by the following institutions:

- Colegio de Biólogos del Perú (COLBIOP)
- Concejo Nacional de Ciencia y Tecnología (CONCYTEC)
- Comisión Nacional para el Medio Ambiente (CNMA)
- Instituto de Investigaciones de la Amazonia Peruana (IIAP)
- Instituto del Mar del Perú (IMARPE)
- Instituto Nacional de Investigación Agraria (INIA)
- Instituto Nacional de Recursos Naturales (INRENA)
- Sociedad Peruana de Derecho Ambiental (SPDA)
- Universidad Nacional Mayor de San Marcos (UNMSM)
- Universidad Nacional Agraria La Molina (UNALM)
- Universidad Peruana Cayetano Heredia (UPCH)
- Universidad Privada Ricardo Palma (UPRP)
- Patronato Parque de las Leyendas (PATPAL)

G.4. Impacts of development projects on biodiversity

Highways

Peru's three regions have a great number of both renewable and non-renewable natural resources that constitute the economic foundation of the national economy. A PNUD study (2006) states that in spite of this wealth, the country offers a poor highway network (Table 38) that makes exploitation and transport of these resources difficult and expensive. Although highways are necessary for the country's development and integration, in many cases they also represent a threat to biodiversity and rainforests since they open access to previously remote areas. In general terms, Dourojeanni (2006) points out that the direct impact of roads are not as significant as the indirect impact. Indirect impacts include poverty associated to the population growth caused by migrations encouraged by roads. This is compounded government policies that favor settlements along these areas.

At present, two longitudinal highways are being built (Inter-Ocean Highway and the Paita-Yurimaguas Highway), that seek to join the Jungle and the Coast in order to boost development in those Peruvian regions that are economically depressed and isolated. In the case of the Inter-Ocean Highway, the Amazonia stretch (Madre de Dios, Cuzco, and Puno) is the most hotly debated, mainly by NGOs, not on the works itself, but the fact that it goes through one of the areas with the greatest concentrations of biodiversity on the planet, including a high proportion of endemic species. The area is also valuable given its good general conservation condition and the diversity of ecosystems caused by the altitudinal gradient. In his Case Study regarding the Inter-Ocean Highway in the Peruvian Southern Amazonia, Dourojeanni (2006) reviews both direct and indirect probable environmental impacts on the Amazon region, shown in Tables G.5. and G.6. respectively.

Table G.5. Potential direct environmental impacts by the Inter-Ocean Highway[3]

Flat stretches (Amazon plain)	Inclined stretches (High jungle y Jungle rim areas)
Deforestation along the right of way	Deforestation along the right of way, more severe and visible because of the land cuts
Moderate changes in the landscape, migration and fauna movements disrupted.	Drastic changes in the landscape (of a very high scenery value) by the road itself and its cuts and landslides. Disruption of migrations and fauna movements.
Cut and diversion of water courses and impact on the water systems	Cut and diversion of water courses and impact on the water systems
Indiscriminate hunting and fishing by workers	Indiscriminate hunting and fishing by workers
Cutting of slopes and use of explosives, thus frightening the fauna away.	Cutting of slopes and use of explosives, thus frightening the fauna away.
	Generation of permanent landslide and mudslide spots, due to the instability created by the highway.

Source: Dourojeanni, M., 2006

[3] Impacts close to the highway at an approximate distance of 1 km, on both sides of the highway (Dourojeanni, 2006).

Table G.6. Summary of probable indirect environmental impacts in the Inter Ocean Highway's area of influence

Indirect (up to 50 Km. on both sides of the highway)[4]	Indirect (throughout the region)
Increase in deforestation due to both legal and illegal agriculture (migration) on soils that are not suitable for farming.	Cumulative impacts from other supplementary works.
Increase in forest degradation due to both legal and illegal logging, unmanaged and non-replaced forest exploitation.	Increase in forest degradation due to both legal and illegal, unmanaged and non-replaced forest exploitation.
Increase of illegal hunting for meat, hide, skin trade, and especially, for live animal trafficking.	Increase of illegal hunting for meat, hide, skin trade, and especially, for live animal trafficking.
Increase of indiscriminate fishing, frequently by using dynamite and poison.	Invasion of protected areas.
Loss of biodiversity and scarcity or extinction of species due to deforestation, hunting or fishing, and contamination	Loss of biodiversity and scarcity or extinction of species
Soil erosion due to deforestation on slopes and poor soil management for farming purposes.	
Soil and water chemical contamination due to agrochemicals abuse, drug processing, or mining activities.	
Reduction of forest environmental services (water cycle, CO_2 fixation, etc.)	
Invasion of protected areas	
Significant reduction of scenery and tourism values in both the high jungle and jungle rim areas.	

Source: Dourojeanni, M., 2006

Mining

Mining exports in Peru represent 56% of total exports (BCR, 2006). Peru leads in the production of minerals (i.e zinc, copper, lead, tin, silver, and gold) at both Latin American and worldwide levels (Ministry of Energy and Mines 2006). In spite of this input to the national economy, the impact it generates on the environment and the settlers around the exploitation areas has been the cause of constant concerns. According to the Ministry of Energy and Mines; Sanctions and Fines Report (2006), 50% of the sanctions to mining companies are due to environmental causes and conflicts between the local settlers and the mining companies.

Peru's institutional framework assigns the main regulatory responsibilities of pollution control and environmental management to the environmental units created within each sector's authority. The energy and Mining sector spearheaded these efforts by developing sectoral norms based on the use of Environmental Impact Assessments (EIA), Environmental Adaptation and Management Plans (PAMAs), and Maximum Permitted Limits (LMSs).

Peru's sectorized approach to environmental management and pollution control has resulted in a wide variation across sectors in terms of the development of appropriate regulation to safeguard the environment and limited institutional capacity to apply those regulations effectively. Currently, each sectoral ministry is responsible for defining the EIA process and terms of reference for the environmental impact studies. The result has been a lack of consistency in the approach, content, timing, and requirements of the EIA legal and regulatory process, which creates a lack of standardization and uniformity in the project planning and approval process. Ministerial staff are largely inexperienced and significant turnover and lack of financial resources for training have inhibited a response to this situation.

The environmental and social impacts of the mining industry are hotly debated and certainly politicized by those favoring and those opposing mining operations. This makes an objective analysis of the exact impacts of the industry difficult at this time. Although more organizations and government entities are engaging in finding solutions to these problems, there continues to be sparse and impartial information that provides data regarding the industry's true impacts.

[4] According to Dourojeanni (2006) distance on both sides of the highway is taken into account.

However some impacts are recognized in the form of environmental liabilities produced by the mining industry. These mostly stem from the inadequate management of waste that can filter or are disposed of into water sources also disrupting associated ecosystems. Table G.7. lists the top seven environmental liabilities observed in the mining industry. An example of this situation is Cerro de Pasco and La Oroya. According to a study by the Ministry of Economy and Finance (MEF), there are 610 environmental liabilities with claim costs estimated at US$ 200 million (Defensoria del Pueblo, 2005); 72% of these liabilities could be attributable to companies that should be in charge of the solutions, while the remaining 28% would have to be solved with public funds. The low sums calculated by MEF are striking; according to the Ombudsman's Office (Defensoria del Pueblo, 2005), this is because studies frequently overlook the fact that the environmental liabilities represent miscellaneous economic losses.

Table G.7. Environmental liabilities associated with mining activities

	Negative effects
i	Destruction/pollution of productive lands (i.e. for agriculture)
ii	Destruction/pollution of ground water
iii	Pollution of water sources by acids, sediments, and salts.
iv	Degradation of life forms dependant of aquatic ecosystems.
iv	Changes in river dynamics.
vi	Air pollution.
vii	Erosion and landslides.

Source: Banco Mundial, 2006

In order to deal with the environmental liabilities produced by the mining sector the government and the private sector have begun a series of initiatives. From 2001 to 2003 the government elaborated a project aimed at eliminating mining liabilities stating four main objectives: i) carry out a diagnosis of the of the environmental impacts for each mining liability; ii) identify and develop technologies for environmental rehabilitation; iii) adopt preventive measures to avoid the filtration of acids stemming from exploitation activities, and reduce the risk of cracks and filtrations in areas of waste disposal; and iv) reduce or eliminate the negative effects of mining liabilities on public health, flora and fauna, and surrounding economic activities. Through this project 650 mining liabilities were identified, of which 75% refer to mining concessions whose owners or operators can be identified.

On the other hand, it should be recognized that the mining industry is increasingly becoming more aware of environmental problems and actively addressing them in their operations. According to the World Bank (2006) bilateral cooperation between mining companies and research institutions have resulted in the hiring of qualified environmental professional that aid in preventing mining liabilities. A good example is the Peruvian-German Project of Mining and Environment (Proyecto Peruano-Alemán de Minería y Medioambiente), who works in conjunction with Germany's Federal Institute of Geosciences and Natural Resources (BGR),

Hydrocarbons

In the past few years there has been a strong increase in investments in the oil and gas industry. This is due to the high international oil prices and the discovery of large gas fields in Peru's southern jungle. The Government has also contributed to increasing these investments by granting a series of incentives (especially tax incentives) to both national and international private companies.

These investments represent, on the one hand, cash income both to the local and central governments. However, this industry in each of its stages generates a series of very significant impacts on the human settlements in the area, the existing biodiversity, and the environment on the whole. Some of the most significant impacts on forests and biodiversity are shown below (Table G.8.).

Table G.8. Oil and gas industry impacts on forests and biodiversity

Impacts on	Impacts
Forests	Seismic prospecting requires opening up trails, and each seismic line is around 1 Km. long and 3-10 m. wide. In a seismic campaign, up to 1,000 Km. of seismic lines are cut. In many cases, seismic prospecting requires the construction of heliports (1/2 Ha each), often between 1,000 and 1,200 are required. Construction of infrastructure (drilling platforms, camps, etc.) that generates deforestation. Construction of highways and oil/gas pipelines causes direct deforestation. Additionally, highways allow for the arrival of settlers.
Biodiversity	During seismic prospecting, high magnitude noises are produced, as well as the noise produced by the helicopters that supply materials and food. These noises frighten away animals and birds, or cause behavioral changes. Another impact on the local fauna is hunting by the workers. Construction of oil infrastructure disrupts significant biological corridors. Oil and gas exploration and development produce a series of pollutants (saline water, clays, etc.) that, once they reach the rivers or brooks, have a negative impact on all life forms related to these water sources.

Modified from www.accionecologica.org

The hydrocarbons issue is complex and merits more discussion yet is beyond the scope of this assessment. Worth mentioning briefly is the Camisea Gas Development Project (Block 88) and the construction of pipelines in Peru (details regarding legislation and history of the project can be found in Annex M.19.). This project has received considerable attention in the press and by conservation organizations and thus is well documented and helps illustrate some of the issues and manners in which environmental issues are handled. It is also one of the most important energy infrastructure projects being developed in Latin America. These gas reserves will allow the country to reduce its current hydrocarbon deficit and the potential development of a gas-based petrochemicals industry. The Camisea situation illustrates a classic conflict between an enterprise that can aid the economic development of the entire nation while at the same time impacts large areas of high conservation priority. These impact stem from the effects of large scale infrastructure (roads, pipelines, settlements, etc) on the surrounding areas, exploration and scouting activities, waste disposal and management, and all the social consequences of opening roads and providing new economic opportunities (generally in the form of wage labor) to marginalized populations that will either migrate to the area or change traditional more sustainable resource management activities.

G.5. Land-use conversion threatening biodiversity and tropical forests

The change in the use of lands is the principle cause of deforestation in Peru, and consequently of the loss of its biological diversity. We believe the changes in land-use patters are directly linked to the loss of biological diversity since there is alteration and loss of habitat, overuse of natural resources, introduction of species and diseases, illegal hunting and trade of wildlife, climatic changes, and pollution. The direct and immediate causes respond to a series of social, economic, political and cultural factors that influence decisions regarding the use of the resource at a local level (underlying socio-economic causes). The first nationwide proposal addressing the underlying socio-economic causes of the loss of biological diversity, identified the following as key causes for loss in biodiversity (Portilla, 2001):

- Poverty and inequality
- Demographic changes
- Market failures
- Policy failures
- Poor and ineffective governance
- Corruption
- Drug trafficking

Poverty and inequality

Poverty (measured according to level of income, basic needs unmet, or absence of capabilities) put pressure on the individual to use natural resources inappropriately when local natural resources are the source for food, health, housing and, also, monetary income. Natural

protected areas and regions of high conservation priority tend to be located in rural areas where rural populations are those in most direct contact with these resources and their subsistence is directly dependant on them. The causal relationship between poverty and the environment is well documented in the literature and evident in the fact that most conservation strategies include a sustainable development component. However the problem lies in that rural populations are characterized by having a poor understanding of market dynamics, lack of political organization and power, and high migration patterns to “frontier areas” where the abundance of natural resources are perceived as providing better economic opportunities. Thus poor populations are always in a disadvantageous position and vulnerable to changes. In terms of conservation efforts, which take time to successfully implement, poor people often do not have the time or resources to wait for results and thus are likely to opt for more short-term benefits. However, as the next sections will show, these issues are recognized by conservation efforts in Peru and some example show positive trends.

Demographic changes

The growth of the population increases the pressure to use natural resources and encourages unplanned occupation of spaces provoking, for example, the fragmentation of habitat, deforestation, drainage of wetlands, the change of farmland to urban lands. And the increase in the use of natural resources generates overuse and its depletion. Local demographic growth is the result of displacements and migrations caused by wars, scarcity of resources, a lack of development opportunities, and political or economic uncertainty (Santos and Barclay 1995). Box G.1. presents highlights these issue through the Kivinaki case in the Junin region.

Box G.1. Ecological deterioration of Kivinaki

The area of Kivinaki is situated on the right margin of the Perené River (Junín region). Until 1950, this area was almost exclusively inhabited by Asháninka families that lived in Adventist missions (1920-1940). With the increased flow of settlers (1950s), the indigenous population grouped into the current native communities of Kivinaki, Pumpuriani and Cerro Picaflor.

The photo above right shows the area of Kivinaki in 1957. At that time, the Marginal Highway had not yet been built nor were there any roads through the forests. In this photograph, the forest is only interrupted by small clearings where the Asháninka settlements are, their fields and purmas, and by a few clearings, some larger than others, that were ancient grasslands. The forest area is 86.2%.

The middle photo, right, shows the Kivinaki area in 1977. By that time the Marginal Highway already linked the valleys of Satipo and Chanchamayo and the forest roads had already been built that lead from the highway to the areas inland. Forest area is 63.1%.

The photo below, right, shows the area of Kivinaki in 1983. In this photo it is difficult to locate the area of virgin forest and partially recovered secondary forest, and a large part of the area is covered by small cultivated plots or swidden cultivation areas lying fallow, especially on the right bank of the Perené. The populated center of Kivinaki can be seen to have increased in size and density. Forest area is 23.8%.

Source: Santos and Barclay, 1995

Market failures

The consideration of market failures in market-based conservation projects is critical since success is directly linked to creating economic benefits. In other words, it does not matter if a project has good environmental management plans, stakeholder participation, or follows laws and regulation, if it fails as a business the overall conservation goal is not met. Market failures refer to the imbalances between the individual and social rationality of a market; they originate when economic agents do not respect inter-generation equity, leading the current generations to seek to obtain the greatest use of resources, which causes overuse of natural resources (for example, biodiversity) and a low level of investment in its conservation and recovery. Some of the more obvious market failures are the following:

- Insecurity over property and free access to resources.
- Externalities.
- Misperceptions.
- Absence or deficiency of markets.
- Irreversibility.

Insecurity of property and free access to resources

When property rights are badly defined or unprotected, this makes it unclear who has the right to benefit from a resource or who has the right to protect it or conserve it. It can also lead to an unsuitable investment in maintaining the quality of the resources. The so-called Tragedy of the Commons (Hardin 1968), consisting in the excessive use of the free access to a resource, happens because there is not only no mechanism to regulate the use of the resources but also because no one takes responsibility for the total costs of the environmental damage produced. Over-fishing, overgrazing, the excessive use of genetic resources, the excessive use of underground water sources, are all classic examples of the tragedy (Glave, 1995). One possible solution to the issue of property rights are concessions system or privatization. These two mechanisms help to eliminate the situation of free access to resources, which is the current situation for renewable natural resources (including some elements of biodiversity).

Externalities

An externality is when the production activities of economic units are affected by what is perceived to be unrelated economic agents. Externalities can take the form of a private or public asset, depending on the nature of the asset and the number of agents involved. Externalities may be negative or positive, if the effect generated on other agents is a cost or a benefit, respectively (Seinfeld et all, 1998). One example of a negative externality is the mining industry (gold mining) in Madre de Dios, where the industry uses mercury to separate the gold from the sediments, thus contaminating the rivers, the wildlife and the inhabitants.

Externalities are elusive (Starret, 1974) and whoever takes an interest in maximizing its benefits has no incentive in being concerned about the cost it may cause other economic agents, unless legislation is in place to govern the externality in question and permit claims for damages caused by this externality (DFID, 1997).

Misperceptions

Misperceptions occur when there is a lack of accurate information in the market; our knowledge of various ecological processes and the effect that we have on them is poor and it may possibly never be reliable. Added to a misperception, individuals carry out activities that yield high returns in the short term but low returns in the long term, compared to other more sustainable alternatives.

The lack of perception is the result of ignorance and uncertainty of the social result of economic activities related to biodiversity. This is why the practice of buying wild animals (e.g. parakeets), plants of products (e.g. orchids) or of cultivating certain non-native species (oil palm, soy, etc) have unexpected results (costs). These can include the reduction of the population of native species, a loss in soil productivity, and the introduction of pathogens and plagues, etc.

Absence and/or deficiency of markets

For many environmental resources, markets simply do not exist or are imperfect. It is, therefore, not strange to see undervalued or distorted prices or no price at all. For example, a study of the economic value of the Cordillera Escalera Buffering Forest (San Martin) determined that the value of each hectare of forest for the environmental service of generating and regulating the water cycle came to US$ 4,015/Ha/year, and the value of carbon capture service varies between US$ 385.51/Ha/year and US$ 596.25/Ha/year. However, the absence of a market that would allow the negotiation of these types of benefits means that these values cannot be translated into monetary terms (Portilla, 2001).

Irreversibility

Irreversibility are problems associated with sustainability since decision-making regarding conservation or use of a resource or eco-system is inevitably associated to risk and uncertainty. Decisions made by the economic agent do not take into account the panoply of possible future situations and their probabilities; also, the environmental damages produced in the process of making the decisions can be irreversible, given the degree of complexity in the relationship between the socio-economic system and the environment. Irreversibility invalidates the possibility of learning or perfecting since it is not possible to repeat the decision rule if the natural resource has disappeared. For example, in the case of Huaypetue (Madre de Dios), where since the start of the mining industry no measures were taken to guarantee sustainability, the limits needed to regenerate the ecosystem have been exceeded, and the damage has become irreversible or irrecoverable (more details are found in Box G.3. of the following page).

Policy failures

Policy failures can be caused by action or omission. The former refers to perverse government policies that maintain incentives and subsidies that favor economic activities which degrade the environment (Box G.2.). The latter refers to the lack of fulfilling state responsibilities. Policy failures caused by action of the State encourage the destruction of biodiversity resources through subsidies that favor unsustainable business practices. The subsidies are badly designed since they do not directly benefit the population but political interest groups.

Box G.2. Links between agricultural policies, roads and deforestation

Links between patterns of deforestation rates and agricultural policies are evident in Tambopata (Madre de Dios). During an 11 years period when Peru's national agrarian policy shifted drastically, from macroeconomic populism under the Garcia regime (1995-1990), to neoliberal austerity under Fujimori (1990-2000). The agricultural frontier in Tambopata expanded rapidly during the 1980s under the macroeconomic populist policies of president Alan Garcia (1985-1990). Garcia's regime aimed to raise welfare of the rural poor by providing easy access to agricultural credit and land titles, promoting farmers cooperatives, and offering guaranteed markets for products like rice. These incentives were also part of a broader geopolitical strategy to assert control over the Amazon territory. During this period, approximately 40 per cent of total land area worked under state credit in Peru was located in the Amazon frontier region.

Agrarian and economic policies changed drastically when Alberto Fujimori became president (1995-2000). Fujimori´s neoliberal administration set about imposing a radical austerity program based on structural adjustments. Agricultural credit dried up, agrarian associations were dismantled, subsidies were removed and taxes imposed, all resulting in a decline in agricultural production, as well as forest extraction activities in Tambopata.

The Tambopata case reveals that the impact of roads on forests is shaped by national economic and agrarian policies. As elsewhere in the Amazon, in Tambopata it was a combined influence of structure and economic policy that dramatically altered land use. This is reflected by the fact that roadside deforestation was most rapid in the second half of the 1980s when credit and land title were easily available for colonists. Later, when easy credit was removed, roadside deforestation slowed significantly, even as improvements were made on the road.

Source: Alvarez, Nora and Lisa Naughton-Treves, 2003

Box G.3. Irreversibility of the tropical forest at Huaypetue (Madre de Dios)

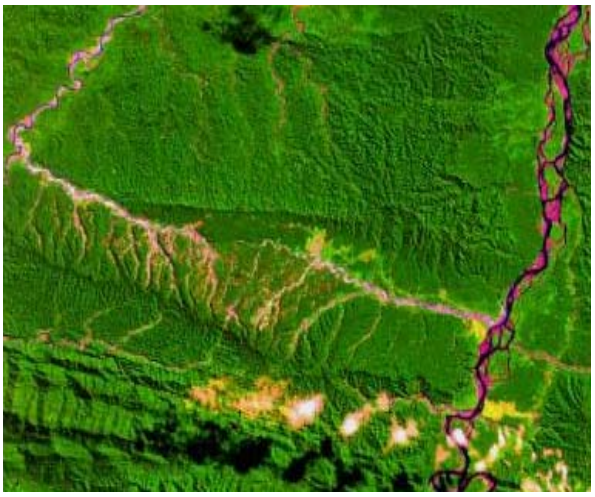
The extraction of alluvial gold in Madre de Dios began at the end of the 1950s. Over the years the technology has become more sophisticated, increasing the volumes extracted and degrading the basins (riverside erosion, removal of soils, block the river beds with sediment, contaminate the water and soil with mercury and fuels).

Gold can also be extracted from the forest. To do this, the natural vegetation cover is eliminated and the soil is removed to reach gold gravel level (3m deep). This extraction can be carried out in the rainy season since temporary lakes can form as a result of accumulated rain water, and these are indispensable for washing the mineral.

Some 10,000 people work in gold mining (50% of them artisanal miners). There are also 200 operations managed by businesses that use mechanized technology (238 front loaders and 3 excavation machines).

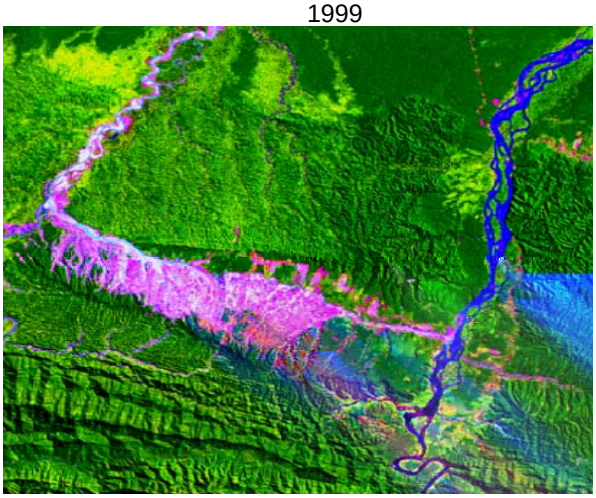
The following are Landsat satellite images taken in 1986, 1996 and 1999, showing the destruction caused by this gold mining in the tropical rainforest.

1986



1996

1999



Source: Portilla, 2001

Drug trafficking

During the past three decades in Peru, around 2.5 million hectares of Amazon forests have been cut down and burned in order to cultivate coca, which has created a loss of approximately US$ 4.5 billion in logging species, firewood, game species, oxygen emissions, capture of carbon, and tourism services.

The high density, monocrop of coca –over 300,000 plants per hectare—yields up to four crops a year, and uses over 700,000 liters of agrochemicals including hormones, fertilizers, herbicides, pesticides and fungicides. This contaminates soils, water, biodiversity, and affects the health of the ecosystem. Coca crops diminish the soil's fertility, quickly using up the principal nutrients. Under these conditions and the exposure to heavy rains, the land immediately suffers erosion and loss of its production capacity and so it is then abandoned and becomes a tropical desert (www.devida.org.pe).

To produce the drug, more than 10 million liters of chemicals are used per year, including kerosene, sulfuric acid and hydrochloric acid, which are later dumped in riverbeds, seriously affecting the health of the ecosystem.

According to the office of the United Nations there is no significant cultivation of coca trees within natural protected areas of Peru (Proceso de Revisión y Actualización del Plan Director de Areas Naturales Protegidas: Grupos de Trabajo sobre Cultivos Ilícitos y Tala Ilegal, 2005). However, since many of these area are found in remote places they are also difficult to monitor and there are reports of basic cocaine-paste processing camps. These camps produce a high concentration of toxic chemicals that contaminate water sources and threaten biodiversity.

The drug-trafficking problem is not limited to the cultivation of coca or processing but also has consequences along transportation routes used to move drugs. These routes often cross natural protected areas since drug traffickers can avoid detection by authorities. The activities have been reported in National Parks of Yanachaga Chemillen, Bahuaja Sonene, Otishi y Cordillera Azul; the Reserva Nacional Tambopata; the Reservas Comunales Yanesha, El Sira, Machiguenga y Ashaninka, y los Bosque de Protección San Matías-San Carlos y Alto Mayo. In order to deal with this issue the Nation Strategy for the Fight against Drugs is currently contemplating addressing drug trafficking in NPAs, a process spearheaded by the National Commission for Development and a Life without Drugs (DEVIDA).

G.6. Impacts of development projects on indigenous people

Within the scope of their economy, and as an effect of an increase in the number of settlers on their traditional lands and the continued and sometimes massive exploitation of natural resources within their territories, most indigenous communities have found themselves not only restrained in their farmland spaces, but also in their access to resources such as wild game and fishing in the rivers. Highway construction and the establishment of mining and oil exploitation systems trigger uncontrolled migration and settlements, which affect the stability of these communities' territories by breaking them up or eliminating them altogether.

Mining and oil and gas industries

The past two decades have led the Amazon and Andean regions to face two significant industries (mining and oil and gas) which, in one way or another, have changed the region's socio-cultural and economic situation. Both industries feature the use of non-renewable natural resources (minerals, oil, and gas), but each with their own particular features regarding the production process and especially the exploitation methods and socio-environmental impacts. Table M.20. provides a table with current oil block area where overlap of occurs with neighboring communities or natural protected areas.

In large-scale mining in the Andes, a series of conflicts between the mining companies and the peasant communities have emerged in the past few years. According to the latest report by the Ombudsman's Office (Defensoria del Pueblo, 2007), from a total of 86 conflicts since 2004, 27 percent are between communities, mainly peasant communities, and the mining companies. Of the total, 85 percent of the conflicts occur in places where the population lives in extreme poverty conditions. According to the records of the National Confederation of Communities Affected by Mining (CONACAMI) these conflicts have been caused by eleven (11) mining

companies, mostly concerning pollution issues. Table G.9. outlines the claims made by the communities.

Table G.9. Mining companies and conflicts with peasant communities

Region	Mining Company	Conflict and Complaints by Communities
Ancash	Antamina	Strikes and vandalism en Huarz City demanding more environmental protection and social programs.
Apurimac	Southern Peru	The local community demands a 0.5 million dollar retribution for damaged incurred to grasslands and water canals.
Cajamarca	Yanacocha	Damage to public health stemming from mercury poisoning.
Cuzco	BHP Billinton S.A.	Damage to grasslands.
Huancavelica	Compañía Minas Buena Ventura S.A.	The communities demand the cleanup of the river Ucanan and Opamayo , polluted by acids.
Junin	Doe Run Peru	Riots en La Oroya stemming from breaches in contract by PAMA.
La Libertad	Consorcio Minero Horizonte	Retribution for damage suffered to the town's infrastructure stemming from subterranean works.
Lima	Lisandro Proano/Wisse Sudameris Leasing	Complaints about the deposit of arsenic residues and impacts to public health.
Moquegua	Compañía Minera Quellaveco S.A.	Concerns regarding the use of the water of the River Chilota.
Pasco	Compañía Minera Volcan S.A.A.	Pollution of the San Juan and Huallaga rivers and the Chinchaycocha and Yanamate lakes.
Piura	Compañía Minera Maniatan Sechura	Concerns regarding the use of water used by the agricultural activities.

Source: Adapted from www.conacami.org

The major challenge that the mining industry faces is how to transform these conflicts into joint opportunities that will allow a community near a mine to feel that its living conditions actually improve. By the same token, it is necessary to create the appropriate conditions that will produce social capital and mutual trust.

In Amazonia, the mining industry is limited to gold production. This industry is carried out by a huge number of small and middle-size informal mining companies, and only a few companies operate legally. The oil industry in Amazonia is developed by leading international companies or corporations jointly with key national companies. These facts are essential in understanding the dynamics of oil and gas and gold mining operations, and particularly, the impact caused on the environment and the indigenous communities.

The areas inhabited by isolated indigenous communities feature rich deposits of both renewable and non-renewable natural resources, such as oil and natural gas. While the State does not grant any forestry concessions in these areas, it does grant blocks of land, in concession through Perupetro, to oil and gas exploration and production projects in areas where voluntarily isolated indigenous groups have been detected (Table G.10.).

Table G.10. Oil concessions within areas housing indigenous groups in voluntary isolation

People	Plot of land /Major Operator	Status	Location
Kugapakori Nahua Kirineri	Plot 88: Pluspetrol TGP Hunt Oil	Effective license	Cusco
Kugapakori Nahua Kirineri	Plot 57	In negotiation process	Cusco - Ucayali
Arabela, Auca (Huaroni)	Plot 39: Repsol	Effective Prospecting license	Loreto
Arabela, Auca (Huaroni)	Plot 67: Barret	Effective Prospecting license	Loreto
Murunahua	Plot 35: Repsol	Effective Prospecting license	Ucayali

Source: Defensoria del Pueblo, 2006

According to a report published in El Comercio newspaper (Tuesday, December 12, 2006), since 2003 the Energy and Mining Sector has approved the creation of oil and gas blocks, with the pertinent exploration and production contracts, that overlap into 18 National Protected Areas (NPA) and their buffer zones (Table 52). This same article points out that an attorney from the non-governmental organization Law, Environment and Natural Resources (DAR), claims that as a consequence of the oil's high value and its high global demand, concessions within the NPAs have increased. At the same time, the article mentions that Peruvian government institutions, such as the Ministry of Energy and Mines and Perupetro, are granting a number of blocks without considering the socio-environmental impacts. It also mentions that INRENA is not consulted before the oil blocks are selected and granted by Supreme Decree.

Given the pressures from environmental groups both nationally and at an international level, Sapet Oil Company (with Chinese capital), decided to withdraw from Block 113, located in Madre de Dios, as it considered that the block's overlapping area was "populated by voluntarily isolated indigenous communities" (El Comercio, December 12, 2006). As a consequence of these same pressures, Perupetro's President announced that his institution would carry out a study on the oil industry's situation in the jungle and its impact on the indigenous communities surrounding the oil field blocks, in order to know their needs and be able to develop projects that benefit them (Peruvian News Agency, February 28, 2007).

Staff of the oil companies located in Amazonia are likely to have or potentially have detected or come into contact with isolated indigenous communities. In some cases, the natives have rejected the companies' staff, and in others, the company personnel have avoided contact. In 2001, the Ministry of Energy and Mines published a guide on community relations that considers the actions to be taken in case of contact with isolated indigenous communities (Defensoria de Pueblo, 2006).

The GOP distributes the incomes and revenues produced by the mining companies. The canon product of the mining activity is the effective distribution of the income and rents paid by the mining companies to the regional and local governments (provincial and district municipalities). Between January of 1997 and May of the 2002, the mining canon constituted 20% of the total revenues paid by the mining companies. However, since June of the 2002, this percentage increased to 50%. A detailed table of the distribution of the mining cannon to the regional government can be found in Annex M.21.

Interocean Highway

The interocean highway between Brazil and Peru aims to create access for Brazilian goods to Peruvian ports on the Pacific, and promote development in the depressed southern region of Peru. Within Peru, the highway will join the cities of Iñapari, in the Madre de Dios region, and the ports on the Peruvian coast. Running across the Amazon basin, the highway goes through the Madre Dios, Cusco, and Puno regions.

The Amazon region to be crossed by the highway covers one of the areas of least intervention in Amazonia and which is characterized by being home to a great number of indigenous groups that, in some cases, have chosen to live in isolation. Because of this, and other reasons, this highway represents a risk in terms of wildlife conservation efforts and also for the protection of indigenous populations

According to Mr. Dourojeanni (engineer), in his “Case Study on the Interocean Highway in the Southern Peruvian Amazonia”, if appropriate measures are not taken, the highway will attract groups that have an interest in timber, mining, and farming, as has already occurred in many cases throughout Amazonia, thus causing conflicts with voluntarily isolated indigenous populations and other native communities holding title deeds. The threatened ethnic groups include the Machiguengas, Ese eja, Yaminaguas, Amahuaca, and Piros.

H. Major issues in biological diversity conservation

The following comments are designed to inform USAID-Peru about some of the major issues faced in biological diversity conservation in Peru. These observations are the result of the analysis presented in this document, which stems from an examination of published materials, interviews with key players, and the contributions of the participants in the workshop "The Current State of Conservation and Management of Biodiversity and Tropical Forests in Peru" (held on May 3rd and 4th of 2007). Therefore, the following suggestions reflect a consensus from these three contributions. *(Please note that this section provides general observation regarding key issues identified and a more detailed and concrete list of our recommendations is found in Chapter L.)*

Regarding biodiversity, research continues to highlight the great wealth of biodiversity harbored in Peru and indicates that new species and genetic diversity will continue to be identified. Furthermore and examination of Peru's biodiversity highlights the intrinsic connection between cultural and biological diversity since much of the unique varietal and genetic diversity recorded stems from indigenous cultivars.

Unfortunately, in spite of INRENA's laudable efforts to protect biological diversity, the number of threatened species is increasing. Most threats concentrate outside natural protected areas where habitat destruction stems from the migration of marginalized populations seeking farming land and new economic opportunities. Another source for the loss of biodiversity comes from impacts produced by large development and extractive industries such as the construction of highways or pipelines for resource extraction. To counteract these threats support should be given to conservation projects (government, non-governmental, and the private sector) that foster research in the natural and social sciences in order to document and monitor biological resources, promote the institutional strengthening of conservation-oriented government entities, encourage local stakeholder participation (with an emphasis on indigenous people and gender-based initiatives), support enforcement and monitoring programs, and encourage conservation-oriented efforts from the private sector.

The major issues mentioned above can be summarized as follows:

1. **Research:** There is a need for more research to document and monitor Peru's biological diversity. In addition there is a need for an Information Management System to store and analyze research data, lessons learned and information generated from universities, think-tanks, NGOs, private sector, local and international organizations.

2. Expand the SINANPE: There is a need for more research and programs that help identify and protect ecosystems and areas of conservation interest currently underrepresented in the natural protected areas system (e.g. ocean coastal areas and cloud forests).

3. Institutional Framework: The institutional framework of conservation organizations and government entities need strengthening in order to create more effective coordination between government entities (INRENA and Ministries), and between government and other conservation organizations. In particular, there need to be more effective

coordination between INRENA and regional and local governments, as well as with other conservation stakeholders).

4. Legal Framework: Current gaps in the enforcement of laws and regulations need reevaluation, in particular at the local level where violations and penalties taking place inside NPAs are difficult to monitor and implement.

5. Decentralization: The decentralization process needs to continue and be given priority in policy and actions associated to biodiversity conservation and management. In particular efforts that aim at fomenting more input from regional and local entities.

6. Funding: Issues regarding the unequal distribution of funds among NPAs need to be addressed and solved through capacity building of both PROFONANPE and the staff of regional offices for each natural protected area. Capacity building includes training in the management of funds, administration, and grant writing skills to effectively petition for funds from international cooperation agencies, conservation organizations and the private sector.

7. Stakeholder Participation: Stakeholder participation of stakeholders should be strengthened and broadened in any conservation and management projects concerning biodiversity.

8. Private Sector: Conservation-oriented projects by the private sector should be encouraged through more active participation in decision-making processes and government incentives.

9. Indigenous people and Marginalized Populations: The participation of indigenous people in conservation projects continues to be weak and more programs should be implemented to help strengthen their participation. With regards to biodiversity, the true and just participation of indigenous people is critical since they harbor a wealth of knowledge and traditions that have create valuable resources in terms of varietal and genetic diversity found in Peru. In addition to indigenous people, attention should also be placed on fostering gender-based initiatives and working with peasant communities.

10. Conservation Outside Protected Areas: The SINANPE should collaborate more with conservation projects taking place outside natural protected areas in order to create a more comprehensive system of conservation that includes local and regional environmental needs such as ecosystem services (water), and biological corridors.

11. Dissemination of Information: There is a need for effective and innovative communication programs that disseminate legislation and regulations regarding the conservation of the biological diversity of Peru to national, regional, and local decision-makers, the direct users of valuable resources, as well as the general public.

I. Major issues in tropical forests and their sustainable management

The following remarks are designed to inform USAID-Peru about some of the major issues concerning the conservation and sustainable management of Peruvian tropical forests. These observations are the result of the analysis presented in this document, which stems from an examination of published materials, interviews with key players, and the contributions of the participants in the workshop "The Current State of Conservation and Management of Biodiversity and Tropical Forests in Peru" (held on May 3rd and 4th of 2007). Therefore, the following suggestions reflect a consensus from these three contributions. *(Please note that this section provides general observation regarding key issues identified and a more detailed and concrete list of our recommendations is found in Chapter L.)*

The recognition of Peru as an area of conservation priority is partly based on its great diversity of tropical forests that house high levels of biological diversity. Unfortunately, the degradation, fragmentation, and deforestation of tropical forests are on the rise outside natural protected areas. These issues can be addressed in part by strengthening management efforts and current regulations regarding forest and conservation concessions. Also, given the diversity of these forests and the range of threats resulting from a variety of extractive and development activities, designing sustainable conservation strategies requires: continuous research from both the natural and social sciences in order to document and monitor forests and peoples that live within or nearby forests, effective forest management plans that consider the ecological dynamics and ecosystem services of large forested areas, the design of effective institutional and legal frameworks that address political and economic issues, continuous and equitable funding among all natural protected areas, collaboration with industries that impact tropical forests, and cooperation between stakeholders at the local, regional, national, and international levels. The major issues mentioned above can be summarized as follows:

1. Research: There is a need for more research to document and monitor Peru's tropical forest diversity. In addition there is a need for an Information Management System to store and analyze research data, lessons learned and information generated from universities, think-tanks, NGOs, private sector, local and international organizations.

2. Zoning information: There is a need for projects that aim at updating information and creating maps and databases that provide accurate information of land-use patterns, such as zoning patterns for protected areas, forest concessions, non-timber forest concessions, ecotourism concessions, other types of conservation concessions, areas of exploitation of non-renewable resources, and any changes in land-use patters.

3. Institutional Framework: The institutional framework of conservation organizations and government entities need strengthening in order to create more effective coordination between government entities (INRENA and Ministries), and between government and other conservation organizations. In the case of tropical forests in particular, there is a need for the development of more effective collaborative mechanisms between the forestry sector and government entities in order to create more effective coordination and representation.

4. Legal Framework: Current gaps in the enforcement of laws and regulations need reevaluation, in particular at the local level where violations and penalties taking place are difficult to monitor and implement, as is the case of illegal logging in remote forest concessions or NPAs.

5. Decentralization: The decentralization process needs to continue and be given priority in policy and actions associated to tropical forest conservation and the management of forest concessions. In particular efforts that aim at fomenting more input and participation from regional and local entities.

6. Simplification: There is a need for efforts that aim at simplifying, clarifying and making more efficient bureaucratic processes associated with applying for permits, obtaining concessions, reporting violations, etc.

7. Funding: Issues regarding the unequal distribution of funds among NPAs need to be addressed and solved through capacity building of both PROFONANPE and the staff of regional offices for each natural protected area. Capacity building includes training in the management of funds, administration, and grant writing skills to effectively petition for funds from international cooperation agencies, conservation organizations and the private sector.

8. Stakeholder Participation: There is a need to strengthen and broaden the participation of stakeholders in the conservation and management of tropical forest conservation, in particular the role of Forest Management Committees (Comites de Gestion de Bosques). In addition special efforts should be made to contact and include marginalized sectors of the population such as indigenous people, peasant communities, and women.

9. Private Sector: Conservation-oriented projects by the private sector should be encouraged through more active participation in decision-making processes and government incentives.

10. Indigenous people: There is a need to implement more effective programs that aim at strengthening the participation of indigenous people in the conservation of tropical forests; especially those communities where large areas of forested land are found within their ancestral territories.

11. Conservation Outside Protected Areas: There is a need for more collaboration of SINANPE with conservation projects taking place outside natural protected areas in order to create a more comprehensive system of conservation. These efforts should target current forest, non-timber product, ecotourism, and private conservation concessions.

12. Extractive Industries: There is a need for more forums that foster a stronger and more positive relationship between conservation oriented programs (governmental and non-governmental) and high impact extractive industries (i.e. mining and oil). Collaboration should aim at implementing and institutionalizing systematic guidelines and regulations that explicitly address conservation issues in the context of these extractive activities.

13. Dissemination of Information: There is a need for effective and innovative communication programs that disseminate legislation and regulations regarding forest resources to national, regional, and local decision-makers, the direct users of valuable resources, as well as the general public. With regards to forests concessions in particular, communication strategies should aim towards informing users on changes in laws and regulations, stakeholder meeting forums, workshop opportunities, timeframes for the public bidding process of concessions, and new opportunities.

J. Major issues in Indigenous peoples and natural resource management and conservation in Peru.

During the course of the researched carried out for this assessment we found that issues concerning the relationship between indigenous people and conservation efforts are expansive and complicated. Although the participation of indigenous people in conservation programs is frequent, their participation is still weak and uneven given a series of issues regarding their history, rights to land, and current socio-economic and cultural conditions. Thus the observations provided next emphasize the opinions of representatives of indigenous people, observation made throughout the body of this document, interviews with key players, and the contributions of the participants in the workshop "The Current State of Conservation and Management of Biodiversity and Tropical Forests in Peru" (held May 3 and 4, 2007). The suggestions here stem from a consensus of all the contributors.

There are a large number of indigenous communities in Peru, mainly distributed in the Andean and Amazonian regions of the country. In many cases, the state of conservation of the biodiversity and tropical forests that they inhabit are acceptable but in many cases excellent (many high conservation interest natural protected areas correspond to indigenous ancestral lands). In view of this, the Government of Peru and other conservation-oriented organizations should consider indigenous peoples as serious and critical collaborators in the conservation endeavor. Furthermore, we would like to stress the opportunities missed since the traditional knowledge codified in their cultural belief system can provide insights into designing innovative management strategies in natural protected areas. Unfortunately, today the only focus or value given to indigenous knowledge lies on its potential for bio-prospecting, tourist performances, arts-and crafts, etc. that have serious issues concerning the unquestioned commoditization of culture and intellectual property rights, not to mention represent an oversimplification of the true value (to them and the general public) of their cultural belief system.

The Government of Peru has signed international agreements recognizing the rights of indigenous peoples, including the OIT's Convention 169. At national level, the Government of Peru has developed a legal and institutional framework that recognizes the rights of the indigenous people. However, despite these efforts, no State policy has been consolidated in favor of indigenous peoples. For example, during the 1970s the native and peasant farming communities were granted recognition but in the mid-1990s the Government promoted private investment on communal lands even if these were not duly titled.

When the Government of Peru fails to recognize the traditional rights of the native and peasant farmer communities, as shown above, it contributes to generating social conflicts between private business (mining, oil and gas, and forestry), conservation programs, and the communities. Currently the legal framework is extremely favorable to private business investments and conservation/sustainable development programs, and the Government of Peru has refrained from supervising, control and even facilitating conflict resolution.

The Government of Peru has been promoting national and international private investment in extracting renewable and non-renewable natural resources, and for this has deployed a legal framework (Laws Nº 27446, 28245, 28611) that incorporates environmental management instruments (EIA, PAMA) to protect environmental conservation by the extraction industries. However, the informed participation of indigenous and peasant farmer communities is limited owing to the barriers to information, technical training and negotiation during this process.

Today indigenous communities are organized, and have managed to gain greater political presence with local government authorities. It is hoped that the organized indigenous movement will gain greater political influence, as has been the case with the indigenous movements in Brazil, Bolivia and Ecuador. The indigenous movement seeks, among other things, the recovery of their rights in the use of natural resources and the recognition of their ancestral lands. Although these claims are just, currently they create conflicts with the Government of Peru and the NPAs.

During workshops and interviews carried out for this assessment several representatives of indigenous communities were consulted for their opinions regarding their current involvement with conservation initiatives. From these discussions several key issues and recommendations emerged. The following is a list of the most salient points discussed:

1. The Indigenous Communities have very little interaction with the Peruvian State and GOP officials and more effort should be place to promote comfortable and fair forums for discussion.

2. Indigenous people feel that conservation projects and organizations, albeit well-meaning in their desire to collaborate with them, arrive with predetermined agendas regarding the appropriate manner in which conservation should take place without any real consideration regarding a community's needs, interests, or opinions. In some cases this causes communities to participate in the short-term while benefits (monetary or infrastructure) last or straight out refuse participation and now have tense relationship with conservation oriented programs (governmental and non-governmental)

3. Indigenous people would like to stress that their well-being (cultural and subsistence) is still tied to their ability to access and travel through out their traditional territories which are in many cases large and now found under protected status. And although formally they have rights to access these areas, in practice regulations and misconceptions by regulating authorities prevent them from freely exercising this right.

4. Their rights to ancestral territories are not always recognized. Problems are often with third parties related to mining concessions, forestry contracts, oil contracts, etc. In these cases the State has been ineffective and unsupportive in taking actions to avoid conflicts.

5. The official maps developed for defining Indigenous Communities territories during the period 1975-1990 were made with instruments that provided little precision or were developed through a desk-job analysis using only the most important rivers as reference to set communities locations. As a result, the maps were not precise. Nowadays, when maps are being developed using the latest geographic systems the information of communal territory differ from the old maps and this has created confusion and affected the legal stability of the Native Communities' titled lands.

6. Indigenous Communities have requested expansion of their territory, however the State have yet to processed them; mainly because of the absence of an adequate land registry database and shortage of funding for conducting field verification.

K. Major issues in gender and natural resource conservation

Since the 1990s, the Government of Peru has signed international agreements which highlight the importance of gender in environmental issues, as is the case of Agenda 21 (Rio 1992). In 1996, the Government created the PROMUDEH Ministry as a ruling organism on the matter of gender. In 2000, PROMUDEH enacted the Equal Opportunities Plan for Women and Men, which seeks to overcome the obstacles that thwart the full participation of women in equal conditions as men. Despite these initiatives, neither gender-focused nor environmental conservation have been explicitly incorporated as State policy. For example, at PRONOMACHCS, the participation of women is not considered in the plans for reforestation and conservation in the river basins.

Gender has been given little attention to date and there are few opportunities for a critical development of a local or national conceptualization of gender and conservation. There are some problems and barriers that make this development difficult. The following is a list of some of the major issues faced:

- A lack of professionals specialized in socio-environmental sciences, gender analysis, and conservation.
- The gap that exists between conservation science and the broad national experience in rural and agricultural development.
- The generalized tendency in conservation to propose local community conservation actions without first investigating their socio-environmental suitability.
- The tendency to depend a great deal on short-term consultancies when dealing with gender and social issues, making these contributions to conservation temporary and external.
- There are very few institutions dedicated to conservation or management of natural resources that have made an investment in incorporating gender issues and analysis on a permanent basis.

It is important to consider that the changes in gender relations occur over the long term and cannot be observed in projects that need to present short-term results. Additionally, the development of tools to create quality indicators is either non-existent or in its incipient stages, and there is a lack of scientific disciplines that combine two theoretic approaches (gender and conservation), which means that the results are not rigorous. Thus, base-line information is required through the collaboration of inter-disciplinary teams. Lastly, in light of the interviews carried out, the conclusion is that documentation is required on the results of projects that had an approach to gender and conservation of natural resources (processes, methods, results, etc). To do this, it will be necessary to clarify the concepts and methods of local participation focused on gender, generation and ethnicity.

For these reasons, it is important to encourage research and analysis of policies and laws governing conservation and the sustainable use of natural resources from the point of view of gender studies, in order to promote innovative changes and alternatives. This would also help to identify areas of bias and the lack of equity in order to propose changes. One approach to solving these issues would be to analyze experiences (and foster exchange programs) in other countries, such as India, Central America, and in particular African countries where gender-based conservation initiatives have been developed and have been successful.

L. Recommendations and proposed actions, including review of actions proposed for support by USAID/Peru

This assessment found that in Peru biological and tropical forest conservation efforts have evolved positively in past decade even if threats have increased. Peru now counts with conservation oriented government entities and non-governmental institutions that have developed complex strategies and appropriate legal frameworks designed to address the major environmental and social issues faced. These strategies are the result of stakeholder participation and input at the international, national, regional and local levels. However, although these strategies are in place and evident in laws and management plans, implementation and monitoring are the greatest challenges faced today. In addition, communication and collaboration with regional and local entities, albeit recognized in documents, continues to be weak but can be aided through support of the decentralization process.

Furthermore, this assessment found that current conservation strategies tend to be best designed for situations found within natural protected areas, but conservation efforts outside protected areas need more attention since conditions and opportunities are different. Regarding this last point, we recommend that an emphasis be placed in working and supporting market-based conservation projects spearheaded by the private sector, indigenous communities, or those with an explicit gender-based component. The reasons for this recommendation is that projects in the private sector show potential and innovation, while indigenous populations and gender-based initiatives represent marginalized populations whose participation in conservation efforts is still weak.

The following are suggestions to be considered by USAID-Peru as input for the planning process to define future strategies regarding conservation efforts in Peru. These suggestions are the result of the analysis made in this document, interviews with key players, and the contributions of the participants in the workshop “The Current State of Conservation and Management of Biodiversity and Tropical Forests in Peru” (held May 3 and 4, 2007). The suggestions made are a consensus of these three contributions.

Our recommendations concerning biodiversity and tropical forest conservation are organized along four major themes: research needed, changes suggested in legal and institutional frameworks, steps to encourage stakeholder participation, and ways to encourage the private sector in conservation efforts. Although recommendations made for each theme are prioritized, the following section is aimed at helping USAID choose one or several of the themes as a focus of their future support. Thus recommendations for both biodiversity and tropical forest conservation are organized along the following four major themes:

1. Support research and efforts aimed at reducing threats to biodiversity and tropical forests.
2. Promote institutional strengthening for the decentralization of policy and actions associated to biodiversity and tropical forest conservation and management.
3. Support efforts that strengthen and broaden the participation of stakeholders in the conservation and management of biodiversity and tropical forest.
4. Support initiatives that encourage conservation-oriented projects by the private sector.

Recommendations for Biodiversity

Research continues to highlight the great wealth of biodiversity harbored in Peru and indicates that new species and genetic diversity will continue to be identified. However, threats continue mainly outside natural protected areas from development, extractive industries, and migration into areas of high conservation priority. To counteract these threats support should be given to conservation projects that: foster research in the natural and social sciences in order to document and monitor biological resources, promote the institutional strengthening of conservation oriented government entities, encourage local stakeholder participation (with an emphasis on indigenous people and gender-based initiatives), support enforcement and monitoring programs, and encourage conservation-oriented efforts from the private sector.

1.- Support research and efforts aimed at reducing threats to biodiversity.

- Support scientific research efforts that document and monitor biodiversity. In particular the monitoring of species of special conservation interest (i.e. endemic, endangered, or poorly studied species). Results should also be used to aid the Protected Areas Intendancy in INRENA in completing their monitoring systems.

- Support research from the social sciences to document and monitor the social, cultural and economic characteristics and tendencies of local populations.

- Support the development of an Information Management System that gathers, analyses and disseminates information concerning conservation activities (e.g. research data, project reports, and information generated from universities, think-tanks, NGOs, private sector, local and international organizations).

- Support regional and local environmental agendas to complete the land zoning and land-use planning processes inside and outside natural protected areas.

- Support conservation efforts taking place outside natural protected areas (e.g. forest concessions, market-based conservation projects, private conservation areas, and ex situ conservation centers).

- Support research and environmental assessments in areas of conservation interest where high impact extractive industries are taking place.

- Encourage initiatives that aim at including ecosystems currently underrepresented in the System of Protected areas (e.g. coastal ocean areas, dry forests and cloud forests).

2.- Promote institutional strengthening for the decentralization of policy and actions associated to biodiversity conservation and management.

- Support efforts by the INRENA and CONAM to continue engaging in the decentralization of conservation and management activities. These include projects that support regional and local government agencies such as the Regional Environmental Commissions (CAR) and Municipal Environmental Commissions.

- Support the implementation and integration of regional environmental agendas into the national conservation strategy with active participation of local stakeholders.

- Strengthen communication programs that disseminate legislation and regulations regarding conservation and resource management at the regional and local levels.

- Promote projects that build alliances between public and private conservation projects at the regional and local levels.

- Support the development of mechanisms that generate new forms of income for Protected Areas (e.g. Payment for Environmental Services or continue supporting the Memorandum of Understanding (MoU)).

3.- Support efforts that strengthen and broaden the participation of stakeholders in the conservation and management of biodiversity.

- Promote the exchange of experiences, success stories, "lessons learned" between Management Committees of different natural protected areas around the country, as well as with other conservation projects that show innovation and success (nationally and internationally).

- Promote efforts aimed towards strengthening the participation of local Natural Protected Areas Management Committees. Efforts should recognize logistical challenges such as transportation (to and from meeting places) and prior access and distribution of meeting agendas to be discussed, especially for committee members that live in remote areas.

- Promote appropriate and innovative dialogue mechanisms (e.g. radio programs and workshops) that aim at regularly informing key stakeholders so that problems can be identified, solutions discussed and conflicts minimized.

- Aid in strengthening indigenous people representation and participation in forums where decisions regarding the legislation and future management of protected areas that overlap with their ancestral territories take place.

- Strengthen programs that aim towards building collaboration between local stakeholders and local governments in the management and monitoring of the natural resources (i.e. indigenous communities, settlers, private sector, etc.).

- Support conservation efforts with an explicit gender focus, or component, in order to ensure an equitable distribution of benefits and participation in conservation and sustainable development projects taking place in areas of high biological diversity. One approach to solving these issues would be to analyze experiences (and foster exchange programs) in other countries, such as India and Africa where gender-based conservation initiatives have been developed and have been successful.

- Support communication strategies in order to strengthen citizens' awareness and commitment to conservation. Communication strategies should be tailored to a region's cultural sensitivities.

4.- Support initiatives that encourage conservation-oriented projects by the private sector.

- Support the exchange of "lessons learned" and best practices of entrepreneurs who have engaged in social and environmentally responsible activities (e.g. ecotourism, breeding centers, private protected areas, timber, products, non-timber forest products, etc.).

- Encourage projects that aim at bringing government and private sector representatives together to discuss current challenges faced in managing conservation-oriented businesses (e.g. web-based information network). Issues that need to be addressed include information regarding regulations, marketing opportunities, possible fiscal incentives, etc.

- Encourage projects that aid in designing legal and institutional frameworks that foster incentives (i.e. tributary, funding, access to information, etc.) and strengthen participation of private conservation efforts.

- Support initiatives by Regional Governments that actively collaborate with private enterprises (e.g. ecotourism, bioprospecting projects, etc.) in the integrated management of natural resources.

- Encourage projects that include the private sector into local efforts for the monitoring and surveillance of areas around and within protected areas.

- Support small-scale market-based conservation projects in indigenous or local communities that provide training and advising in small-business administration and accounting practices prior and during the initial stages of a project. Or aid local associations (interested in market-based conservation) in strengthening their administrative and accounting systems in order to help them to be considered as credit clients and, therefore, real and direct partners with entrepreneurs.

- Support projects that aim at developing market-based conservation projects with local communities. In particular, promote alliances of private entrepreneurs, indigenous communities, and women-based projects for businesses in and around protected areas that are sustainable and compatible with conservation objectives and cultural sensitivities.

Recommendations for Tropical Forests

The recognition of Peru as an area of conservation priority is partly based on its great diversity of tropical forests that house high levels of biological diversity. Unfortunately, the degradation, fragmentation, and deforestation of tropical forests are on the rise outside of natural protected areas. These issues can be addressed in part by strengthening management efforts and current regulations regarding forest and conservation concessions. Due to the diversity of these forests and range of threats resulting from a variety of extractive and development activities, designing sustainable conservation strategies requires: continuous research from both the natural and social sciences in order to document and monitor forests and peoples that live within or nearby forests, effective forest management plans that consider the ecological dynamics and ecosystem services of large forested areas, the design of effective institutional and legal frameworks that address political and economic issues, continuous and equitable funding among all natural protected areas, collaboration with industries that impact tropical forests, and cooperation between stakeholders at the local, regional, national, and international levels.

1.- Support research and efforts aimed at reducing threats to tropical forests

- Support the development of an Information Management System that gathers, analyses and disseminates information concerning conservation activities taking place in tropical forests (e.g. research data, project reports, and information generated from universities, think-tanks, NGOs, private sector, local and international organizations).

- Support scientific research efforts that document and monitor tropical forests. This includes creating a standardized forestry map to be used by all national institutions, and studies that aid in defining standards for adequate extraction yields of forest products. This can be done in collaboration with national universities (thesis exchange programs) or through exchanges with foreign professional (active or pro-bono by retired individuals).

- Support the building of a system to monitor forestry concessions, illegal logging within and outside Protected Areas, and deforestation trends regionally and nationwide (this could be outsourced). In particular more detailed information is required on the current state and trends of the expansion of the agricultural frontier due to illegal land trafficking.

- Support research from the social sciences to document and monitor the social, cultural and economic characteristics of local populations. This can be done in collaboration with national universities (thesis exchange programs) or through exchanges with foreign professional (active or pro-bono by retired individuals).

- Promote alliances between regional authorities, civil society and the local authorities for the establishment of monitoring and surveillance programs that include the participation of district municipalities, village or peasant associations, park rangers, etc.

- Support communication strategies in order to strengthen citizens' awareness and participation in the reduction of illegal activities. Communication strategies should be tailored to a region's cultural sensitivities and provide information on how to safely report transgressions.
- Support initiatives that aim to ensure the equitable distribution of funds among all natural protected areas in order to guarantee effective monitoring and surveillance by local authorities, such as, and in particular, park rangers.

2.- Promote institutional strengthening for the decentralization of policy and actions associated with tropical forest conservation and management.

- Support INRENA in finalizing it's reorganization process in order to expedite the solutions of current problems regarding the management of forest and timber concessions (i.e. problems stemming from the granting of overlapping concessions, illegal logging, ambiguous boundaries, etc). In particular, efforts should also aim at generating awareness and support at the highest levels (Ministry of Agriculture, Ministry Council, and the President) since these conflicts are seriously affecting the viability of forest and timber concessions.

- Support the implementation of the management documents National Forestry Strategy (2002-2021), the National Reforestation Plan (2005-2024) and the Operational Export Plan for the Timber-Yielding Forest Industry of the National Strategic Export Plan, with joint input from regional and local authorities.

- Support regional governments and local stakeholders to take a leading and proactive role when facing potential overlaps of extractive industries with sustainable forest management schemes (e.g. certification programs, non-timber forest management projects, market-based conservation projects, etc.).

- Support initiatives that help link local Forest Management Committees to the decentralization processes of regional governments through discussion forums and training workshops that aim towards informing committee members on forest management legislation and projects.

- Support INRENA in taking the leading role in coordinating and integrating regional forestry policies into the national forest strategy and legal framework.

- Support programs that aim at disseminating up-to-date and clear information concerning the legal framework governing forestry activities.

3.- Support efforts that strengthen and broaden the participation of stakeholders in the conservation and management of tropical forests.

- Promote inclusive decision-making mechanisms at regional, local and national level to empower local communities and organizations, such as Forest Management Committees, that allow for the sustainable management of forest resources.

- Support programs that strengthen the participation of Forest Management Committees in monitoring concessions through projects that involve local stakeholders in the implementation of surveillance mechanisms to monitor forest activities.

- Promote the exchange of experiences between stakeholders at the local and national level. In particular, exchanges between Forest Management Committees of different regions of the country.

- Support projects that encourage and support regional governments in actively participating in land-zoning and planning procedures of their areas with joint collaboration of INRENA.

- Foster the consolidation and greater presence of indigenous peoples, through indigenous federations and associations, in issues related to conservation and management of tropical forests. Special attention should be placed on indigenous communities whose traditional homeland is found within protected areas or forest concessions.

- Support the exchange of experiences and "lessons learned" between indigenous associations (nationally and internationally) regarding issues associated to indigenous rights, conservation and the implementation of different models of forest management.

- Support conservation efforts with an explicit gender focus, or component, in order to ensure an equitable distribution of benefits and participation in conservation and sustainable development projects taking place in tropical forests. Also foster exchange programs with countries in Africa and Central America where women-based forest projects have been successful.

4.- Support initiatives that encourage conservation-oriented projects by the private sector.

- Encourage more collaboration between government agencies and private sectors in order to increase the level of participation of the private sector in developing policy and regulations. This process would aid in developing legal and institutional mechanism that foment the long-term viability of conservation enterprises (i.e. ecotourism, zoobreeding centers, non-timber forest businesses, certified timber product enterprises, etc.).

- Provide assistance towards developing a government-sponsored system of economic incentives that fosters sustainable forest-use and conservation enterprises by the private sector.

- Encourage exchange programs between successful market-based and private sector-driven conservation projects at the regional, national, and international level. In particular experiences with other countries in Latin America. Special attention should be given to experiences regarding the management of forest concessions, private conservation concessions, certification, and joint ventures with indigenous or local communities.

- Support training initiatives at the local and regional levels that focus on providing basic tools in business management for small to medium-size conservation enterprises (e.g. business plans, market dynamics, finance mechanisms, procedures and requirements to gain access to finance institutions and capital risk management, etc).

- Promote innovative communication and dissemination strategies (radio, television, art projects, etc.) focused on providing basic information regarding opportunities and procedures for starting and managing conservation oriented enterprises.

- Promote alliances between universities and the forestry production sector for research that provides base-line information and helps identify the best indicators for the sustainable management of forest products.

- Support forestry and non-timber forest product industries in the development of products with added value and market access. This can be done in conjunction with institutions, such as universities, through competitions in product design and development.

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M. Appendix

Annex M.1.

Table M.1. Peasant Communities and their Property Title Status by Department

Region	Number of official communities by region	With property title		Without property title	
		Number	Percentage	Number	Percentage
Amazonas	52	52	100.00	0	0.00
Ancash	345	221	64.06	124	35.94
Apurimac	442	326	73.76	116	26.24
Arequipa	100	57	57.00	43	43.00
Ayacucho	577	370	64.12	207	35.88
Cajamarca	107	79	73.83	28	26.17
Cusco	886	647	73.02	239	26.98
Huancavelica	565	470	83.19	95	16.81
Huanuco	257	109	42.41	148	57.59
Ica	9	2	22.22	7	77.78
Junin	389	349	89.72	40	10.28
La Libertad	120	41	34.17	79	65.83
Lambayeque	25	16	64.00	9	36.00
Lima	287	173	60.28	114	39.72
Loreto	75	41	54.67	34	45.33
Moquegua	75	71	94.67	4	5.33
Pasco	73	63	86.30	10	13.70
Piura	136	120	88.24	16	11.76
Puno	1251	935	74.74	316	25.26
San Martin	1	1	100.00	0	0.00
Tacna	46	45	97.83	1	2.17
Total	**5,818**	**4,188**	**71.98**	**1,630**	**28.02**

Source: Directorio de Comunidades Rurales. PETT 2002. Ministerio de Agricultura in www.cepes.org.pe.

Annex M. 2.

Table M.2. The most important highlights of institutional analysis in environmental management

Year	Highlights
1990	Approval of the Environment and Natural Resources Code – CMARMN (1990) proposing the definition of a national environmental authority, the development and implementation in each sector of environmental management instruments (Environmental Impact Studies, and Environmental Management and Adjustment Programs, PAMAS), implementation of a citizen consultation and participation system.
1991	Enactment of the Framework Law for the Growth of Private Investment, the aspects of the environmental protection in the CMARN are aligned with promoting private investment and the Ministries are granted the faculties of environmental authority in their sectors.
1993	Creation of the first Sector Environment Unit (UAS) in the Ministry of Energy and Mines. Creation of the National Institute of Natural Resources (INRENA).
1994	Creation of the National Environment Council (CONAM) in response to the need to cross-coordinate public management of the environment and as a first step towards the structure of Public Environmental Management System as an institution.
1997	Approval of the Regulations to the Law creating CONAM and of the Structural Framework for Environmental Management (MEGA) that introduces instruments for cross-sector coordination that are still in effect (Cross-Sector Environment Commission and Regional Environment Commission). Strengthening of the Public Environment Management System as an institution.
2004	Enactment of the National Environment Management System Law (SNGA), that creates the bases for strengthening the public sector environment and the responsible action of private business and society in general within a framework of environmental citizenship.
2005	Enactment of the General Environment Law that replaces the CMARN and focuses on environmental management to suit the new situation in the country. Enactment of the Regulations governing the National Environmental Management System.

Elaborated by the authors

Annex M.3. International Conventions subscribed and ratified by Peruvian Government

- Convention on Biological Diversity (CDB), ratified on June 7, 1993 by D.L. Nº 26181.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora) (CITES), ratified on January 21, 1975 by D.L. Nº 21080.
- The Ramsar Convention on Wetlands, ratified on November 26, 1991 by Legislative Resolution Nº 25353
- United Nations Framework Convention on Climate Change, ratified on May 10, 1993 by Legislative Resolution Nº 26178.
- United Nations Convention to Combat Desertification, approved on October 1995 by Legislative Resolution Nº 26536.
- International Dolphin Conservation Programme, approved by D.S. Nº 003-2000-RE.
- Amazon Cooperation Treaty Organization, ratified on August, 1979 by D.L. Nº 22660.
- The Convention on the Conservation of Antarctic Marine Living Resources, approved on April, 1989 by Legislative Resolution Nº 25019.
- Antarctic Agreement, approved on November 1981 by Legislative Resolution Nº 23307.
- Permanent Commission for the South Pacific (CPPS), approved on May 6, 1955 by Legislative Resolution Nº 12305
- Inter-American Convention for the Protection and Conservation of Sea Turtles, ratified on October, 1999 by D.S. Nº 050- 99-RE.
- Convention for the Protection of Flora, Fauna and Natural Scenic Beauty of the Americas, approved in December 1941 by Supreme Resolution Nº 95341.
- Convention for the Protection of the Environment and Coastal Zone of the Southeast Pacific, approved in October 1988 by Legislative Resolution Nº 24926.
- Protocol for the Conservation and Management of Protected Coastal and Sea Areas of the Southeast Pacific, signed in June 1995 by Legislative Resolution Nº 26468.
- International Convention for the Regulation of Whaling, signed in 1956 and ratified in October 1979 by Decree Law Nº 22737.
- Convention for the Protection of World Cultural and Natural Heritage, approved in December 1981 by Legislative Resolution Nº 23349.

Annex M.4. List of the main national and international NGO´s with direct intervention in the Natural Protected Areas

National NGOs	International NGOs
APECO Asociación Peruana para la Conservación de la Naturaleza	CI Conservation International
PRONATURALEZA Fundación Pro Naturaleza	TNC The Nature Conservancy
AIDER Asociación para la investigación y desarrollo integral	WWF World Wildlife Fund
SPDA Sociedad peruana de derecho ambiental	WCS Wildlife Conservation Society
IDMA Instituto de desarrollo y medio ambiente	SZF Frankfurt Zoological Society
ACPC Asociación de conservación del patrimonio de Cutivireni	Gordon and Betty Moore Foundation
ACOREMA Áreas costeras y recursos marinos	
IM Instituto de montaña	
IBC Instituto del bien común	
BSD Bosques, sociedad y desarrollo	
AIDESEP Asociación interétnica de desarrollo de la selva peruana	
CEDIA Centro para el desarrollo del indígena amazónico	

Annex M.5.

Table M.5. Compares non-refundable government cooperation by country for the period of 1994-2004

Bilateral source	1994		1998		2004	
	Amount (US$)	% total	Amount (US$)	% total	Amount (US$)	% total
United Sates	57'397,731	40.1	106'795,169	47.5	131'613,838	59.9
Germany	7'506,826	5.2	22'139,755	9.9	17'285,780	7.9
Switzerland	4'532,199	3.2	12'087,241	5.4	11'524,189	5.2
Japan	44'871,123	31.3	25'790,460	11.5	11'235,309	5.1
Canada	8'718,114	6.1	20'774,448	9.2	9'530,972	4.3
Spain	5'128,804	3.6	11'754,530	5.2	8'153,625	3.7
Italy	4'429,142	3.1	12'210,689	5.4	5'864,538	2.7
The Netherlands	5'321,383	3.7	7'908,598	3.5	5'617,299	2.6
Sweden	84,000	0.1			4'126,203	1.9
United Kingdom	3'763,434	2.6	2'098,465	0.9	4'016,051	1.8
Belgium	197,586	0.1	310,392	0.1	3'091,125	1.4
South Corea			498,000	0.2	2'960,000	1.3
Finland					1'690,098	0.8
France	297,677	0.2	487,681	0.2	1'213.,322	0.6
China					1'200,000	0.5
Check Republic					225,000	0.1
New Zeland					120,000	0.1
Argentina					60,200	0.03
Brazil					56,800	0.03
Chile					29,265	0.01
Mexico					20,350	0.01
Colombia					5,000	0.002
Austria			89,898	0.04		
Liechtenstein	70,151	0.05	338,080	0.2		
Denmark	82,490	0.1	975,758	0.4		
Others	762,085	0.5	412,323	0.2		
Total bilateral	**143'162,745**	**100.0**	**224'851,487**	**100.0**	**219'638,964**	**100.0**

Source APCI 2005

Annex M.6.

Table M.6. National System of Natural Areas Protected by the State

NPA Categories	Date of Creation	Political Location	Surface (Ha)
National Park			**7'878,642.02**
Cutervo	05-08-06	Cajamarca	8,214.23
Tingo Maria	14-05-65	Huanuco	4,777.00
Huascaran	01-07-75	Ancash	340,000.00
Cerros de Amotape	11-07-06	Tumbes y Piura	151,561.27
Rio Abiseo	11-08-83	San Martín	274,520.00
Yanachaga-Chemillen	29-08-86	Pasco	122,000.00
Bahuaja-Sonene	04-09-00	Madre de Dios y Puno	1'091,416.00
Cordillera Azul	21-05-01	San Martín, Loreto, Ucayali y Huanuco	1'353,190.84
Manu	29-05-73	Cusco y Madre de Dios	1'716,295.22
Otishi	14-01-03	Junín y Cusco	305,973.05
Alto Purus	20-11-04	Ucayali y Madre de Dios	2'510,694.41
National Sanctuary			**263,982.06**
Huayllay	07-08-74	Pasco	6,815.00
Calipuy	08-01-81	La Libertad	4,500.00
Lagunas de Mejia	24-02-84	Arequipa	690.60
Ampay	23-07-87	Apurimac	3,635.50
Manglares de Tumbes	02-03-88	Tumbes	2,972.00
Tabacones- Namballe	20-05-88	Cajamarca	29,500.00
Megantoni	18-08-04	Cusco	215,868.96
Historical Sanctuary			**41,279.38**
Chacamarca	07-08-74	Junín	2,500.00
Pampa de Ayacucho	14-08-80	Ayacucho	300.00
Machu Picchu	08-01-81	Cusco	32,592.00
Bosque de Pomac	01-06-01	Lambayeque	5,887.38
National Reserve			**3'279,445.25**
Pampa Galeras Barbara D'Achille	18-05-67	Ayacucho	6,500.00
Junín	07-08-74	Junín y Pasco	53,000.00
Paracas	25-09-75	Ica	335,000.00
Lachay	21-06-77	Lima	5,070.00
Titicaca	31-10-78	Puno	36,180.00
Salinas y Aguada Blanca	09-08-79	Arequipa y Moquegua	366,936.00
Calipuy	08-01-81	La Libertad	64,000.00
Pacaya-Samiria	04-02-82	Loreto	2'080,000.00
Tambopata	04-09-00	Madre de Dios	274,690.00
Allpahuayo-Mishana	16-01-04	Loreto	58,069.25
Tumbes	07-11-06	Tumbes	19,266.72
Wildlife Refuge			**8,591.91**
Laquipampa	07-11-06	Lambayeque	8,328.64
Pantanos de Villa	09-01-06	Lima	263.27
Landscape Reserve			**221,268.48**
Noryauyos-Cochas	01-05-01	Lima y Junín	221,268.48
Subcuenca de Cotahuasi	27-05-05	Arequipa	430,550.00
Communal Reserve			**1'658,900.95**
Llaneza	28-04-88	Pasco	34,744.70
El Sira	22-06-01	Huanuco, Pasco y Ucayali	616,413.41
Amarakaeri	09-05-02	Madre de Dios y Cusco	402,335.62
Machiguenga	14-01-03	Cusco	218,905.63
Ashaninka	14-01-03	Junín y Cusco	184,468.38
Purus	20-11-04	Madre de Dios	202,033.21
Protected Forest			**389,986.99**

A.B Canal Nuevo Imperial	19-05-80	Lima	18.11
Puquio Santa Rosa	02-09-82	La Libertad	72.50
Pui Pui	31-01-85	Junín	60,000.00
San Matias-San Carlos	20-03-87	Pasco	145,818.00
Pagaibamba	19-06-87	Cajamarca	2,078.38
Alto Mayo	23-07-87	San Martín	182,000.00
Enclosed Hunting Land			**124,735.00**
El Angolo	01-07-75	Piura	65,000.00
Sunchubamba	22-04-77	Cajamarca	59,735.00
Reserve Zone			**4'787,128.15**
Chancaybanios	14-02-96	Cajamarca	2,628.00
Gueppi	03-04-97	Loreto	625,971.00
Santiago - Comaina	06-07-00	Amazonas y Loreto	1'642,567.00
Cordillera de Colan	01-03-02	Amazonas	64,114.74
Cordillera de Huayhuash	24-12-02	Ancash, Huanuco y Lima	67,589.76
Pampa Hermosa	12-03-05	Junín	9,575.09
Pucacuro	21-04-05	Loreto	637,918.80
Aymara Lupaca	21-01-06	Puno	258,452.37
Sierra del Divisor	11-04-06	Loreto y Ucayali	1'478,311.39
Total (Ha)			**19'103,776.91**

Direct use NPA	**10'919,873.45**
Indirect use NPA	**8'183,903.46**

Perus surface	**128'521,560.00**

% of the Peruvian Surface	**14.85**

Source: INRENA 2007

Annex M.7. Map of the SINANPE

Annex M.8. Map of Regional Conservation Areas (ACR)

Annex M.9. Map of Private Conservation Areas (ACPs)

Annex M.10.

Table M.10. List of Natural Protected Areas s with Master Plans

NPA	Legal Dispositive of the Master Plan
National Park	
Alto Purus	Resolución Jefatural Nº 141-2005-INRENA, del 10 de junio de 2005
Bahuaja Sonene	Resolución Jefatural Nº 141-2003-INRENA, del 30 de septiembre de 2003, publicada el 07 de octubre de 2003
Cerros de Amotape	Resolución Jefatural Nº 135-2001-INRENA, del 12 de junio de 2001, publicada el 15 de junio de 2001
Cordillera Azul	Resolución Jefatural Nº 245-2004-INRENA, del 26 de noviembre de 2004
Manu	Resolución Directoral Nº 020-1985-DGFF, del 01 de julio de 1985 actualizada con Resolución Jefatural Nº 456-2002-INRENA, del 13 de diciembre de 2002, publicada el 26 de marzo de 2003
Rio Abiseo	Resolución Jefatural Nº 463-2002-INRENA, del 20 de diciembre de 2002, publicada el 26 de marzo de 2003
Huascaran	Resolución Directoral Nº 097-90-AG/DGFF-OA-DAD, del 26 de julio de 1990, actualizada con Resolución Jefatural Nº 464-2002-INRENA, del 20 de diciembre de 2002, publicada el 26 de marzo de 2003
Otishi	Plan Maestro 2005 - 2009
Tingo Maria	Resolución Jefatural Nº 462-2002-INRENA, del 20 de diciembre de 2002, publicada el 26 de marzo de 2003
Yanachaga Chemillen	Resolución Directoral Nº 035-87-AG-DGFF, del 02 de septiembre de 2004
National Sanctuary	
Ampay	Resolución Jefatural Nº 180-2003-INRENA, del 31 de diciembre de 2003
Huallay	Resolución Jefatural Nº 192-2005-INRENA, del 12 de agosto de 2005
Lagunas de Mejia	Resolución Jefatural Nº 077-2000-INRENA, del 08 de marzo de 2000, publicada el 21 de marzo de 2000
Manglares de Tumbes	Resolución Jefatural Nº 137-2001-INRENA, del 12 de junio de 2001, publicada el 15 de junio de 2001
Megantoni	Resolución Jefatural Nº 330-2006-INRENA, del 20 de diciembre de 2006
Historical Sanctuary	
Chacamarca	Resolución Jefatural Nº 466-2002-INRENA, del 20 de diciembre de 2002, publicada el 27 de marzo de 2003
Machupicchu	Resolución Jefatural Nº 109-2005-INRENA, publicada el 01 de junio de 2005
Communal Reserve	
Purus	Resolución Jefatural Nº 198-2001-INRENA, del 20 de febrero de 2005
National Reserve	
Junín	Resolución Jefatural Nº 089-2000-INRENA, del 20 de marzo de 2000, publicada el 11 de abril de 2000
Paracas	Resolución Directoral Nº 099-80-DGFF, del 19 de diciembre de 1980; actualizada con Resolución Jefatural Nº 053-96-INRENA, del 12 de marzo de 1996, y con Resolución Jefatural Nº 465-2002-INRENA, del 20 de diciembre de 2002, publicada el 27 de marzo de 2003
Lachay	Resolución Directoral Nº 098-80-DGFF, del 19 de diciembre de 1980, actualizada con Resolución Jefatural Nº 468-2002-INRENA, del 20 de diciembre de 2002, publicada el 27 de marzo de 2003
Titicaca	Resolución Directoral Nº 097-80-DGFF, del 19 de diciembre de 1980, publicada el 06 de enero de 1981, Resolución Jefatural Nº 467-2002-INRENA, del 20 de diciembre de 2002, publicada el 27 de marzo de 2003

Salinas y Aguada Blanca	Resolución Directoral Nº 037-85-DGFF, del 01 de agosto de 1985, actualizado con Resolución Jefatural N° 136-2001-INRENA, del 12 de junio de 2001, publicada el 15 de junio de 2001
Pacaya Samiria	Resolución Jefatural Nº 072-86-AG-DGFF, del 24 de julio de 1986, actualizada con Jefatural Nº 170-2000-INRENA, del 03 de julio de 2000, publicada el 07 de julio de 2000
Tambopata	Resolución Jefatural Nº 141-2003-INRENA, del 30 de septiembre de 2003, publicada el 07 de octubre de 2003
Allpahuayo Mishana	Resolución Jefatural N° 020-2005-INRENA , del 03 de febrero de 2005
Landscape Reserve	
Nor Yauyos Cochas	Resolución Jefatural Nº 194-2006-INRENA, del 20 de julio de 2006
Enclosed Hunting Land	
El Angolo	Plan maestro 2005 - 2009
Reserve Zone	
Pantanos de Villa	Resolución Jefatural Nº 066-98-INRENA, del 12 de agosto de 1998, publicada el 01 de setiembre de 1998

Annex M. 11.

Table M.11. Natural Protected Areas with plans for public use/tourism use and site plans

NPA	Legal Dispositive
National Park	
Bahuaja Sonene (Plan de Sitio del Área Turística y Recreativa del Lago Sandoval)	Resolución Intendencia Nº 003-2004-INRENA-IANP, del 22 de abril de 2004
Huascaran	Resolución Jefatural Nº 053-96-INRENA, del 12 de marzo de 1996, actualizada por Resolución de Intendencia Nº 002-2005-INRENA-IANP, del 13 de enero de 2005
Manu	Resolución de Intendencia Nº 006-2003-INRENA-IANP, del 30 de junio de 2003
National Reserve	
Lachay	Resolución de Intendencia Nº 024-2004-INRENA-IANP, del 30 de diciembre de 2004
Pacaya Samiria	Resolución Directoral Nº 016-2001-INRENA-DGANPFS, del 06 de julio de 2001, publicado el 10 de julio de 2001
Titicaca	Resolución Intendencia Nº 012-2005-INRENA-IANP

Source: IANP-INRENA, 2007

Annex M. 12.

Table M.12. Natural Protected Areas with Management Committees

NPA	Legal Dispositive
National Park	
Cutervo	Resolución de Intendencia Nº 011-2003-INRENA-IANP, del 26 de septiembre de 2003
Tingo Maria	Resolución Directoral Nº 026-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Huascaran	Resolución Directoral Nº 032-2002-INRENA-DGNAP, del 20 de diciembre de 2002
Cerros de Amotape	Resolución Directoral Nº 025-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Rio Abiseo	Resolución Directoral Nº 023-2002-INRENA-DGNAP, del 17 de diciembre de 2002, actualizado por Resolución de Intendencia Nº 010-2004-INRENA-IANP, del 06 de agosto de 2004
Yanachaga Chemillen	Resolución Directoral Nº 027-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Bahuaja Sonene	Resolución Directoral Nº 020-2001-INRENA-DGANPFS, del 04 de agosto de 2001; actualizado por Resolución de Intendencia Nº 022-2004-INRENA-IANP, del 06 de diciembre de 2004
Cordillera Azul	Resolución de Intendencia Nº 023-2004-INRENA-IANP, del 20 de diciembre de 2004
National Sanctuary	
Huallay	Resolución Directoral Nº 029-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Calipuy	Resolución Directoral Nº 028-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Lagunas de Mejia	Resolución Directoral Nº 022-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Ampay	Resolución Directoral Nº 004-2002-INRENA-DGNAP, del 21 de mayo de 2002
Manglares de Tumbes	Resolución de Intendencia Nº 015-2003-INRENA-IANP, del 12 de diciembre de 2003 , actualizado por Resolución de Intendencia Nº 012-2004-INRENA-IANP, del 18 de agosto de 2004
Tabaconas Namballe	Resolución Directoral Nº 024-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Historical Sanctuary	
Chacamarca	Resolución Directoral Nº 030-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Bosques de Pomac	Resolución Directoral Nº 033-2002-INRENA-DGNAP, del 26 de diciembre de 2002
National Reserve	
Junín	Resolución de Intendencia Nº 007-2003-INRENA-IANP, del 30 de junio de 2003
Paracas	Resolución de Intendencia Nº 017-2003-INRENA-IANP, del 30 de diciembre de 2003
Lachay	Resolución Directoral Nº 006-2002-INRENA-DGANP, del 20 de junio de 2002, actualizo por Resolución de Intendencia Nº 021-2004-INRENA-IANP, del 06 de noviembre de 2004
Titicaca	Resolución Directoral Nº 005-2002-INRENA-DGANP, del 23 de mayo de 2002, actualizado por Resolución de Intendencia Nº 016-2004-INRENA-IANP, del 17 de septiembre de 2004
Salinas y Aguada Blanca	Resolución de Intendencia Nº 005-2003-INRENA-IANP, del 30 de junio de 2003
Pacaya Samiria	Resolución Directoral Nº 031-2002-INRENA-DGNAP, del 20 de diciembre de 2002

Calipuy	Resolución Directoral Nº 028-2002-INRENA-DGNAP, del 17 de diciembre de 2002
Tambopata	Resolución Directoral Nº 020-2001-INRENA-DGANPFS, del 04 de agosto de 2001, actualizado por Resolución de Intendencia Nº 022-2004-INRENA-IANP, del 06 de diciembre de 2004
Protected Forest	
Alto Mayo	Resolución de Intendencia Nº 007-2005-INRENA-IANP, del 07 de marzo de 2005
Enclosed Hunting Land	
El Angolo	Resolución de Intendencia Nº 016-2003-INRENA-IANP, del 12 de diciembre de 2003
Reserve Zone	
Laquipampa	Resolución Directoral Nº 033-2002-INRENA-DGNAP, del 26 de diciembre de 2002
Santiago Comaina	Resolución de Intendencia Nº 013-2003-INRENA-IANP, del 30 de septiembre del 2003

Source: IANP-INRENA, 2006

Annex M.13.

Table M.13 Presence of Non-governmental organizations in Natural Protected Areas

NPA	NGOs
NP Otishi, CR Ashaninka y CR Machiguenga	ACPC, CEDIA, CI, PROCAM, Pro Naturaleza
NR Lachay	GEA, APECO
NP Yanachaga Chemillen, PF San Matias San Carlos, CR Yanesha	TNC, Pro Naturaleza
NP Tingo Maria	IRG, WWF, CHIHUAHUACOS, TNC
CR Amarakaeri	WWF, CI
NP Bahuaja Sonene, NR Tambopata	CI, Pro Naturaleza, WWF, IUCN, CESCI, ACCA, ANIA
NP Manu	Pro Naturaleza
RZ Huayhuash	Instituto de Montañas
NP Cutervo	Pro Naturaleza
NS Tabaconas Namballe	WWF, Pro Naturaleza
NR Titicaca	CEDAS
NR Pacaya Samiria	TNC, Pro Naturaleza
NR Salinas y Aguada Blanca	CONATURA, DESCO, IPADE,
RZ Tumbes, NP Cerros de Amotape, NS Manglares de Tumbes, EHL EL Angolo	Pro Naturaleza, Ecovida, CICA, SEPAPAP
NS Lagunas de Mejia	NADES, PRODENA, GAAP
HS Machupicchu	Instituto Bartolomé de las Casas
NS Ampay	IDMA, CEDES
RZ Santiago Comaina	SAIPE
CR El Sira	AIDER
NP Rio Abiseo	APECO
RZ Colan	APECO
NR Paracas	ACOREMA; Pro Naturaleza, WWF, Ecoplayas, Huayuna, GEA
NR Junín	FODESA
WR Pantanos de Villa	Foro Ecológico, Incaspiza
NP Cordillera Azul	APECO, CIMA, CEDISA, CHUYACHAQUES, IRG, Pro Naturaleza, WWF, CI
NR Allpahuayo Mishana	IIAP, Pro Naturaleza

Source: IANP-INRENA, 2004 in Chávez, J., et al, 2005

Annex M.14.

Table M.14. Ecotourism concessions granted since 2006.

Concessionaries	Surface (Ha)	Region	Year
Jungla Odissey	1,062.14	Madre de Dios	2004
Tambopata Expeditions *	4,460.22	Madre de Dios	2004
Tiburcio Huacho	279.72	Madre de Dios	2004
Maderos	3,394.73	Madre de Dios	2004
Ecoamazonia	6,201.90	Madre de Dios	2005
Gilberto Vela	977.20	Madre de Dios	2005
Guillermo Rosemberg	476.40	Madre de Dios	2005
Inka Terra	8,841.40	Madre de Dios	2005
Inversiones Manguare	130.00	Loreto	2005
Ismael Cisneros	72.56	Tumbe	2005
Lagartococha	2,523.07	Madre de Dios	2005
Ricardo Pisan	29.38	Tumbes	2005
Sixto Delgado	587.75	Madre de Dios	2005
Martín Alejo Condori	7,633.36	Cusco	2005
Zafre	9,953.17	Loreto	2005
Amtuset	389.07	Madre de Dios	2006
CCNN Infierno	1,648.29	Madre de Dios	2006
Amaitus	3,762.00	Madre de Dios	2006
Justiniano Zúñiga	2,067.94	Madre de Dios	2006
Inversiones Leniperu	10.21	Ancash	2006
Total	54,500.51		

* With new area concessionaries
Source: INRENA, 2006

Annex M.15.

Table M.15. List of the animals found in zoos authorized by INRENA per region

	Region	Species
1	Lima	Birds, primates and Procyonides
2	Lima	Birds, reptiles, deer and primates
3	Lima	Birds, primates, small mammals and reptiles
4	Lima	Diverse species
5	Lima	Diverse species
6	Lima	Diverse species
7	Lima	White-tailed deer, jaguars and other species
8	Lima	Deer and Goeldi's monkeys
9	Lima	Monkeys, turtles, etc.
10	Lima	Birds, reptiles, primates and small mammals
11	Lima	Birds
12	Lima	Monkeys, turtles, etc.
13	Lima	Mainly birds and reptiles
14	Lima	Mainly birds and mammals
15	Lima	Felines, birds and other species
16	Lima	Primates, birds and reptiles
17	Lima	Birds and reptiles
18	Lima	Birds, primates, reptiles and amphibians
19	Lima	Diverse species
20	Lima	Diverse species
21	Lima	Diverse species
22	Lima	Maquisapa monkeys and motelo turtles
23	Lima	Ophidia
24	Madre de Dios	Reptiles and amphibians
25	Lima	Mainly birds and turtles

Source: INRENA, 2007

Annex M.16.

Table M.16. List of numbers of breeding centers authorized by INRENA

Región	Number	Percentage (%)
Lima	44	51.76
Loreto	13	15.29
Ucayali	4	4.71
Arequipa	3	3.53
Huanuco	3	3.53
Ica	3	3.53
Lambayeque	3	3.53
Madre de Dios	3	3.53
Cajamarca	2	2.35
San Martín	2	2.35
Amazonas	1	1.18
La Libertad	1	1.18
Piura	1	1.18
Tacna	1	1.18
Tumbes	1	1.18
Total	85	100.00

Source: Modified form INRENA, 2007

Annex M.17.

Table M.17. List and location of institutions that possess germoplasm banks

Public Institutions		Private/Mixed Institutions	
Institution	**Location**	**Institution**	**Location**
Pedro Ruiz Gallo University	Coast	Lambayeque Institute for Agricultural Development (IDAL)	Coast
Jose Sánchez Carrión University	Coast		
National Agrarian University La Molina	Coast	Regional Institute for Education and Development (REDES)	Highlands
Central Peru National University	Highlands	Rural Education, Development and Support Services (SEPAR)	Highlands
Peruvian Amazonia University	Rain forest	Andean Rural School, Cajamarca (ERA-CAJ)	Highlands
San Martin National University	Rain forest	Quinoa and Kiwicha Program, Cusco (CICA-Cus)	Highlands
Agrarian University of the Jungle	Rain forest	Regional Center for Andean Biodiversity Research (CRIBA-Cus)	Highlands
National University of Ucayali	Rain forest	VIV, CACTUS	Rain forest
INIA (Headquarters)	Coast	Rural Amazonia Association (ARAACHOB)	Rain forest
INIA-Vista Florida	Coast	Research Institute of Peruvian Amazonia (CRI-IIAP)	Rain forest
INIA-Donoso	Coast	Maray Civil Association (AC-Maray)	Rain forest
INIA-Santa Ana	Highlands	International Center for Agroforestry Research (ICRAF)	Rain forest
INIA-Baños del Inca	Highlands	Centro Internacional de la Papa (CIP)	Coast
INIA-Cannan	Highlands		
INIA-Illpa	Rain forest		
INIA-Andenes	Rain forest		
INIA-San Roque	Rain forest		
INIA-Pucallpa	Rain forest		
INIA-El Porvenir	Rain forest		

Source: CAN, 2002

Annex M.18

Table M.18 List of herbariums in Peru

Institution	Approximate number of samples
Museo de Historia Natural-UNMSM	500,000
Universidad Nacional de Cajamarca	17,000
Universidad Nacional del Cusco	22,000
Universidad Nacional de Huanuco	5,000
Universidad Nacional de Iquitos	20,000
Universidad Nacional de Lambayeque	5,000
Universidad Nacional Agraria La molina	26,000
Universidad Nacional Agraria	4,000
Universidad Nacional de La Libertad	18,000
Universidad Privada Antenor Orrego	8,000

Source: Valencia, 2001 Director Museo Historia Natural-UNMSM in CAN, 2003

Annex M.19. Additional details regarding legislation and history of the Camisea project

The Camisea project covers a wide area that at the same time is very sensitive due to its great geographic, climatic, and wildlife diversity. According to Dourojeanni (2006), the project's direct and indirect influence area includes four major areas:

1. The Alto and Bajo Urubamba region in Peruvian Amazonia (rainforest), recognized as one of the major biodiversity areas, due to its biological wealth, large number of endemic species and the presence of endangered species.
2. The Bajo Urubamba region has native/indigenous community settlements, both in the project's direct and indirect areas of influence, as well as reserves for the voluntarily isolated indigenous Nahua-Kugapakori populations.
3. The high plateau located in the provinces of Huaytara, Cangallo, Huamanga, and La Mar in the regions of Huancavelica and Ayacucho, characterized by being the home to populations living in extreme poverty with very limited infrastructure, health services and very few economic opportunities.
4. The Paracas National Reserve is the only marine reserve in Peru, and has representative samples of natural formations and a very special biological diversity.

Due to the complex gas development and transport process, as well as the fragility of the areas the gas pipeline runs through, in 2002 the Government issued Supreme Decree Nº 030-2002-EM to create the Camisea Project Ombudsman (Defensoria para el proyecto de Camisea), as an organ attached to the Ministry of Energy and Mines (MEM), aimed to develop prevention strategies for conflict or controversy issues connected exclusively to the social and/or environmental aspects of the project. Through Supreme Resolution Nº 052-2002-EM, the Católica del Perú University (PUCP) was selected as the institution in charge of the Camisea Ombudsman Office.

Parallel to this, through Supreme Decree Nº 120-2002-PCM, the Presidency of the Cabinet of Ministers created the Camisea Inter-institutional Coordination Technical Group (GTCI Camisea), also as an entity attached to the MEM. The GTCI Camisea establishes coordination mechanisms related to the Camisea Project with various public entities, including the Ombudsman's Office. As the Ombudsman's Office Law Nº 007-2004/DP well says, "The law ought not to create any parallel ombudsman's offices for topical issues that duplicate their functions or could generate confusion among the civil population…" (Defensoria del Pueblo, 2006.)

Meanwhile, in 2001 and for a 3-year term, the Camisea Community Environmental Monitoring Plan (PMAC) was created, a community monitoring initiative executed by Pronaturaleza, in a consortium with the Peruvian Environmental Network, with funds from PLUSPETROL and TGP, aiming to reduce, control, and mitigate any probable environmental and social impacts that could generate during the development of the Camisea project, in the Bajo and Alto Urubamba areas. In 2005, the Pronaturaleza-Peruvian Environmental Network consortium carries on wit hthe PMAC project (now PMAC I) funded by the Amazon Gas Operator Company (COGA).

According to the half-year report (January to September 2006) from the Alto Urubamba PMAC I Community Environmental Monitoring Program, the most frequent remarks

made on the Ddv[1] are those related to the re-vegetation condition (20%), followed by the presence of landslides (15.23%), and the presence of solid wastes (14.28%.).

The impact of the gas pipeline on the environment is not limited to its construction period, but will also occur when it is operative. According to a press release from Amazon Watch (03-2006), during the first 18 months of the gas pipeline's functioning, there have been five breakings and spillages, and one of them caused an explosion (La Convención province, Cuzco). According to Report Nº 103 by the Ombudsman's Office (Defensoria del Pueblo, 2006), these spillages have caused the contamination of gulleys.

A press release issued by the government's ANDINA news agency (March 16, 2007) points out that, according to the statements made by the President of OSINERGMIN[2] (Supervising Body on Investments in Energy and Mines), the breakings on the gas pipeline could have been caused by geological factors, because of the rough terrain. The official also indicated that the company held accountable for its construction (TGP) has paid around US$ 1.2 million in fines for the recorded breakings on the gas pipeline, and there is still another US$ 1.5 million to be paid for environmental damage.

As to the fractioning plant, according to the Ombudsman's Office (Defensoria del Pueblo, 2006), the relevant authorities have failed to provide convincing reasons for approving the fractioning plant's construction in the Paracas National Reserve buffering zone, thus threatening the only protected area in Peru that includes sea areas.

[1] The environmental monitoring is carried out along the rights of way (DDY) that correspond to the stretch of the road in each community, and on a monthly basis. It aims to monitor aspects related to erosion (sediment carrying, landslides, and gullies; contaminants, solid and industrial wastes present in the soil, and the water contamination levels.)

[2] Created by law nº 28964 on January 24, 2007. It is an organism that regulates, supervises and checks all the activities developed by legal entities with an internal or private right and the individuals on the electricity, hydrocarbons, and mining sectors.

Annex M.20.

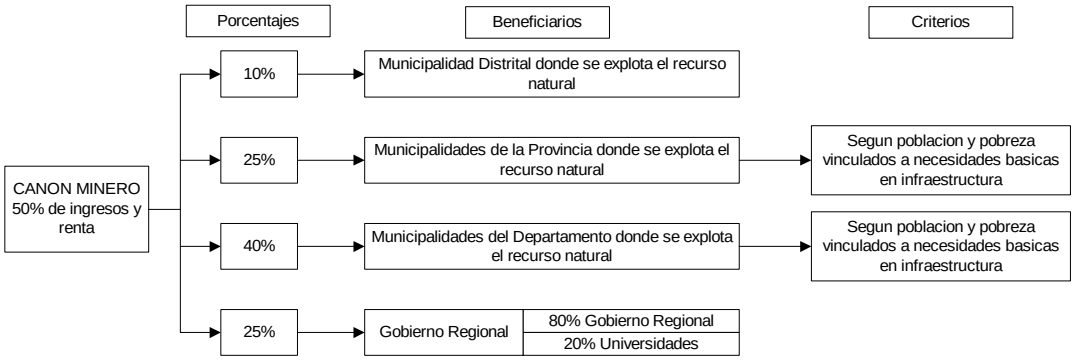
Table M.20. Contracts and Oil Operation Blocks with information regarding overlap with neighboring communities or Natural Protected Areas

Block	Company	Block overlapping
57	Repsol Exploración, sucursal del Peru y Burlington Resources del Peru Limited, sucursal peruana	The Machiguenga Community Reserve and its buffer zone
58	Petrobras Energía Peru S.A.	The Machiguenga Community Reserve and its buffering zone
107	Petrolífera Petroleum del Peru S.A.C.	The Yanesha Community Reserve, The San Matías-San Carlos Protection Forest, and buffering zones in the Blue Cordillera
76	Hunt Oil Company (Block 76) of Peru L.L.C. Peru Branch	The Manú National Park buffering zone and the Amarakaeri Community Reserve and its buffering zone
108	Pluspetrol E&P S.A.	The San Matías-San Carlos Protection Forest, Ashaninka Community Reserve and buffering zone for both areas
111	Sapet Development Peru Inc. Peru Branch	The Tambopata National Reserve and its buffering zone
117	Petrobras Energía Peru S.A.	The Gueppi National Reserve and its buffering zone
118	Amerada Hess Peru Inc. Peru Branch	The Blue Cordillera National Park buffering zone
119	Amerada Hess Peru Inc. Peru Bran ch	The Blue Cordillera National Park buffering zone
114	Pan Andean Resources Plc. Peru Branch, and Compañía Consultora de Petróleo S.A.	The El Sira Community Reserve and its buffering zone
103	Occidental Petrolera del Peru	The Escalera Cordillera Regional Conservation Areas
8	Pluspetrol Norte S.A., s Korea National Oil Corporation sucursal peruana, Daewoo International, SK Corporation sucursal peruana	The Pacaya Samiria National Reserve
67_2	Barret Resources Peru Corporation	The Pacacuro Reserved Zone
104	Burlington Resources Peru Limited	The Pacacuro Reserved Zone
1AB	Pluspetrol Norte	The Pacacuro Reserved Zone
39	Resources Peru Limited sucursal peruana	The Pacacuro Reserved Zone
31-B	Maple Production del Peru Peru branch	The Sierra del Divisor Reserved Zone
31-E	Maple Production del Peru Peru branch	The Sierra del Divisor Reserved Zone

Source: Grupo de Áreas Protegidas e Hidrocarburos, Perupetro, 2006 in El Comercio (Tuesday, December 12. 2006)

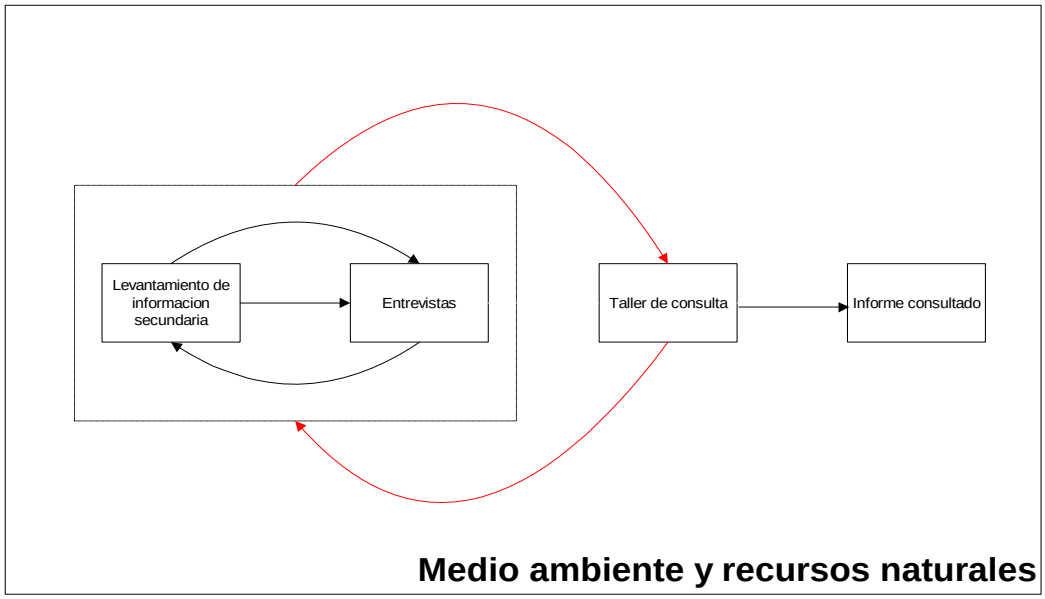
Annex M.21.

Table M.21. Distribution of the mining cannon to the regional government.

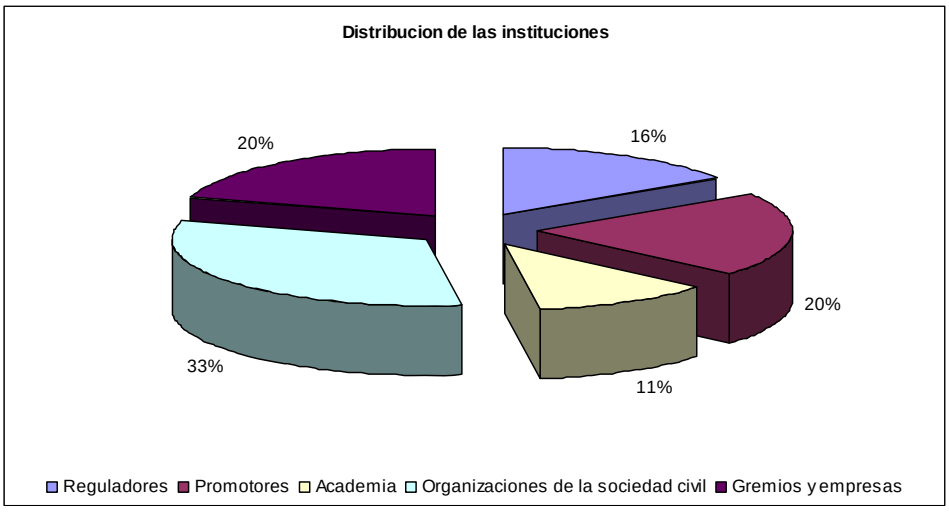


M.22. Methodology

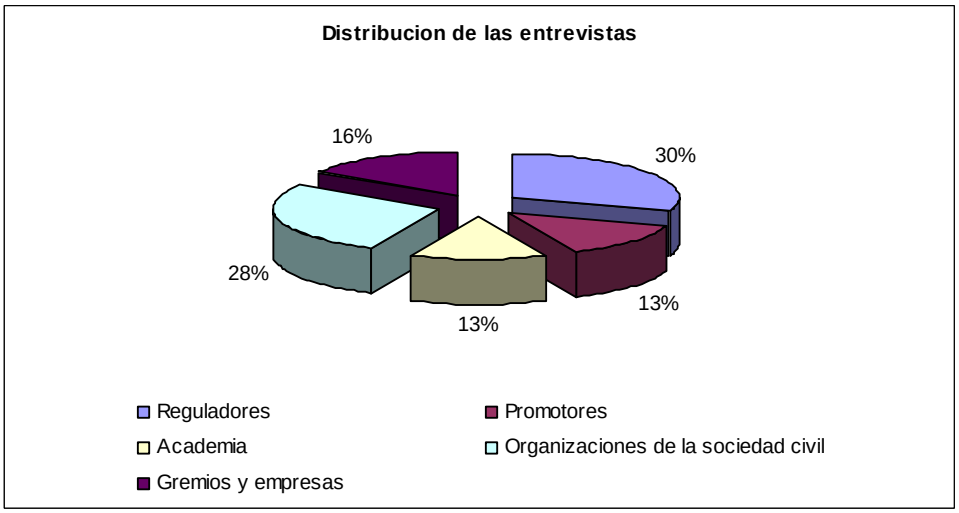
La metodología seguida consistió en revisión de información secundaria, entrevistas a personas claves de instituciones claves y un taller de socialización de resultados con representantes del sector público, privado y de la sociedad civil (ONGs y comunidades nativas). A continuación se presenta el flujograma que muestra los pasos metodológicos seguidos durante la elaboración del presente reporte sobre el Estado de Conservación de Biodiversidad y Bosques Tropicales en el Perú:



Durante la fase de entrevistas se contacto con representantes de 39 instituciones clasificadas en instituciones reguladoras (CONAM, INRENA, CONGRESO, MINAG, MINCETUR, PRODUCE, INDECOPI), promotores (APCI, BM, CAN, GTZ, PNUD, FONAM, FONDAM, FONDEBOSQUE, PROFONANPE), academia (UNALM, UNMSM, UPCH, PUCP, UP), organizaciones de la sociedad civil (ADRA, AIDESEP, ANIA, APECO, CEPES, CI, CIMA, DAR, IBC, SPDA, WWF, FSSAC, AIDER, TNC) y gremios y/o empresas (RAINFOREST, MORANI, INSTITUTO CUANTO, Consultores individuales). A continuación se presenta la distribución porcentual instituciones entrevistadas:



La población de personas entrevistadas es 76, las cuales se distribuyen según a la institución que pertenecen (reguladoras, promotores, academia, organizaciones de la sociedad civil y gremios y/o empresas) de la siguiente manera:



M.23. Workshop Details

Taller: Estado Actual de la Conservación y Gestión de la Biodiversidad y Bosques Tropicales en el Perú.

Lugar: Hotel Boulevard
Fecha: 3 al 4 de mayo 2007

Durante el Taller se precisó que el informe de consultoría "Estado Actual de la Conservación y Gestión de la Biodiversidad y Bosques Tropicales en el Perú" no espera ser:

- ✓ Una evaluación de la gestión de las instituciones rectoras en medio ambiente y recursos naturales
- ✓ Un documento en detalle del estado de conservación y gestión de biodiversidad y bosques tropicales

El mencionado informes espera es:

- ✓ Una fotografía muy aproximada del "estado actual" de la conservación y gestión de la diversidad biológica y bosques tropicales
- ✓ Un documento de planificación de USAID para definir futuras estrategias de acción

A continuación se presenta la lista de participantes por día al taller.

Jueves 3 de mayo	**Viernes 4 de mayo**
Walter Huamani (CONAM)	Walter Huamani (CONAM)
Victor Pesha (CCNN Infierno)	Victor Pesha (CCNN Infierno)
Alberto Barandiaran (DAR)	Alberto Barandiaran (DAR)
Hugo Chepiu (DAR)	Hugo Chepiu (DAR)
Margarita Benavides (IBC)	Margarita Benavides (IBC)
Sr. Nielsen (CIMA)	Sr. Nielsen (CIMA)
Miriam Cerdan (UPCH)	Miriam Cerdan (UPCH)
Sandra Isola (TNC)	Sandra Isola (TNC)
Silvia Usuriaga (PROCREL)	Silvia Usuriaga (PROCREL)
Noam Shany (PROCREL)	Noam Shany (PROCREL)
Patricia Luna (PROCREL)	Patricia Luna (PROCREL)
Yolanda Guzman (IIAP)	Yolanda Guzman (IIAP)
José Alvarez (IIAP)	José Alvarez (IIAP)
Gustavo Suarez (Consultor)	Gustavo Suarez (Consultor)
Mariano Castro (Consultor)	Mariano Castro (Consultor)
Fernando Ghersi (Consultor)	Fernando Ghersi (Consultor)
Pablo Peña (SPDA)	Pablo Peña (SPDA)
Pedro Solano (SPDA)	---
---	Karina Livschitz (SPDA)
Marcia Toledo (USAID)	Marcia Toledo (USAID)
Jessica Jordan (USAID)	---
Juan Guzman (FONDEBOSQUE)	Juan Guzman (FONDEBOSQUE)
Samin Vargas (FONDEBOSQUE)	---
Amalia Cuba (PROFONANPE)	Amalia Cuba (PROFONANPE)
Humberto Cabrera (PROFONANPE)	---
Alberto Paniagua (PROFONANPE)	---
Luis Roman (GTZ)	---

Silvia Sanchez (APECO)	---
Teddy Peñaherrera (WWF)	---
Liliana Lozano (WWF)	---
Gil Inoach (WWF)	---
Aldo Soto (WWF)	---
---	Roberto Espinoza (WWF)
---	Claudia Figallo (Consultora)
Yolanda Ramirez (AIDER)	---
Rosario Gómez (UP)	---
---	Elsa Galarza (UP)

Los productos esperados del taller fueron:

- ✓ Compartir con los participantes del taller el reporte borrador "Estado de la conservación y gestión de la biodiversidad y bosques tropicales" (en inglés) para recibir aportes, sugerencias y comentarios.
- ✓ Presentar y compartir la matriz de hallazgos que identifica el estado actual con hallazgos positivos y negativos para recibir aportes, sugerencias y comentarios así como definir de manera consensuada las posibles líneas de acción futura para USAID Perú (oportunidades para estrategias de USAID a futuro).

A continuación se presentan las matrices de Biodiversidad y Bosques tropicales productos del taller:

Biodiversidad				
Contexto de Biodiversidad	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para Estrategias de USAID a futuro
Conservación In Situ (SINANPE, Áreas de Conservación Complementarias y otras modalidades como concesiones para conservación)	Políticas de conservación	✓ La conservación y uso sostenible de la diversidad biológica no forma parte de la agenda política nacional. ✓ El hecho de tener documentos de gestión aprobados no garantiza la conservación y uso sostenible de la diversidad biológica. ✓ No hay integración de las políticas sectoriales a la Estrategia Nacional de Diversidad Biológica. ✓ Ausencia de una política clara para el aprovechamiento y transformación de los recursos de la diversidad biológica. La promoción del valor agregado en los productos de la diversidad biológica por parte del Estado es débil. ✓ Ausencia de políticas en tecnología e innovación para el desarrollo competitivo en recursos la diversidad biológica. ✓ Si bien la políticas ambientales son sectoriales, el nivel de coordinación es bajo.	✓ EL CONAM esta implementando la Estrategia Nacional de Diversidad Biológica a través de la conformación de Grupos Técnicos donde participan representantes del sector privado, público y de la sociedad civil. ✓ El INRENA ha impulsado la actualización del Plan Director para las áreas naturales protegidas por el Estado y ha desarrollado la Estrategia de Conservación de Ecosistemas Frágiles. ✓ El CONCYTEC aprobó el Plan Nacional de Ciencia, Tecnología e Innovación con líneas de acción en conservación, uso sostenible y generación de valor agregado de la diversidad biológica. ✓ El IIAP ha ejecutado un proyecto de conservación in situ (agro-biodiversidad) a nivel nacional.	✓ Apoyar las evaluaciones ambientales estratégicas que debe realizar el CONAM. ✓ Apoyar la comunicación en temas de conservación para fortalecer el compromiso de la sociedad civil con la conservación. ✓ Fomentar mesas de dialogo, concertación y coordinación de políticas ambientales sectoriales. ✓ Apoyar la construcción e implementación de políticas en conservación regionales integradas a una política nacional de conservación. ✓ Apoyar al INRENA y CONAM en lo procesos de descentralización con participación de la sociedad civil y sector privado en políticas de conservación y uso sostenible de recursos biológicos.
	Institucionalidad	✓ La estructura institucional del INRENA y CONAM no ha evolucionado a la par de las demandas de la gestión ambiental. ✓ No se cuenta con una institución que gestiones de manera integrada los recursos naturales y medioambiente. ✓ No hay esfuerzo nacional común, campañas para que la sociedad civil sea aliado importante en la conservación.	✓ Se cuenta con Comisiones Ambientales Regionales y Municipales que apoyan la gestión ambiental y son coordinadas por el CONAM. ✓ Se cuenta con Comités de Gestión en las áreas naturales protegidas por el Estado y son coordinadas por el INRENA. ✓ INRENA y ONGs locales e internacionales identifican ecosistemas frágiles y promueven declaración de nuevas ANPs	✓ Promover el intercambio de experiencias entre los Comités de Gestión de áreas naturales protegidas y otros modelos de conservación. ✓ Apoyar el empoderamiento de los Comités de Gestión, Comisiones Ambientales Regionales y Municipales en fiscalización y vigilancia ciudadana. ✓ Fortalecer la construcción de la institucionalidad ambiental en los gobiernos regionales y locales.

Contexto de Biodiversidad	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para Estrategias de USAID a futuro
Conservación In Situ (SINANPE, Áreas de Conservación Complementarias y otras modalidades como concesiones para conservación) (cont.)	Marco Legal	✓ En el sistema de áreas protegidas por el Estado no se cuenta con un reglamento de sanciones e infracciones. ✓ Existe un vacío legal para la conformación de las áreas de conservación municipal como sistema complementario al SINANPE. ✓ Todavía existe un desconocimiento del marco legal asociado a la conservación y uso sostenible de la biodiversidad en la ciudadanía. Escasa difusión de las normas y, por lo tanto, no cumplimiento de estas. ✓ Faltan normar tarifas diferenciadas por ingreso de turistas extranjeros a las áreas protegidas.	✓ Existe una Estrategia Nacional de Biodiversidad ✓ Se ha ratificado convenios internacionales con los siguientes puntos focales: diversidad biológica (CONAM), especies amenazadas (INRENA), humedales (INRENA), desertificación (INRENA), cambio climático (CONAM). ✓ Se cuenta un marco legal que permite la creación de un sistema complementario de conservación, alternativo a las áreas protegidas por el Estado.	✓ Fortalecer programas de difusión de las normas legales de conservación. ✓ Revisar la legislación sobre Comités de Gestión en temas de procesos de descentralización e incorporación de nuevos actores.
	Ordenamiento territorial	✓ La ausencia del ordenamiento territorial provoca conflictos por el uso de la tierra en cada sector (no hay planificación del uso del territorio). ✓ Socialmente, no es aceptable la creación de más áreas naturales protegidas por el Estado. ✓ Se incentiva cultivos sin ningún criterio técnico y que van en contra de la biodiversidad (biocombustibles). ✓ Cada sector utiliza cartografía diferente. ✓ No se cuenta con un mapa de clasificación de ecosistema estándar a las instituciones públicas, privadas y del sector civil.	✓ El gobierno regional de San Martín aprobó mediante Ordenanza Regional su Bonificación Económica Ecológica. ✓ Se cuenta con un Plan de Desarrollo Concertado para la Municipalidad Distrital de Nueva Cajamarca (San Martín).	✓ Apoyar la estandarización de la cartografía nacional y generación estándar del mapa forestal y clasificación de ecosistemas. ✓ Apoyar a los gobiernos regionales en estudios de ordenamiento territorial y bosque modelo. ✓ Apoyar el desarrollo de nuevos modelos de conservación como corredores biológicos, bosques modelos y favorecer políticas de ordenamiento territorial. ✓ Apoyar a los municipios para trabajar los temas de ordenamiento territorial (meso zonificación).
	Representatividad	✓ El SINANPE ha crecido 7.33% en los últimos 6 años. Aun no se tiene una representatividad de todos los ecosistemas. ✓ Algunas zonas reservadas son mas grandes de lo que se quiere proteger (ZR Santiago Comaina) generando conflictos con poblaciones locales. ✓ Los ecosistemas marino costeros están fuertemente ausentes en la priorización de ecosistemas a conservar.	✓ La actualización del Plan Director seleccionó 133 zonas prioritarias para conservación de la diversidad biológica empleando criterios de subrepresentación de ecorregiones, zonas priorizadas no cubiertas por el Plan Director de 1999 y aportes de conectividad al SINANPE. Además, estableció 23 zonas priorizadas a ser cubiertas por el SINANPE y otras áreas complementarias. ✓ Categorización de 6 zonas reservadas en proceso de categorización (INRENA).	✓ Apoyar los pasos necesarios para que las áreas marino costeras, bosques secos y bosques de neblina estén debidamente representados. ✓ Apoyo en los estudios para determinar si cada ANP esta representando debidamente cada ecosistema.

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Conservación In Situ (SINANPE, Áreas de Conservación Complementarias y otras modalidades como concesiones para conservación) (cont.)	Gestión	✓ Calidad de gestión es inadecuada, el INRENA cuenta con limitada capacidad. ✓ Gran parte de las áreas protegidas no están saneadas legalmente y en registro publico. ✓ Ausencia de un plan de comunicación entre sectores. ✓ 25% del SINANPE se encuentra en categoría transitoria (zona reservada). ✓ Solo 29 de ANPs cuenta con Planes Maestros elaborados. ✓ Los planes de manejo están orientados por recurso y no hacia un manejo eco-sistémico. ✓ Limitada participación, planificación, organización de la sociedad civil y empresa privada en la gestión de las áreas naturales protegidas por el Estado y otros modelos de conservación. ✓ Existe tensión con la población local dentro y fuera del área (zona reservada). ✓ El tema de pago por servicios ambientales (valorización) no es un discurso en la gestión de las áreas protegidas por el Estado y otros modelos de conservación. ✓ Existen actividades incompatibles con la conservación en las ANPs (cultivos ilícitos, plantaciones agrícolas, ganadería, minería, hidrocarburos, agricultura migratoria, tala ilegal, caza y pesca ilegal). ✓ Existe competencia del uso del espacio geográfico con otras actividades que generan gran desarrollo económico como hidrocarburos y minería. ✓ No hay sistematización de la información y lecciones aprendidas.	✓ INRENA lidera la actualización del Plan Director de Áreas Naturales Protegidas con participación de ONGs locales. ✓ INRENA ha designado nodos de comunicación y capacitación en el SINANPE. ONGs locales apoyan el cumplimiento de las tareas en los nodos. ✓ ONGs elaboran planes de manejo de recursos naturales taricaya, paiche, arahuana, Pero siguen estos planes de manejo orientados solo por recursos. ✓ INRENA ha finalizado la categorización de 5 zonas reservadas en los últimos 2 años con apoyo de las organizaciones de la sociedad civil (CEDISA, PIMA, AB SUSTENTA). ✓ 6 Zonas Reservadas están en proceso de categorización con apoyo de ONGs (TNC, PRONATURALEZA, AB SUSTENTA, APECO). ✓ El MINAG/INRENA y el MEM están evaluando propuestas para exploración en ANP. ✓ INRENA y DEVIDA han firmado un acuerdo para asegurar ANPs libres de cultivos ilícitos. ✓ ONGs locales han desarrollado una propuesta para ampliar las ANPs marino-costeras.	✓ Fortalecer las instituciones de base ya que apoyan en la gestión (Comités de Gestión, Comisiones Ambientales Regionales y Municipales) y articularlas al proceso de descentralización. ✓ Apoyar el trabajo de los gerentes de recursos naturales y medio ambiente de los Gobiernos Regionales que toman iniciativas para la gestión integral de recursos naturales. ✓ Apoyar procesos de gobernanza y el desarrollo de indicadores para medir gobernanza. ✓ Apoyar a empresarios que tengan responsabilidad social ambiental para generar productos con mercados justos y sostenibles. ✓ Apoyar el desarrollo de un sistema de Gestión de Información. ✓ Apoyar a la generación de diferentes modelos de gestión de recursos naturales. ✓ Promover actividades económicas en las ANP que sean sostenibles, que generen valor agregado y que permitan que los actores locales tomen un rol activo. ✓ Promover estrategias de comunicación y difusión en las áreas que aun están en proceso de categorización. ✓ Apoyo al proceso de descentralización y fortalecimiento a los gobiernos locales para promover la creación de áreas de conservación municipal. ✓ Incorporar a las facultades de sociales y ciencias de las universidades en la conservación a través de una bolsa de tesis que respondan a las necesidades de las áreas protegidas y demás modelos de conservación.

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Conservación In Situ (SINANPE, Áreas de Conservación Complementarias y otras modalidades como concesiones para conservación) (cont.)	Monitoreo	✓ No se cuenta con un sistema de monitoreo de la gestión y de su impacto en la diversidad biológica de las ANP. ✓ No se cuenta con una línea de base para monitorear y evaluar la gestión de las ANP.	✓ Se cuenta con un sistema de monitoreo de las capacidades de la gestión en las ANP (WWF, IANP). ✓ Se cuenta con dos sistemas de monitoreo para evaluar la diversidad biológica (CDC/TNC y APECO). ✓ IINRENA espera integrar en una sola matriz el monitoreo de la diversidad biológica en las ANP. ✓ NRENA esta afinando la matriz de monitoreo de SINANPE para asegurar que indique el estado de la salud y gestión de las ANPs.	✓ Apoyar a la IANP en la integración de las dos matrices de monitoreo de la diversidad biológica en las ANP.
	Financiamiento	✓ El compromiso del Estado para el financiamiento de sus áreas protegidas es insuficiente (recursos ordinarios). ✓ Existe una gran dependencia financiera para la gestión de las áreas naturales protegidas. ✓ Los recursos generados dentro del área natural protegida no retornan al área protegida (recursos directamente recaudados). ✓ Los recursos generados dentro de las áreas son insuficientes para su propia gestión (recursos directamente recaudados). ✓ Mayoría de recursos económicos generados en las áreas naturales protegidas provienen de la actividad turística (actividad muy sensible a la coyuntura nacional e internacional). ✓ No se cuenta con tarifas diferenciadas entre turistas extranjeros y nacionales (ingreso, rutas y tiempo de estadía). ✓ Existe complicaciones de gestión en la ejecución del presupuesto proveniente por la cooperación internacional. ✓ Falta implementar los planes financiaros de siete áreas naturales protegidas. ✓ Limitada oportunidad para utilizar el SNIP; es un cuello de botella	✓ Siete áreas naturales protegidas por el Estado cuentan con planes de financiamiento (Yanachaga Chemillen, Paracas, Río Abiseo, Lachay, Titicaca, Huascaran y Reserva de Biosfera del Noroeste). ✓ Se viene ejecutando el plan financiero del SINANPE (INRENA, PROFONANPE). ✓ Se han iniciado los primeros estudios de pago por servicios ambientales en Moyabamba (GTZ). ✓ Existe una iniciativa para pago diferenciado de tarifas en la Reserva de Paracas que no ha llegado a implementarse (INRENA). ✓ Los gobiernos locales pueden aprobar proyectos de hasta dos millones de soles. ✓ La empresa privada se ha involucrado en apoyando el financiamiento de la Reserva Nacional de Paracas (Pluspetrol). ✓ Las áreas de conservación complementarias al SINANPE podría acceder a fuentes de financiamiento diferentes al de las áreas naturales protegidas por el Estado.	✓ Apoyar el desarrollo de otros mecanismos para ingreso financiero a las áreas protegidas (Pagos por Servicios Ambientales (PSA). ✓ Apoyar con cooperación técnica el desarrollo de plan de financiamiento y de negocios por áreas protegidas ✓ Facilitar alianzas estratégicas con el sector privado (energético y minero) para la gestión de las ANPs aledañas a industrias de este sector. ✓ Promover la implementación del plan tarifario diferenciado. ✓ Continuar apoyando el Memorando de Entendimiento (MoU).

Contexto de Biodiversidad	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para Estrategias de USAID a futuro
Conservación Ex Situ	Promoción para la Conservación ex situ	✓ 24 de los 25 zoológicos autorizados por el INRENA se ubican en la ciudad de Lima. ✓ Más del 50% de los zoocriaderos se ubican en la ciudad de Lima. ✓ No hay un sustento técnico por parte del INRENA para establecer el número de especies para el plantel genético. ✓ Los trámites de autorización son muy extensos de tiempo. ✓ No se dispone de estadísticas del número de individuos en los zoocriaderos.	✓ En el Perú existen 25 zoológicos autorizados por el INRENA. ✓ Se cuenta con solamente con un centro de custodia temporal. ✓ CONAM forma el grupo técnico para la red de centros de conservación ex situ.	✓ Apoyar la recategorización de los zoocriaderos. ✓ Apoyar la red de centros de conservación ex situ. ✓ Facilitar información sobre el mercado para las principales especies de zoocriaderos.
	Investigación	✓ No hay investigación que apoye la crianza en los zoocriaderos. ✓ Solamente existe un Museo de Historia Natural a nivel nacional.	✓ Se cuenta con una masa critica de profesionales vinculados a la conservación de la diversidad biológica.	✓ Apoyar al Museo de Historia Natural mediante cooperación financiera y técnica para el buen almacenamiento de las muestras de diversidad biológica.

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Pueblos Indígenas	Institucionalidad	✓ Proceso de reconocimiento y titulación de comunidades campesinas y nativas no esta completo. ✓ Falta articular y coordinar entre los líderes comunales con sus comunidades. ✓ Hay mayor presión de aprovechamiento de recursos en zonas de ríos navegables y afectan el entorno de las comunidades. ✓ Falta sensibilizar a la población común de las decisiones con los pueblos indígenas. Existe un divorcio entre el sector profesional y las comunidades indígenas. ✓ Existen pueblos indígenas que se han convertido en aliados de actividades ilícitas y extractivismo por falta de oportunidades. ✓ Las comunidades han evolucionado y el territorio al que accedían ha disminuido. ✓ Las comunidades nativas se ven amenazadas por sobreposición de lotes para exploración y explotación petrolífera. ✓ Las poblaciones indígenas no son consideradas dentro de una estrategia de conservación. ✓ Falta de comunicación entre comunidades campesinas y nativas y organizaciones privadas y estatales de conservación.	✓ Las comunidades nativas en la amazonía cuentan con 11 millones de hectáreas (18% de la superficie de la amazonía). ✓ Las comunidades nativas pueden entrar a una estrategia de desarrollo sostenible. ✓ Existen experiencias exitosas de ecoturismo: alianzas estratégicas de empresas privadas y pueblo indígena (Comunidad El Infierno y Rainforest). ✓ IBC trabajan en temas de manejo de recursos naturales y ordenamiento. ✓ IIAP trabaja con pueblos indígenas en manejo integral de cuencas. ✓ AIDER esta trabajando en las capacidades de las comunidades.	✓ Fortalecer las organizaciones indígenas. ✓ Identificar como las organizaciones indígenas contribuyen a la conservación. ✓ Sistematizar que tipo de mecanismos institucionales han sido más eficaces en la conservación y el uso para lograr el reconocimiento y elevar su importancia a nivel de política nacional. ✓ Apoyar mecanismos de vinculación entre las comunidades nativas y las organización civiles y estatales relacionadas con la conservación. ✓ Apoyar estrategias de ecoturismo y relación con pueblos indígenas bajo modelo de alianzas estratégicas. ✓ Promover bionegocios con aliados estratégicos a la conservación (sector privado). ✓ Apoyar para ver a la comunidad como un sujeto de crédito, como un socio real y directo con el empresariado con deberes y derechos. Apoyar su inserción con el mercado de manera real. ✓ USAID debe incorporar el criterio y principio de desarrollo sostenible, fomentando la participación ✓ Incrementar la coordinación interinstitucional para evitar conflictos.

Contexto de Biodiversidad	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para Estrategias de USAID a futuro
Pueblos Indígenas (cont.)	Gestión	✓ Retraso en las titulaciones. ✓ Existe sobreposición de tierras comunales con concesiones forestales, mineras y áreas protegidas. ✓ Conflicto de intereses por el aprovechamiento de recursos naturales y espacios.	✓ INRENA realiza el redimensionamiento de las concesiones forestales de los bosques de producción permanente cuando se superpone con comunidades nativas. ✓ Perupetro evaluará la condición de las poblaciones indígenas cuando se sobreponga con lotes de petróleo.	✓ Promover la formación de alianzas con población local para actividades de control y vigilancia en beneficio del aprovechamiento de recursos naturales. ✓ Apoyar a los procesos de concertación entre madereros, Perupetro y empresas mineras. ✓ Promover que el aprovechamiento y extracción de recursos naturales sea liderado por organizaciones locales (comunidades nativas, indígenas, colonos con participación de gobiernos locales).
Genero	Enfoque de genero y biodiversidad	✓ El enfoque de género no ha recibido suficiente atención por las instituciones de conservación. ✓ Los proyectos de conservación no incorporan el enfoque de género en sus actividades. ✓ El idioma es una limitación pues las asambleas muchas veces se llevan en español y no en el lenguaje local.	✓ Experiencia de Yanesha en selva central se ha trabajado mucho para incluir a mujeres en la participación de actividades de conservación y desarrollo incluyendo el mercado, respetando los patrones culturales. ✓ En Pacaya Samiria (PIP) hay procesos de inclusión a mujeres y niños para el redoblamiento de tortugas o manejo de palmeras. En actividades de turismo están incluyendo a hombres y mujeres y niños. ✓ PROCREL experiencia con promoción de artesanía y manejo comunal donde en las asambleas comunales tiene al menos 50% de participación. ✓ CARE- manejo de bosque y extracción de pesca. ✓ CONAM- trabajo de genero y cambio climático	✓ Apoyo organizacional a grupo de mujeres y generar capacidades para acceso a mircro-créditos. ✓ Fortalecer a las mujeres liderezas que tiene visión de futuro.
	Políticas que incluyan genero	✓ El GOP ha asumido muy débilmente el rol de promover el enfoque de género en sus proyectos e instituciones.	✓ MIMDES incorpora, como ente rector del tema, la relación de enfoque de género.	✓ Incorporar en los proyectos de desarrollo el enfoque de género así como la distribución de beneficios.
	Manejo de Información	✓ No hay suficiente transferencia de las lecciones aprendidas en los proyectos con enfoque de género. ✓ Las pocas experiencias de conservación y enfoque de género no están sistematizadas.	✓ Intercambio de experiencias entre proyectos de desarrollo y conservación (Flora Tristán, CI). ✓ MIMDES cuenta con el Plan de Incorporación de Oportunidades.	✓ Aprehender de las experiencias exitosas. ✓ Realizar de talleres para discutir experiencias pasadas. ✓ Apoyar la sistematización de experiencias. ✓ Promover la sistematización de experiencias.

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Especies Amenazadas	Sistema de Control y Vigilancia	✓ Incremento en el número de especies de flora y fauna amenazadas. ✓ Falta de capacidades para el control de exportación de especies amenazadas ✓ Tala ilegal es más del 80% de madera de caoba (Swietenia macrophylla) ✓ Amenazas son graves: actividades ilícitas, minería artesanal, sobreexplotación de recursos, uso de técnicas destructivas de cosecha y los cultivos comerciales, pastizales	✓ INRENA ha creado Comisión de Control y Actividades contra la Tala y Comercio Ilegal (COATCI) y el PCM ha creado el Comisión Multisectorial de Lucha contra la Tala Ilegal (CMLTI). ✓ Existe un proceso de formalización de los zoocriaderos existentes (INRENA). ✓ Conformación de la Comisión de Lucha Contra la Biopiratería que reporta a la PCM (INDECOPI, CONAM, PROMPEX, INRENA, ANR, INDEPA, CENSI, CIP, INIEA, MRE y MINCETUR y dos representantes de la sociedad civil). ✓ INRENA ha actualizado la lista de especies en peligro de extinción.	✓ Apoyar la implementación de tratados internacionales como CITES en el marco del TLC. ✓ Apoyo a la Comisión de Lucha Contra la Biopiratería del INDECOOPI.

Bosques tropicales				
Contexto de Bosques Tropicales	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para estrategias de USAID a futuro
Aprovechamiento forestal maderable en concesiones forestales	Políticas de aprovechamiento sostenible forestal	✓ El tema forestal no forma parte de la agenda política nacional. ✓ No se cuenta con una Política Nacional Forestal que vincule desde la conservación al aprovechamiento y transformación de los recursos forestales. ✓ El hecho de tener documentos de gestión aprobados no garantiza el desarrollo forestal. ✓ No hay integración de las políticas sectoriales a la Estrategia Nacional Forestal. ✓ No hay una visión de desarrollo forestal a nivel de Estado, tampoco hay visión regional de desarrollo forestal integrada al Estado (cada región actúa aisladamente). ✓ Ausencia de una política clara para el aprovechamiento y transformación de los recursos forestales. La promoción del desarrollo forestal por parte del Estado es débil. ✓ Ausencia de políticas en tecnología e innovación para el desarrollo competitivo del sector forestal. ✓ No hay una política explicita para el desarrollo y promoción de los productos forestales no maderables que permitan una gestión integrada de los recursos del bosque tropical.	✓ Se cuenta con una Estrategia Nacional Forestal (2002-2021), Plan Nacional de Reforestación (2005-2024) y Plan Operativo Exportador del Sector Forestal – Maderable del Plan Estratégico Nacional Exportador (2003-2013). ✓ Existen intentos parciales de implementación de políticas de promoción forestal (MINCETUR) con la Estrategia Nacional de Desarrollo Forestal (MINAG). ✓ Los presidentes regionales amazónicos han firmado un acuerdo para el tema forestal que tiene visión y políticas desde el manejo de bosques hasta la inversión. ✓ Implementación del Plan Estratégico Nacional Exportador (MINCETUR). ✓ Existe iniciativas para la certificación forestal (AIDER, CERFOR, CEDEFOR, FORIN, MAPESAC).	✓ Apoyar la implementación e integración de los documentos de gestión (Estrategia Nacional Forestal (2002-2021), Plan Nacional de Reforestación (2005-2024) y Plan Operativo Exportador del Sector Forestal – Maderable del Plan Estratégico Nacional Exportador) apuntando a la articulación de conservación, aprovechamiento y transformación de los recursos forestal. ✓ Apoyar la construcción e implementación de políticas forestales regionales integradas a la política nacional forestal. ✓ Acompañar al sector privado en el desarrollo de su competitividad.

Contexto de Bosques Tropicales	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para estrategias de USAID a futuro
Aprovechamiento forestal maderable en concesiones forestales (cont.)	Institucionalidad	✓ Concentración de facultades y capacidades al INRENA en la gestión del bosque. ✓ El rol supervisor del OSINFOR se ve limitado al formar parte del INRENA recortándose su autonomía funcional. ✓ Procedimientos no muy claramente definidos en la transferencia de funciones de control y vigilancia en el proceso de descentralización. ✓ La corrupción es un tema generalizado en el sistema y en diferentes niveles de administración. Alta percepción de corrupción entre el sector público y las empresas madereras. ✓ Existen limitadas capacidades técnicas en el sector público por la alta rotación del personal y escasa capacitación que también limita la continuidad de políticas en el sector. ✓ Existe poca capacidad para fiscalizar o hacer cumplir el reglamento (limitada aplicación de las sanciones legales, administrativas por el uso delictivo del bosque). ✓ Espacios de concertación escasos y débiles para el dialogo forestal. ✓ Limitada y dispersa participación de la sociedad civil en la gestión de los recursos forestales, no hay concepto de vigilancia ciudadana para apoyar actividades de vigilancia y control. ✓ Los Comités de Gestión de Bosque reciben limitado apoyo para su creación y acompañamiento por el INRENA. ✓ El gremio forestal se encuentra politizado, los concesionarios esperan un gremio que apoye a la actividad brindando información estratégica que pueda generar oportunidades de negocio e inversión.	✓ Implementación de la ley y reglamento forestal a través de la creación y funcionamiento del OSINFOR. ✓ Ejecución del proyecto CERFOR en INRENA enfocado a la aplicación de certificación forestal en concesiones otorgadas. ✓ Existe una Consejo Interregional conformado por los 5 gobiernos regionales amazónicos con disposición a la conservación de los bosques tropicales y biodiversidad. ✓ Se cuenta con la Comisión Multisectorial de Lucha contra la Tala Ilegal. ✓ Se cuenta con los Comités de Gestión de Bosque representados por INRENA, titulares de los derechos de aprovechamiento, gobierno regional, gobierno local, comunidades campesinas y comunidades nativas e institución académica. ✓ La ley y reglamento forestal contempla un sistema de incentivos económicos.	✓ Respaldar la implementación de mecanismos de administración y control en instituciones reguladoras (regional y nacional) del sector empleando tecnología de satélite. ✓ Promover el intercambio de experiencias entre los Comités de Gestión de Bosques. ✓ Ayudar a articular los Comités de Gestión de Bosque a los procesos de descentralización de los gobiernos regionales. ✓ Apoyar el sistema de incentivos económicos para la sostenibilidad de bosques tropicales. ✓ Fortalecer la vigilancia ciudadana y elaborar planes de comunicación. ✓ Favorecer procesos de empoderamiento de comunidades locales para el desarrollo forestal sostenible.

Contexto de Bosques Tropicales	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para estrategias de USAID a futuro
Aprovechamiento forestal maderable en concesiones forestales (cont.)	Marco Legal	✓ Se cuenta con un marco legal poco estable al modificarse las leyes, reglamentos y normas complementarias de acuerdo a coyunturas generando inseguridad jurídica. ✓ Ausencia de un marco legal para normar técnicamente la clasificación por calidad y dimensión de la madera aserrada.	✓ Se cuenta con un marco legal que gestiona la actividad forestal (Estrategia Nacional Forestal (2002-2021), Plan Nacional de Reforestación (2005-2024) y Plan Operativo Exportador del Sector Forestal – Maderable del Plan Estratégico Nacional Exportador). ✓ Instituciones de la sociedad civil (DAR, SPDA) es parte de la Red Latinoamericana de Derecho Legal Forestal.	✓ Apoyar la difusión del marco legal forestal en instituciones del Estado a nivel nacional, regional y local.
	Gestión	✓ Desconocimiento de los concesionarios por los beneficios asociados al registro de la concesión forestal en SUNARP (acceso a financiamiento y herramienta de garantía). ✓ Tramites administrativos en INRENA onerosos en tiempo y dinero. ✓ Los altos costos de certificación forestal disminuyen la competitividad de las concesiones forestales. ✓ La información sobre los volúmenes de extracción forestal es cuestionada debido a la ausencia de calidad en la información. ✓ La coordinación entre el MINAG, PRODUCE y MINCETUR para apoyar conjuntamente el desarrollo y promoción del sector forestal es débil. ✓ Existe desvinculación entre los sectores de la Academia, Empresa y Estado para apoyar el desarrollo del sector forestal. ✓ No se cuenta con tecnologías de aprovechamiento modernas y competitivas ✓ El tamaño de las concesiones forestales no es el adecuado para incentivar la inversión privada. ✓ Acción limitada de la Comisión Multisectorial de Lucha contra la Tala Ilegal.	✓ Instalación y operación de viveros forestales promovidos por MINAG y Fondebosque ✓ Apoyo a la certificación de bosques por parte de AIDER, WWF, MAPESAC. ✓ Experiencia de AIDER en manejo de bosques comunales y su certificación. ✓ PRODUCE está ejecutando proyectos con financiamiento de Unión Europea para elevar la competitividad del sector forestal (promover actividades de cadenas de valor agregado). ✓ Existen por lo menos 7 universidades nacionales que ofrecen estudios de pre-grado en ingeniería forestal. ✓ Se cuenta con Centro de Innovación Tecnológico del sector forestal maderable (CITE madera) del PRODUCE.	✓ Complementar la implementación del Plan Operativo Exportador del Sector Forestal – Maderable del Plan Estratégico Nacional Exportador. ✓ Incorporar el asesoramiento por parte de profesionales jubilados de Norteamérica a empresas madereras nacionales. ✓ Facilitar estudios técnicos que definan estándares de madera aserrada por calidad y dimensión. ✓ Apoyar la transferencia de tecnologías de competitivas de producción transformación de madera tropical. ✓ Promover estrategias de reducción de la tala ilegal. ✓ Promover un acercamiento entre universidades y la cadena productiva forestal por medio de investigaciones (tesis).

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Aprovechamiento forestal maderable en concesiones forestales (cont.)	Monitoreo	✓ No existe un sistema de monitoreo ✓ Carencia de líneas base e indicadores para el sistema de monitoreo ✓ La Mesa Nacional de Dialogo y Concertación Forestal no cumple con la misión prevista.	✓ Existen 17 Comités de Gestión de Bosque reconocidos por el INRENA y 18 por reconocer. ✓ Se cuenta con una Mesa Nacional de Dialogo y Concertación Forestal. ✓ Hay proyectos que han finalizado pero han dejado buenas experiencias (CIEF).	✓ Apoyar la construcción de un sistema de monitoreo en concesiones forestales a nivel regional y nacional. ✓ Apoyar la reactivación de la Mesa Nacional de Dialogo y Concertación Forestal. ✓ Apoyo en el fortalecimiento de los Comités de Gestión de Bosques en el monitoreo de las concesiones. ✓ Apoyo en investigaciones que generen líneas base e indicadores.
	Financiamiento	✓ No hay acceso a los fondos de capital de riesgo. ✓ Encarecimiento de los costos de producción y transformación forestal por altos costos de transporte y escasa red portuaria, fluvial y terrestre. ✓ No hay conocimiento de los concesionarios por los requisitos para acceder a créditos.	✓ Hay Instituciones dispuestas a financiar la actividad forestal (COFIDE, Banco Continental, Corporación Andina de Fomento, FONDEBOSQUE) ✓ Experiencia del proyecto PIMA en la generación de proyectos de bio-inversión. ✓ FONDEBOSQUE apoya el eslabonamiento de la cadena productiva forestal así como las líneas de crédito como capital de trabajo y fondo concursables.	✓ Apoyar en la capacitación (talleres y medios) en oportunidades de financiamiento, procedimientos requisitos para acceder a temas de financiamiento ✓ Apoyo en capacitación para gestión de capitales de riesgo
	Ordenamiento Territorial	✓ No se planifica el uso del espacio del territorio mediante su ordenamiento territorial. ✓ No se cuenta con un mapa forestal estándar (se tiene tres mapas forestales que no son compatibles entre si).	✓ Se cuenta con un Plan de Desarrollo Concertado para la Municipalidad Distrital de Nueva Cajamarca (San Martín). ✓ El gobierno regional de San Martín aprobó mediante Ordenanza Regional su Bonificación Económica Ecológica.	✓ Apoyo técnico en la elaboración de un mapa forestal estándar a diferentes instituciones nacionales. ✓ Impulsar y apoyar a los gobiernos regionales en estudios de ordenamiento territorial

Contexto de Bosques Tropicales	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para estrategias de USAID a futuro
Pueblos indígenas y aprovechamiento forestal maderable y no maderable	Políticas	✓ El tema indígena no forma parte de la agenda política nacional. ✓ Hay poblaciones locales excluidas por las políticas de Estado en el tema de manejo de bosques tropicales. ✓ Esta pendiente por resolver la titulacion de territorios indígenas. ✓ Discusión incompleta sobre la propiedad indígena y titulacion de territorios indígenas. ✓ No se toman en cuenta las opiniones de los indígenas en las políticas de conservación y manejo de los bosques tropicales.	✓ Las comunidades nativas y campesinas cuentan con representación en el INDEPA. ✓ Las comunidades nativas y campesinas han establecido socios estratégicos con las organizaciones de la sociedad civil (DAR). ✓ El GOP al haber firmado acuerdos internacionales sobre derechos indígenas les da un espacio de discusión político	✓ Favorecer el intercambio de experiencias y capacitaciones en torno a la aplicación de los derechos indígenas. ✓ Apoyar la incorporación del tema indígena en los gobiernos regionales.
	Institucionalidad	✓ El tema indígena, a nivel de ciudadanía, esta muy excluido. ✓ Poca presencia de las organizaciones indígenas en la estructura institucional de conservación. ✓ Las instituciones indígenas tienen bajo poder de negociación. ✓ Las comunidades indígenas tienen capacidad débil de negociación ante madereros.	✓ Se cuenta con el INDEPA. ✓ Se cuenta con una Comisión Multisectorial para las comunidades nativas. ✓ Los pueblos indígenas se encuentran organizados en 50 federaciones. ✓ INRENA emitió la RJ 232 que plantea flexibilización de requisitos y procedimientos para tener permisos de manejo forestal.	✓ Apoyar la consolidación y mayor presencia de la institucionalidad indígena en temas de conservación y bosques tropicales.
	Gestión	✓ Retraso en las titulaciones por parte del INRENA ✓ Planes de manejo de bosques comunitarios continúan expuestos a la tala ilegal, pues no son ordenados ni incorporados al sistema productivo ✓ Un 20-30% de comunidades campesinas atraviesa problemas con titulación.	✓ MINAG (PETT, INRENA) y ONGs apoyan la titulacion de tierras comunales y nativas ✓ En las comunidades campesinas existe un afán de regularización legal de las propiedades familiares ✓ GTZ trabaja en tema de ecoturismo con comunidades nativas en la región San Martín.	✓ Favorecer la aplicación de los conocimientos ancestrales en el manejo integrado del bosque. ✓ Apoyar al desarrollo de planes de manejo comunitarios ✓ Apoyar la búsqueda de actividades económicas alternativas (ecoturismo).
	Legislación	✓ La legislación paso de proteger a las comunidades campesinas a disponer sus tierras para la individualización de sus tierras.	✓ INRENA adecua la explotación de los bosques para la resalsaltar las comunidades nativas. ✓ Congreso, MINAG, MEM, AIDESEP, INDEPA. CCA. Gobiernos regionales, ONG pueden contribuir a consolidar el actual marco legal y cubrir sus vacíos.	✓ Fortalecimiento de las organizaciones de comunidades nativas para el planteamiento de normas

Contexto de Bosques Tropicales	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para estrategias de USAID a futuro
Género	Enfoque de Genero y Bosques Tropicales	✓ Poca participación de las mujeres en los espacios de dialogo (Comités de Gestión de Bosques, Mesas de Dialogo y Concertación). ✓ Los proyectos de manejo de bosques tropicales no incorporan el enfoque de género en sus actividades. ✓ La información de las pocas experiencias de manejo de bosques tropicales con enfoque de género no están sistematizadas. ✓ No se produce la transferencia de las lecciones aprendidas en los proyectos con enfoque de género.	✓ Aisladamente proyectos han incorporado el enfoque de genero (PROCREL; GTZ, PROCLIM, AIDER).	✓ Apoyar la educación de las mujeres para obtener una mayor participación en los espacios de dialogo. ✓ Apoyar la sistematización de experiencias en género.
	Políticas	✓ Ausencia de proyectos con enfoque de género en las actividades de instituciones del gobierno y del sector civil. ✓ El Plan de Igualdad de Oportunidades con enfoque de género no incluye temas medioambientales.	✓ Presencia del Ministerio de la Mujer y Desarrollo Social. ✓ Se tiene una Defensoría del Pueblo especializada para los derechos de la mujer. ✓ Se aprobó el Plan de Igualdad de Oportunidades con enfoque de género. ✓ Conformación de la Comisión del Congreso para la mujer y el desarrollo social.	✓ Incorporar en los proyectos de desarrollo el enfoque de género así como la distribución de beneficios.

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Amenazas identificadas	Deforestación	✓ Ausencia de instrumentos y metodologías estandarizadas para el calculo y seguimiento de la deforestación en el Perú ✓ La deforestación se incrementa principalmente por la ampliación de la frontera agropecuaria, además estos están fuertemente ligados a temas de tráfico de tierras. ✓ Relación entre carreteras y aumento de la deforestación y pérdida de la diversidad biológica. Los gobiernos regionales y locales tienen como principal estrategia de desarrollo la construcción de nuevas carreteras. ✓ Sistemas de titulación que "premian" la deforestación en Amazonía otorgando propiedad. Además se viene discutiendo un proyecto de ley que podría agravar esta situación.	✓ PRONAMACHCS y Fomndebosque están impulsando proyectos de reforestación ✓ Empresas mineras están promoviendo reforestación ente sus actividades de responsabilidad social ✓ El MINAG ha iniciado una campaña de producción de viveros de alta tecnología y con FONDEBOSQUE se están capacitando a ONGs locales, colegios, universidades y empresas privadas. ✓ Existe una decisión del Gobierno de impulsar la reforestación como una herramienta de desarrollo alternativo y dentro del programa de Sierra Exportadora. ✓ Existe la posibilidad que parte de la garantía que deben otorgar las empresas mineras para los planes de cierre minero se destine a proyectos de reforestación. ✓ Fondebosque ha introducido mejoras tecnológicas que han incrementado sustancialmente la competitividad de las plantaciones forestales peruanas.	✓ Promover la coordinación entre el Plan Nacional de Reforestación con el Programa de Sierra Exportadora ✓ Apoyar la reforestación, aunque aun deben terminar de discutirse como el otorgamiento en propiedad de las tierras sin cobertura vegetal con capacidad de uso mayor forestal. ✓ Apoyar el establecimiento de la industria que consuma productos provenientes de plantaciones forestales a fin de apoyar el incremento del valor agregado en la producción nacional. ✓ Conocer a más detalle los sistemas de tráfico de tierras a fin de poder proponer mejores estrategias de lucha contra el incremento descontrolado de la frontera agropecuaria. Se debe lograr alianzas entre las autoridades regionales, la sociedad civil y las autoridades locales más básicas (municipalidad distrital, rondas campesinas, etc.) ✓ Apoyar el trabajo a nivel político que evidencie que los procedimientos actuales de titulación en amazonía que premian la deforestación son nefastos y apoyar la elaboración de un nuevo sistema que reconozca la particularidad de la amazonía pero que a la vez permita la formalización de las posesiones en dicha región.

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Amenazas identificadas (cont.)	Tala ilegal	✓ Corrupción en diferentes niveles ✓ Existe una percepción local y regional de aumento de la tala ilegal, a pesar de posiciones de los gremios exportadores y el gobierno. Es decir, existe una tendencia de algunos sectores de desconocer o minimizar el problema de la tala ilegal. ✓ No existe una manifestación firme de los más altos niveles del Gobierno para solucionar el problema de la tala ilegal, ello se debe a que se ha convertido en un elemento de ruido en el proceso de firma del TLC. ✓ La Comisión Multisectorial de Lucha Contra la Tala Ilegal, no opera desde agosto del año 2006 y no cuenta con recursos para cumplir con su misión. ✓ Afecta seriamente la gobernabilidad de la región amazónica, brinda incentivos a la corrupción, disminuye la rentabilidad del manejo sostenible y la certificación, pone en riesgo otros proyectos y programas de desarrollo, etc. ✓ Las cadenas de tala ilegal se encuentran vinculadas al narcoterrorismo en algunas zonas del país.	✓ Conformación de la Comisión Multisectorial de la Lucha contra la Tala Ilegal adscrita a la PCM con participación de la sociedad civil (CMLTI) ✓ Se ha reducido la presión de taladores ilegales sobre algunas áreas como la reserva territorial de no contactados en Madre de Dios, debido a una conjunción de varios factores: establecimiento de puestos de control, apoyo de la sociedad civil en el control, expectativas laborales en otros sectores, etc. ✓ Se han identificado los problemas y las deficiencias técnicas que favorecen el blanqueo de volúmenes de madera de procedencia irregular. El COATCI tiene previsto impulsar la realización de los estudios técnicos que sustente la modificación y corrección de los criterios técnicos que ocasionan dichos problemas. ✓ Se ha identificado que el apoyo a la legalidad puede ser una excelente herramienta para disminuir la tala ilegal, ello implica reducir los costos de transacción, acelerar los procedimientos, mejorar la lucha contra la ilegalidad y la corrupción, etc.	✓ Promover la creación y/o fortalecimiento de las comisiones regionales de lucha contra la tala ilegal por parte de la CMLTI. ✓ Apoyar el establecimiento de sistemas de cooperación que una a las autoridades con la sociedad civil organizada y las poblaciones locales en el control. ✓ Hacer la incidencia necesaria para el tema de la tala ilegal pase a ser un tema prioritario en la agenda forestal, ello debe ir de la mano en el reconocimiento de mejorar sustancialmente la función pública de la administración forestal, particularmente en el tema de capital humano y en el carisma con que se desempeña la función pública. ✓ Trabajar en establecer sistemas de transparencia forestal que permitan rendición de cuentas, información disponible en línea y tiempo real, participación y vigilancia de la ciudadanía, monitoreo y supervisión independiente; particularmente en el contexto de la transferencia a los gobiernos regionales.
	Superposición de derechos e invasiones de las concesiones forestales	✓ Muchas concesiones forestales tienen problemas de superposiciones de derechos e invasiones que dificultan el cumplimiento de sus obligaciones y el ejercicio de sus derechos, incluso en aquellas en proceso de certificación. ✓ No se ha abordado las causas de este problema como es la falta de un catastro de uso y tenencia de suelos de la amazonía que integre los usos de varios sectores y los derechos reconocidos por diferentes autoridades	✓ CERFOR ha venido ayudando a resolver este tipo de problemas pero solo apoyando a aquellas concesiones en camino de certificación. ✓ Existe experiencias en otros países en los que si se ha logrado articular toda esta información permitiendo evitar este tipo de problemas	✓ Trabajar en la realización de un catastro de tenencias y usos de los recursos naturales y el suelo integrando los diversos sectores, lo que se podría convertir en una herramienta poderosa para prevenir conflictos. ✓ Apoyar un sistema de saneamiento que permita resolver los conflictos que vienen afectando seriamente la viabilidad de las concesiones

Contexto de Bosques Tropicales	Temas claves	Hallazgos negativos identificados	Hallazgos positivos identificados	Oportunidades para estrategias de USAID a futuro
Amenazas identificadas (cont.)	Otras actividades extractivas (hidrocarburos y minería)	✓ Se han otorgado lotes de hidrocarburos sobre bosques de producción permanente, concesiones forestales con fines maderables, concesiones de conservación, concesiones de ecoturismo, concesiones para otros productos del bosque, e incluso a concesiones forestales certificadas. Esta superposición pone en riesgo en diversas medidas la viabilidad de dichas concesiones. ✓ En algunas regiones existe también superposición de minería artesanal con áreas otorgadas para el aprovechamiento sostenibles de los recursos forestales, lo que ha ocasionado que se exclusiones de áreas forestales. ✓ No existe claridad sobre el tratamiento de que se debe seguir cuando existen varios derechos para aprovechar recursos naturales diferentes en una misma area	✓ En el tema de áreas protegidas se ha desarrollado harta experiencia en el tratamiento de este tipo de superposiciones (hidrocarburos) por lo que se cuenta con una sociedad civil con experiencia para afrontar este tipo de problemas. ✓ El tema de minería artesanal ha sido transferido a los gobiernos regionales con lo si en ellos se cuenta con una visión de desarrollo sostenible se puede contar con su apoyo para regular y formalizar este sector reduciendo su impacto sobre las modalidades de aprovechamiento sostenible de recursos forestales.	✓ Apoyar a los gobiernos regionales y a la sociedad civil a tomar una posición más importante frente a estas superposiciones a fin de alcanzar una solución, reduciendo los riesgos sobre el manejo forestal sostenible y la certificación forestal. ✓ Trabajar en el desarrollo de políticas y normas nacionales que resuelvan el problema del traslape de otorgamiento de derechos sobre diferentes recursos naturales en una misma área

M.24. List of persons contacted

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Annex M.25. Biodata sketch of team of members

Alfredo Portilla is a biologist, National University of San Marcos, with a Master's in Environmental Management from the National Agrarian University. He has developed research with the Smithsonian Institution, International Resources Group in conservation of biological diversity, management of natural resources and economic valuation. Has worked as a consultant in environment, natural resources and economy with the PNUD, OAS, GTZ and USAID. He has been an advisor in environmental economics for the Protected Areas Intendency in INRENA and technical coordinator in PROFONANPE.

Aureliano Eguren is an agronomist with an MsC in Economics, Environment and Policy with specialization in Development Economics at the University of Wageningen. He worked in Peru, as a coordinator of conservation project which its main goal was to find and involve the stakeholders in five protected areas and to promote the civil participation in the management of these protected areas. Also he worked as a consultant for Stanford University Research Project, performing the analysis of swidden and fallow fields within three Indigenous communities (field inventories, mapping, soil analysis, and formal interviews). Developed a diagnosis of the current situation and economic potential of agricultural fields. (Zona Reservada Tambopata-Candamo, Madre de Dios, Perú).